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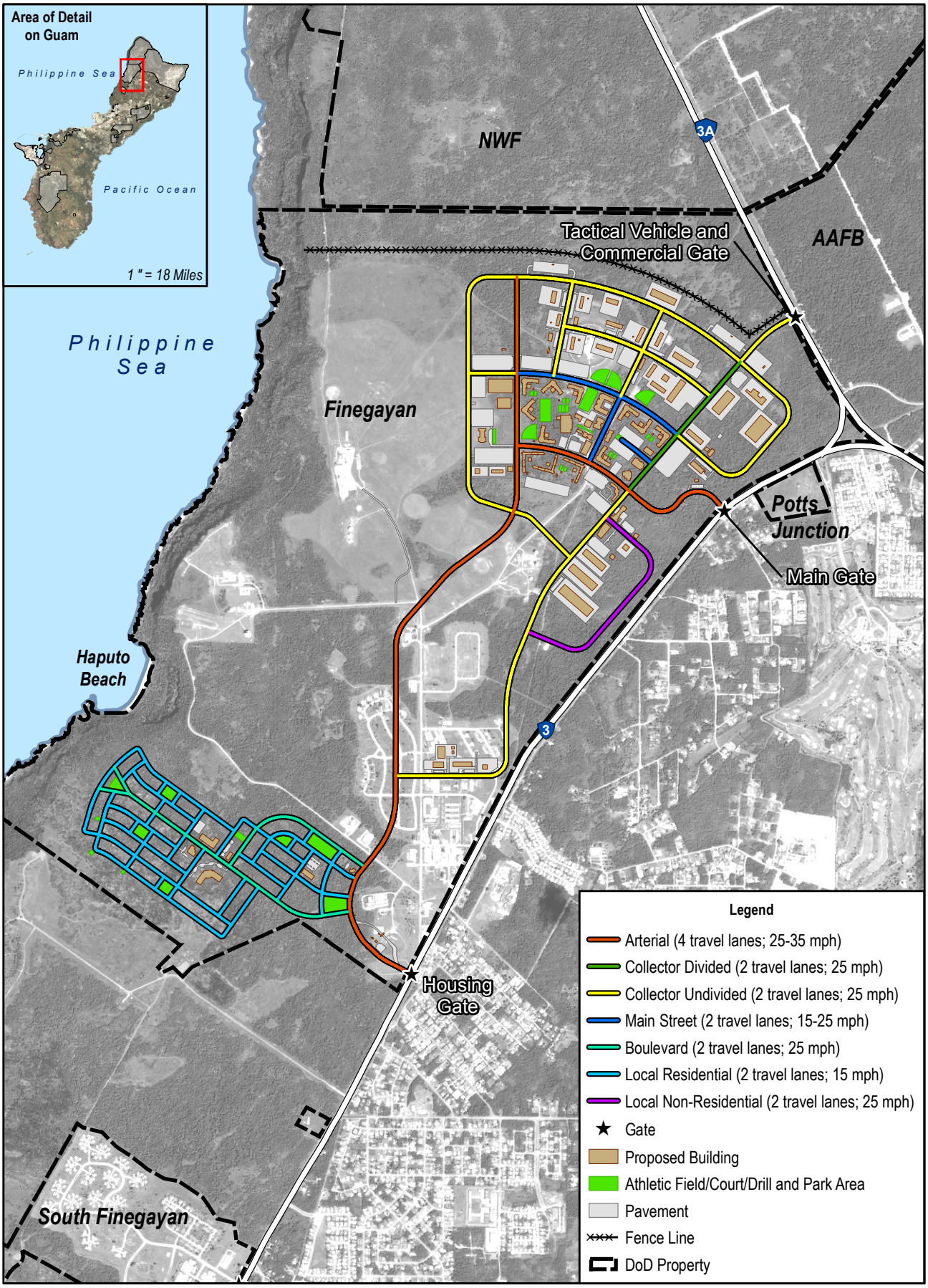

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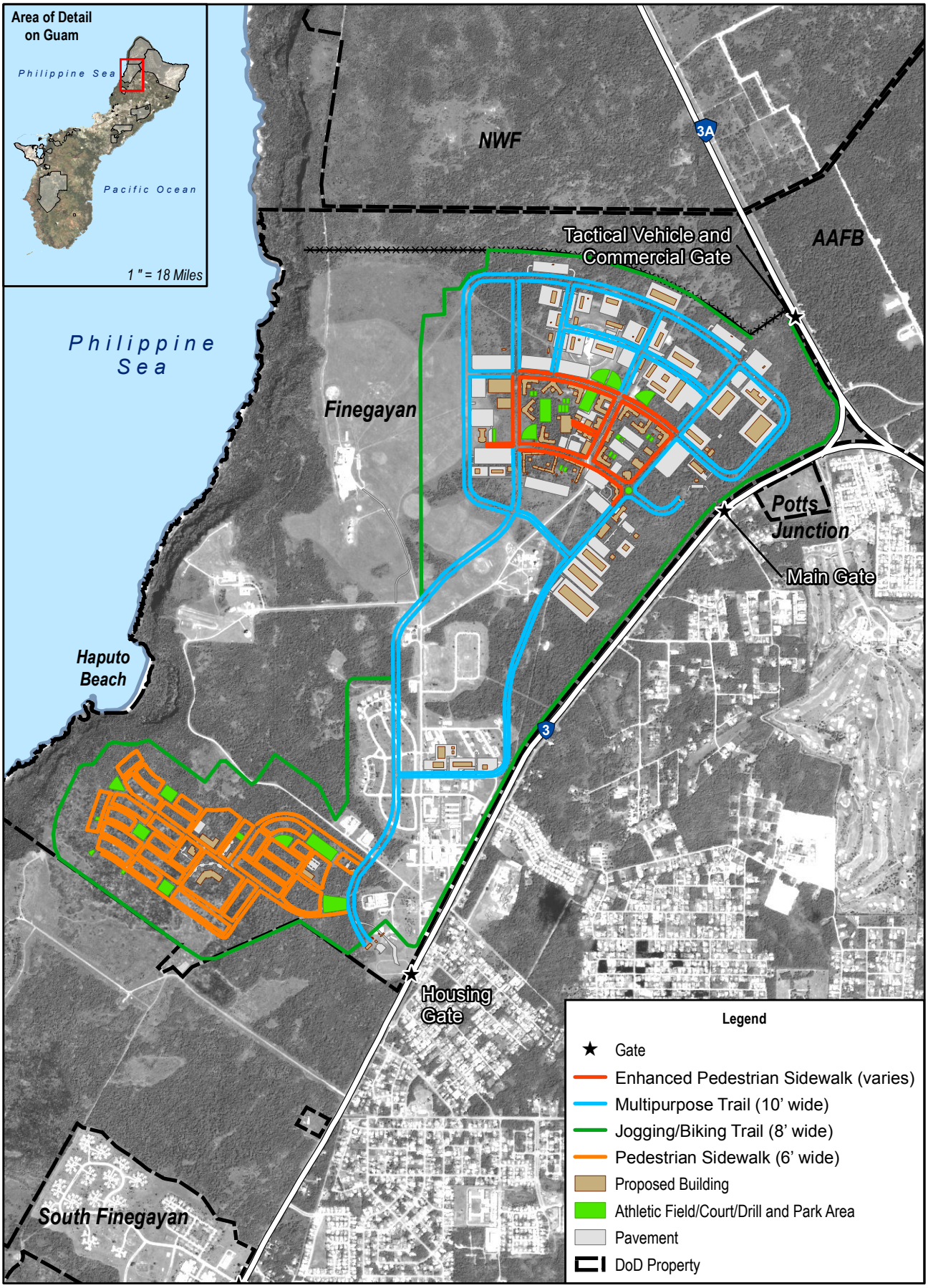

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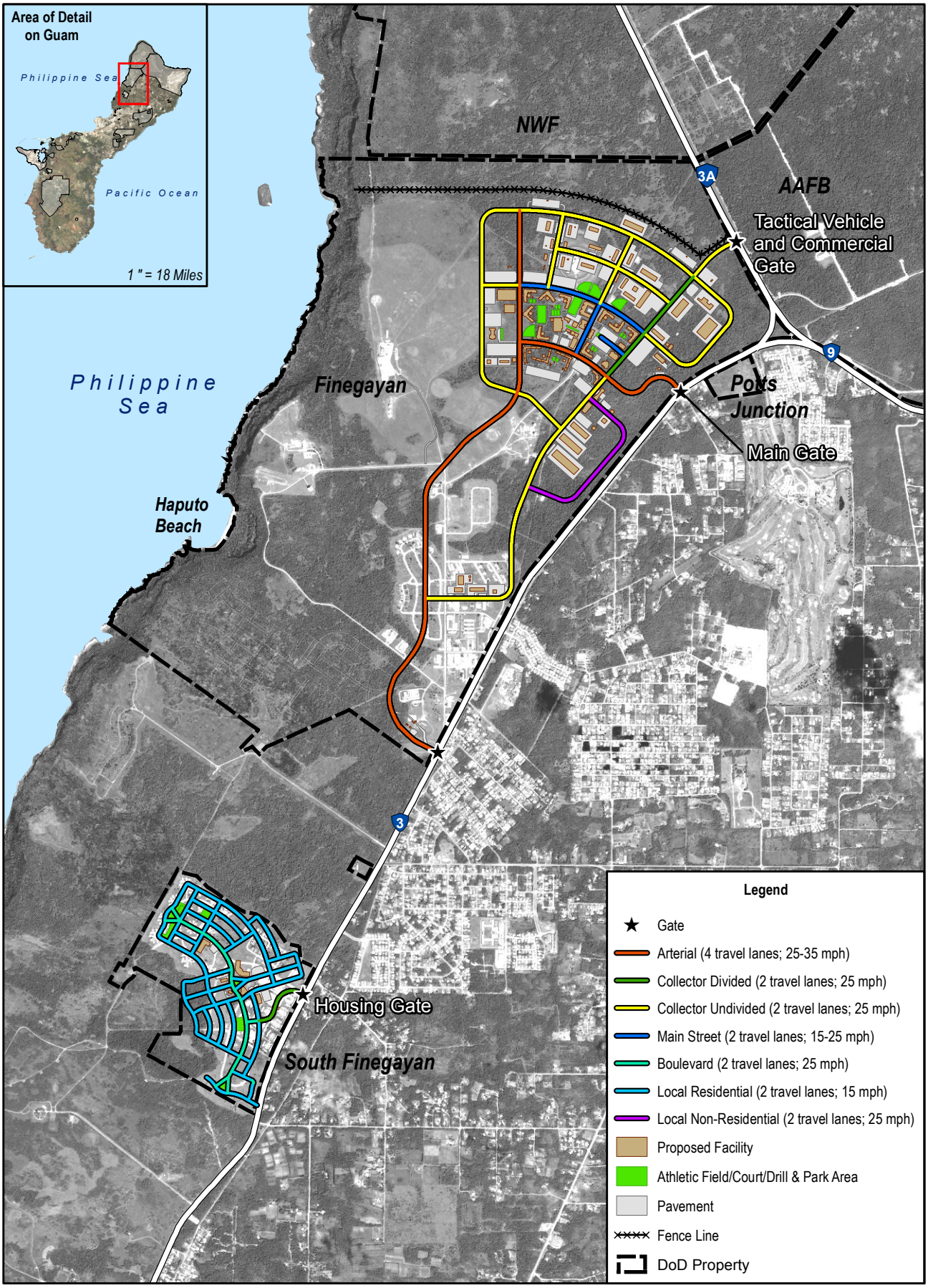

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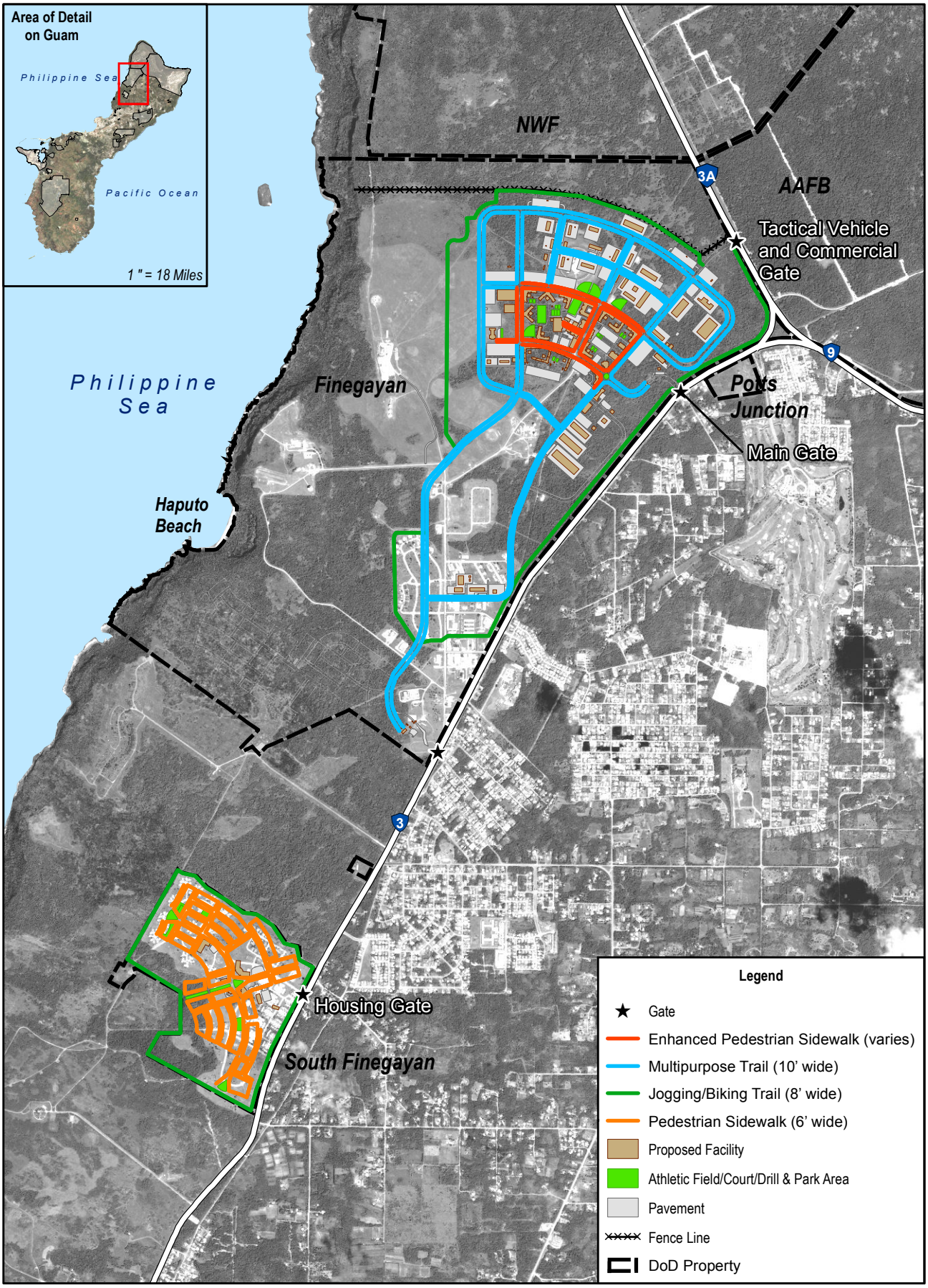

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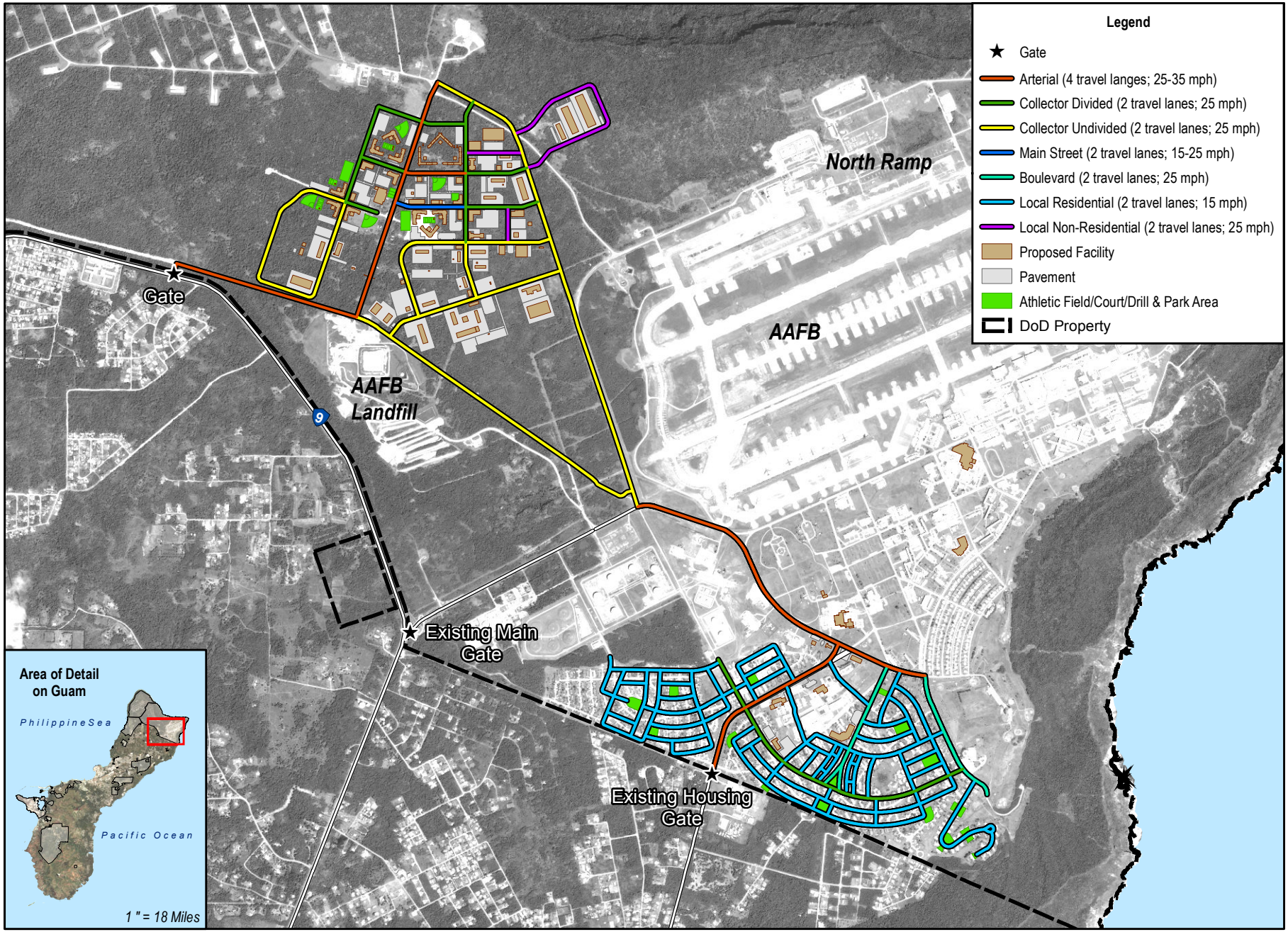

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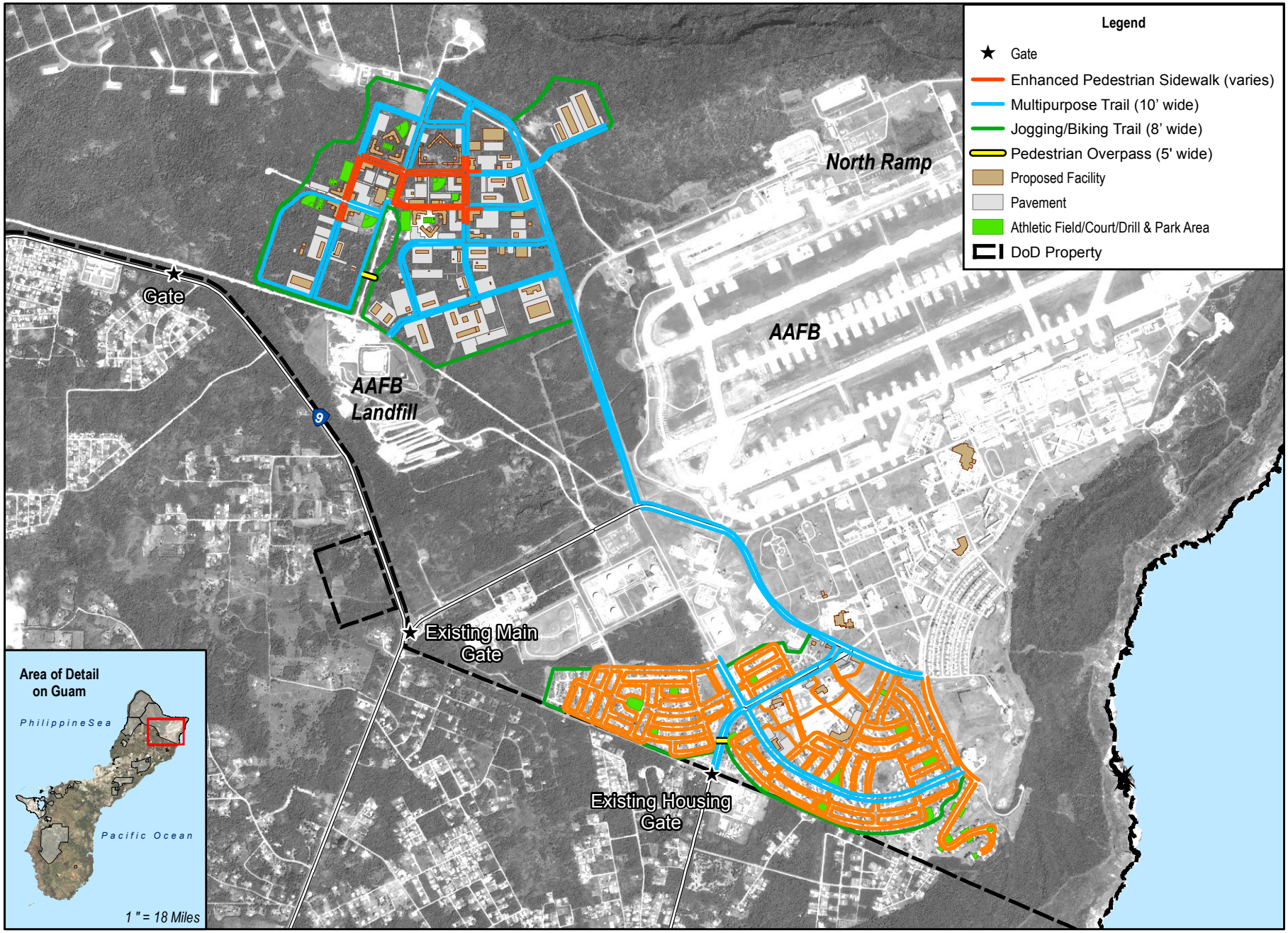

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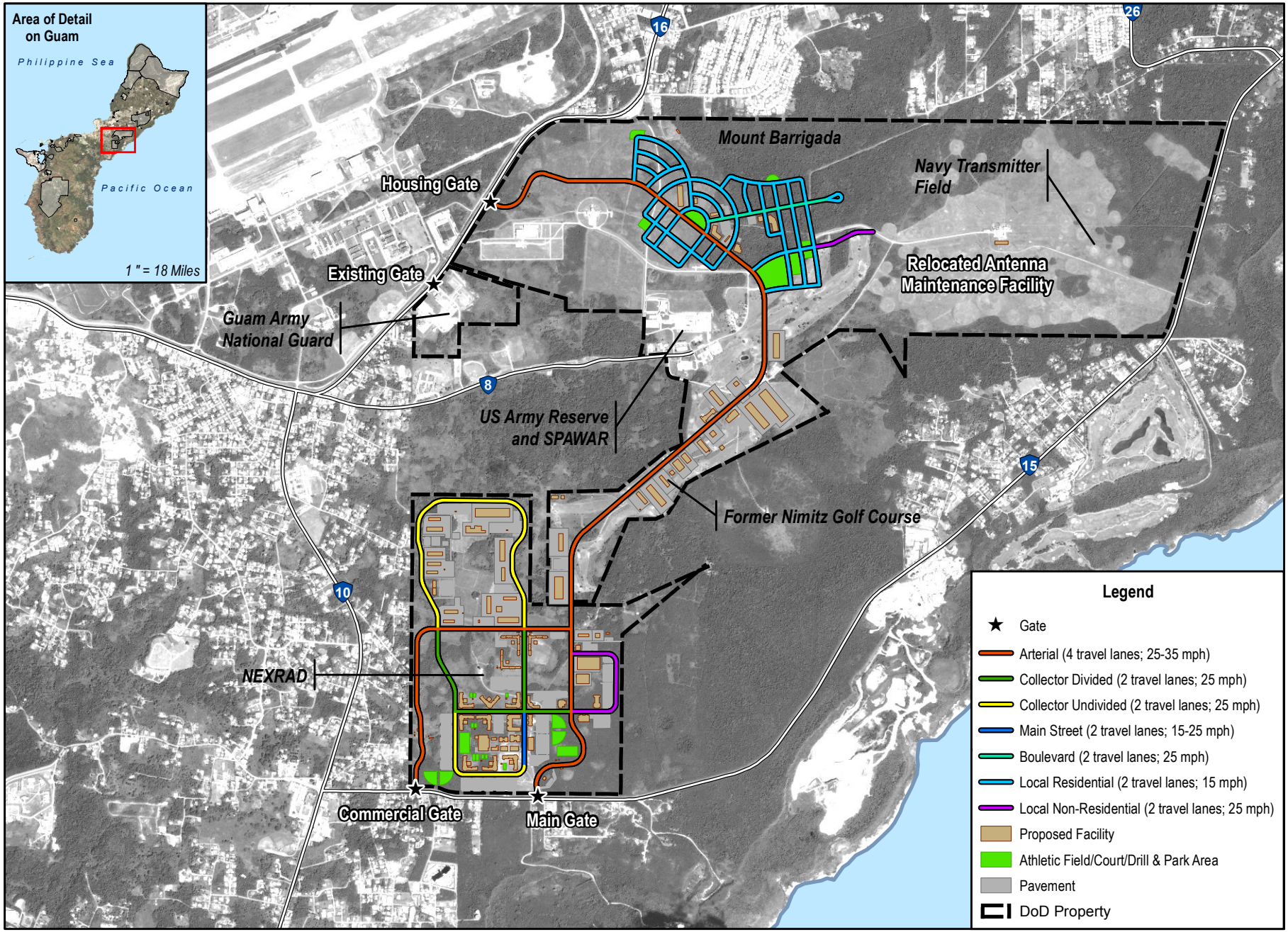

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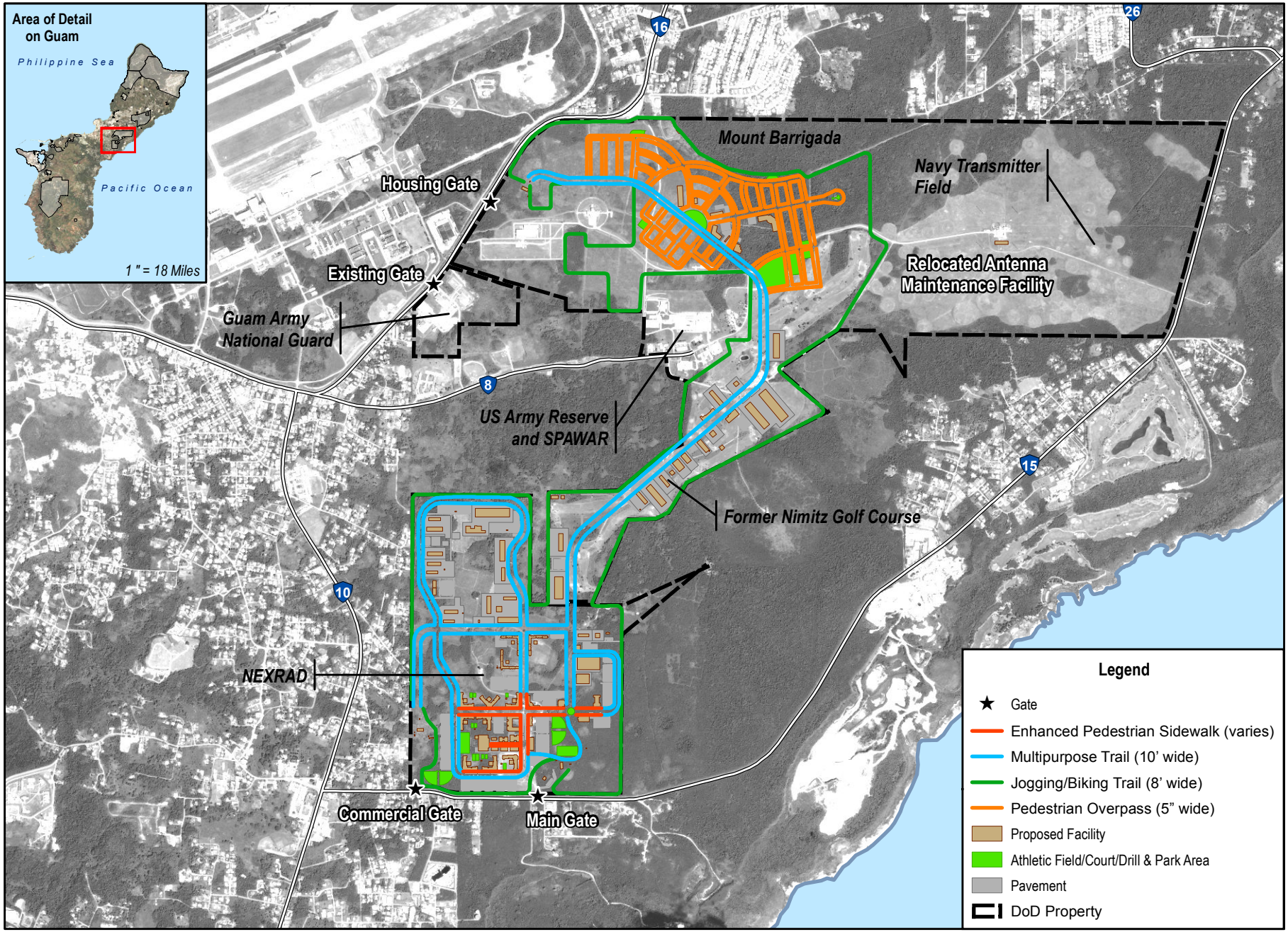

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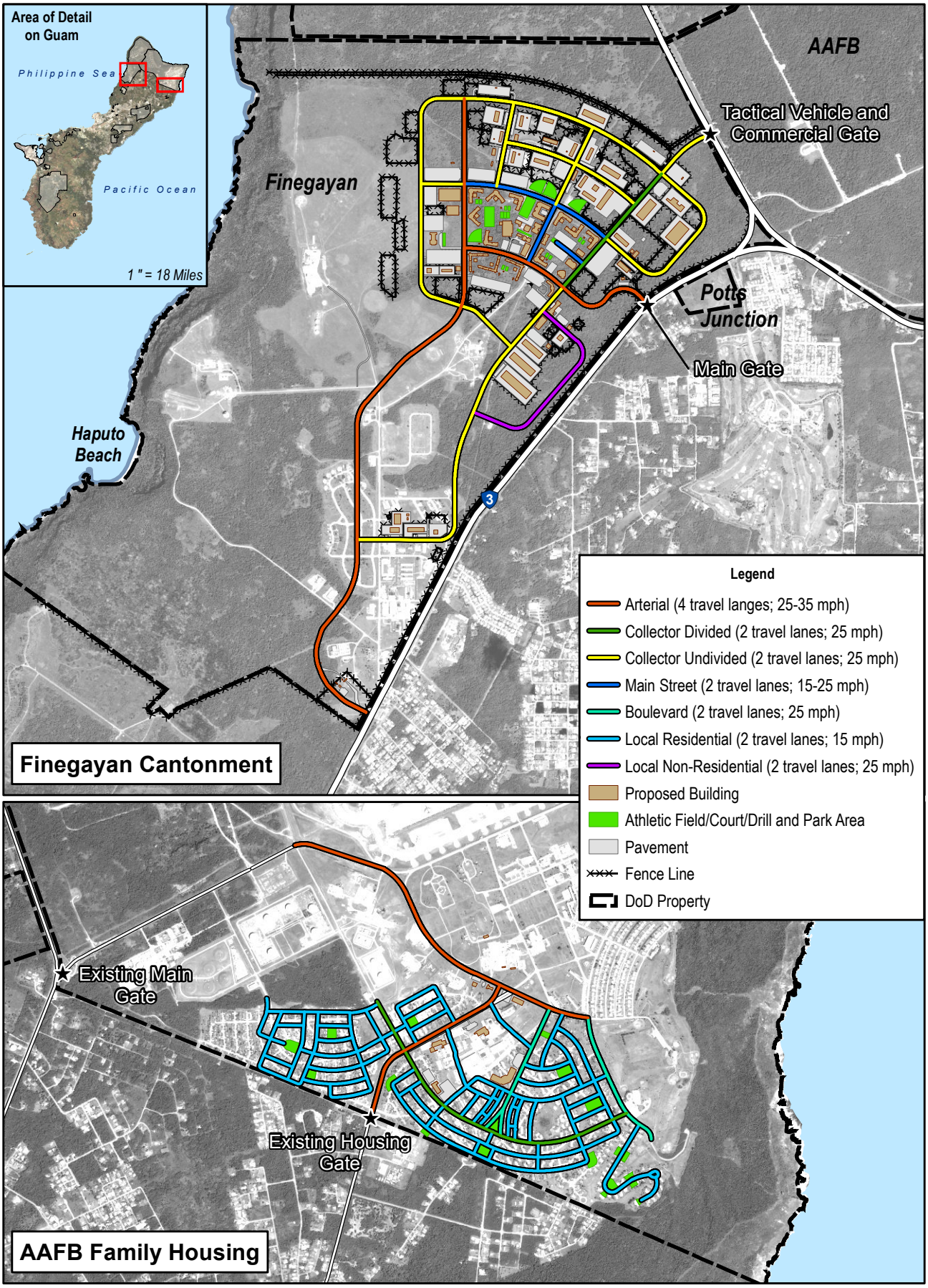

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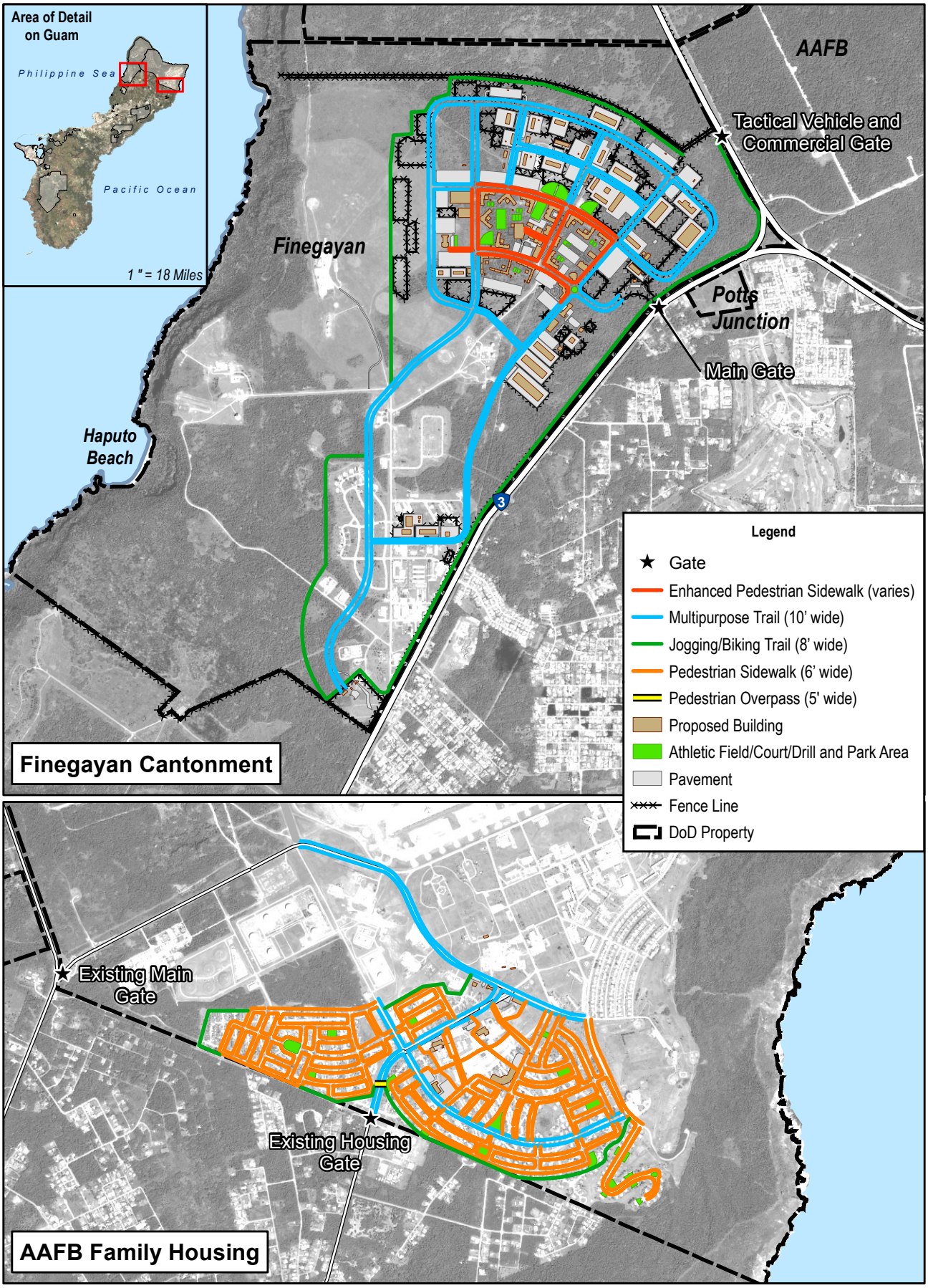

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Guam and CNMI Military Relocation

(2012 Roadmap Adjustments)

Supplemental Environmental Impact Statement (SEIS)

TRAFFIC OPERATIONS REPORT

Prepared for:

Department of Public Works

Government of Guam

Prepared by:

Parsons Brinckerhoff

September, 2013

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EXECUTIVE SUMMARY

This report is the fourth in a series of reports on the traffic analysis for the Guam and CNMI Military Relocation, hereinafter referred to as the USMC 2012 Roadmap Adjustments. The first two reports described how the island-wide traffic forecasting model was updated and enhanced to support new analyses, and the assumptions made about locations of USMC facilities and travel patterns of the various groups associated with the project (active-duty Marines, their dependents, civilian workers, etc.). The third report was a sketch-level analysis of six combinations of locations for the USMC Main Cantonment, Family Housing, and LFTRC.

After considering military requirements, known infrastructure and environmental impacts and constraints, and scoping input from the public, resource agencies, and the GovGuam, the DOD selected a Preferred Alternative that features the Main Cantonment and Family Housing on the grounds of the existing Naval Base Guam Telecommunications Site (NBGTS) and portions of the adjacent Andersen Air Force Base Northwest Field (AAFB-NWF). The LFTRC would also be location on a portion of AAFB-NWF.

The current report provides an in-depth analysis of three alternatives for the USMC 2012 Roadmap Adjustments, namely: 1) an alternative assuming that the USMC 2012 Roadmap Adjustments would not take place (the No Build Alternative), 2) a No Action Alternative assuming that no action was taken to change the 2010 FEIS Preferred Alternative[1], and 3) the Preferred Alternative. These forecasts were prepared for the year of peak construction activity (2021) and for conditions after full project build-out (2030). The forecasts were used to analyze the volume-to-capacity (v/c) ratio of each segment of Guam's primary road network and the level-of-service (LOS) at 57 key intersections around the island.

The key points that can be taken from this analysis are:

- The 2030 traffic forecasts shown herein show significantly better conditions than the 2030 forecasts in the 2010 FEIS. The reduction in the scope of DOD action from approximately 23,000 additional island residents to approximately 7,900 in the new alternative plays a part in the improved forecasts. However, most of the improvement is attributable to a downward revision in the forecast for Guam's future civilian population. The 2010 FEIS assumed that Guam's 2010 civilian population would be approximately 188,000 people. However, when U.S. Census data later became available it was discovered that the 2010 population was actually less than 160,000. Using a lower growth rate along with the lower base population for 2010, DOD forecasters now believe that Guam's 2030 population will be approximately 181,000; 18% less than the 2010 FEIS assumption of 222,000. The 41,000-person reduction in the assumed civilian population plays a larger role in the improved forecast for 2030 conditions than the 15,000-person reduction in the assumed USMC-related population associated with the Guam and CNMI Military Relocation (2012 Roadmap Adjustments).
- The analysis confirmed that the No Action Alternative (i.e. the 2010 FEIS Preferred Alternative) would have significant traffic impacts on most major roads in north and central Guam (see Exhibit 66 through Exhibit 71). The impacts would be so severe and so widespread (54 roadway segments and 28 intersections) that it would probably be infeasible to mitigate the impacts through capacity-increasing projects alone; some form of effective demand management would be needed as well. The 2010 FEIS recommended that if this alternative was selected then much of the USMC traffic should be channeled to certain routes (the "haul road network") to minimize impacts on civilian traffic, and that the public transit system be expanded and improved. The current analysis supports the earlier conclusion that such measures would be needed if this alternative were to be implemented.
- The Preferred Alternative would be a largely self-contained community connected to one of the least-busy portions of the public road network in northern Guam. As a result, there would be fewer traffic impacts from this project than might normally be expected for a development

[1] The No Action Alternative is no longer considered a reasonable alternative as it does not meet the purpose and need as defined in the SEIS.

involving 6,500 new residents. The impacts would be highest during the peak of the construction phase, when more than 3,000 construction workers from off-island will overlap the first 3,300 Marines and 1,000 Marine dependents, and when 620,000 construction-related truck trips will occur per year (see Exhibit 88 and Exhibit 89).

- The measures needed to mitigate the Preferred Alternative's roadway-level impacts during construction are shown in Exhibit 108. In 8 of 23 cases the measures needed to mitigation construction impacts would also be needed when the USMC 2012 Roadmap Adjustment project is fully operational, in the other 15 cases the mitigations would only be needed during construction. There are nine sections of Route 1 that would require widening to accommodate construction-period traffic but widening appears to be infeasible in five of those locations. In such cases some other form of mitigation, such as restricted hours of construction traffic, should be investigated.
- The measures needed to mitigate the Preferred Alternative's intersection-level construction impacts are summarized in Exhibit 109. Mitigation to a less-than-significant level appears to be feasible at all 12 intersections where significant impacts were identified. In 6 cases the mitigation measures would be needed in the long term; in the other 6 cases the measures would only be needed during construction.
- The Preferred Alternative's long-term impacts are much less than those of the No Action Alternative (see Exhibit 124) which is to be expected since the latter would involve roughly three times as many Marines and their dependents as the former.
- The measures needed to mitigate the Preferred Alternative's long-term roadway-level impacts are shown in Exhibit 122.
- For Route 3, there is one section where the Preferred Alternative's long-term impacts could only be mitigated by adding a lane in both directions of travel and three sections where the project's impacts could be mitigated by widening the southbound side only. However, given that the northbound side would also be operating near capacity (v/c of 0.82 to 0.95) for the entire length of Route 3, consideration should be given to widening both sides of the road. The widening of Route 3 would create an opportunity to put in sidewalks and bicycle lanes near established communities and widened shoulders in the areas between communities. This would be consistent with the proposed pedestrian and bicycle improvements in the 2030 Guam Transportation Plan and would mitigate project impacts on bicyclists and pedestrians.
- The Preferred Alternative's long-term intersection-level impacts are summarized in Exhibit 123. For all twelve intersections where the project would have significant impacts it appears that it would be feasible to mitigate the project's impacts to less-than-significant.

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1. INTRODUCTION

A Supplemental Environmental Impact Statement (SEIS) is being prepared to address changes to the proposed action in the 2012 Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) issued in 2010. The SEIS will include an evaluation of alternative locations for a Main Cantonment, Family Housing, live-fire training range complex (LFTRC) (see Exhibit 1), and an assessment of impacts to Guam's civil infrastructure. Traffic analysis for the SEIS has been documented in a series of technical reports including:

- **Model Development Report**, dated April 2013. This report describes the improvements made to the 2003 traffic model used in the preparation of the 2010 FEIS. The improvements included updating the land use and road network assumptions, collecting of new traffic counts, providing a more detailed system of traffic analysis zones, and other refinements. The improved model, now called the 2013 Guam Island-Wide Traffic Model, was then used for the forecasts described in the current report.
- **Model Assumptions Report**, dated May 2013. This report provides detailed descriptions of how each scenario[2] was represented in the 2013 Guam Island-Wide Traffic Model. This includes the number of travelers of different types, times of travel (peak hour or off-peak), trip origins and destination, and modes of travel.
- **Sketch-Level Traffic Analysis of Alternatives**, dated May 2013. This report presents a preliminary sketch-level comparison of the traffic impacts associated with six alternative combinations of locations for the USMC Main Cantonment, Family Housing, and LFTRC. The traffic analysis in this report was performed at a sketch level, meaning that it is intended to support high-level comparisons between project alternatives rather than detailed analyses of individual alternatives. The analysis highlights the differences in traffic on major roads that would result depending on which alternative was implemented.

After considering military requirements, known infrastructure and environmental impacts and constraints, and scoping input from the public, resource agencies, and the GovGuam, the DOD selected its Preferred Alternative which features the Main Cantonment and Family Housing on the grounds of the existing Naval Base Guam Telecommunications Site (NBGTS) and portions of the adjacent Andersen Air Force Base Northwest Field (AAFB-NWF). The LFTRC would also be location on a portion of AAFB-NWF.

The current report is structured with an introductory chapter on the project background and the methodology used in the analysis, followed by chapters describing existing traffic conditions and 2030 No Build conditions which form the baseline against which the No Action and Preferred Alternative are compared. These are followed by chapters describing the traffic impacts of the No Action Alternative and Preferred Alternative. The report closes with a chapter describing the conclusions from the analysis.

1.1 Purpose

The purpose of this report is to identify the foreseeable traffic impacts of the Guam and CNMI Military Relocation, 2012 Roadmap Adjustments (herein after called "the USMC 2012 Roadmap Adjustments") during construction and upon completion, and to identify practicable measures to mitigate these impacts.

1.2 Study Area

The study area is comprised of 57 intersections and 33 roadways located throughout the island. The study roadways are the numbered highways in Guam that are eligible for Federal-Aid Highway funding, which in this study are referred to by their route number for consistency although they may also have a name, such as "Marine Corps Drive" for Route 1. The roadways included in this study cover approximately 470 lane-miles and represent the most significant transportation corridors on the island.

[2] *Sketch Level Traffic Analysis of Alternatives*, Parsons Brinckerhoff, May 2013

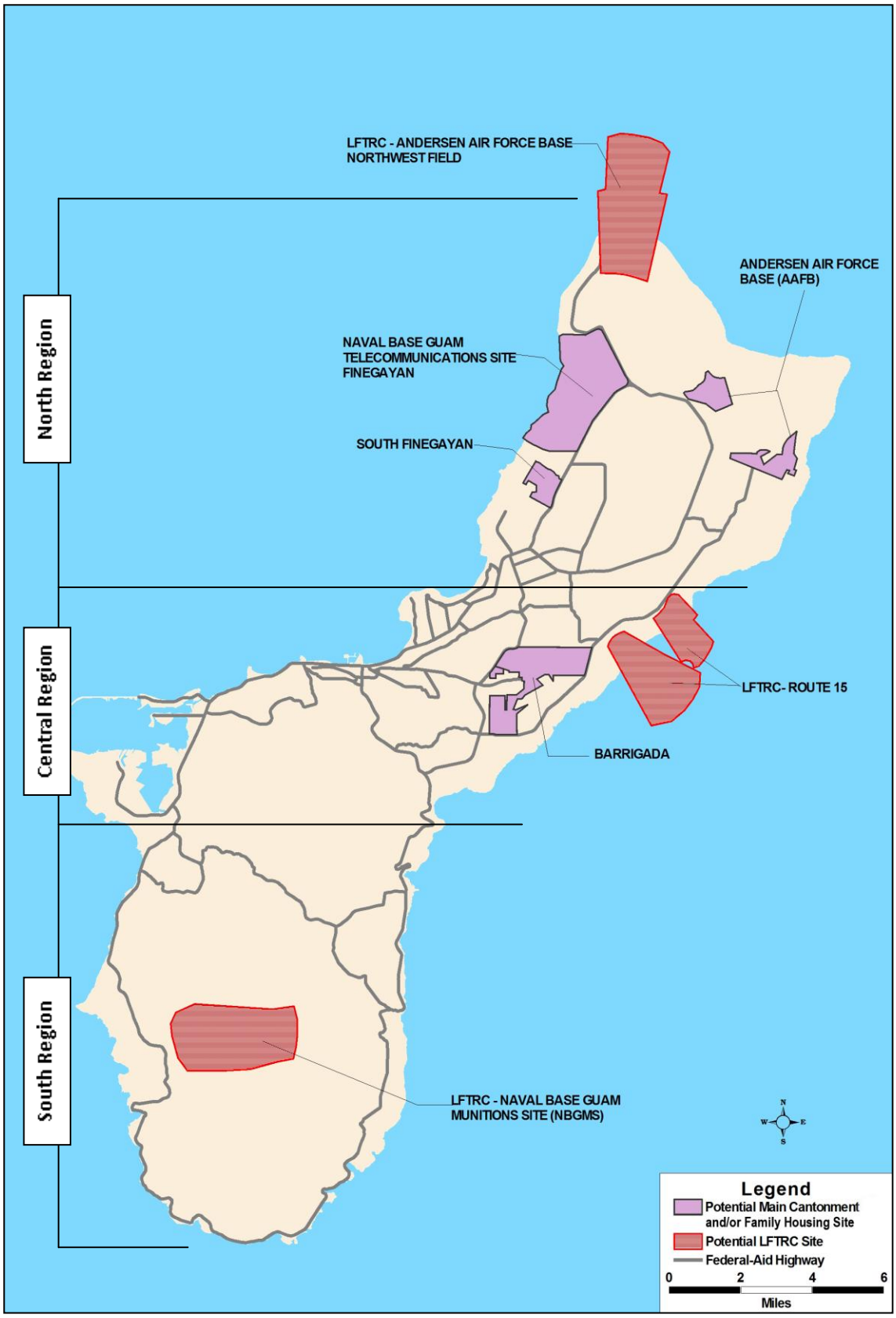

Exhibit 1: USMC 2012 Roadmap Adjustments Map Overview

Local roads and roadways internal to military sites were not included in this study; the former because they would not be affected by the USMC 2012 Roadmap Adjustments and the latter because they are being evaluated in a separate planning effort[3].

For reporting purposes the island was divided into three regions: north, central, and south (see Exhibit 1). The north region is generally defined as the area north of Tumon Bay, the central region is generally defined as the area between Apra Harbor and Tumon Bay, and the south region is generally defined as the area south of Apra Harbor.

1.3 Analysis Methodology

Traffic Forecasts

Traffic forecasts were prepared using the 2013 Guam Island-Wide Traffic Model, which incorporates data from the 2010 U.S. Census, the 2007 Economic Census, new forecasts for population growth unrelated to military projects, and greatly-improved representation of the roadway network. The 2013 model was calibrated against recent traffic counts performed at 57 study intersections[4]. Additional detail about this model can be found in the *Model Development Report*[5] and the *Model Assumptions Report*[6].

Operational Analysis of Intersections

Typically, most traffic problems occur in the immediate vicinity of an intersection. Intersection-level LOS analysis was performed using the methodology described in the Highway Capacity Manual (HCM) 2000 Chapter 16, for signalized intersections, and Chapter 17 for unsignalized intersections. The computations were performed using the software package Synchro.

The results of the intersection operational analyses were used to assess the LOS experienced by drivers. The LOS describes the quality of traffic operating conditions, ranging from "A" to "F," and is measured as the duration of delay that a driver experiences at a given intersection. LOS "A" represents free-flow movement of traffic and minimal delays to motorists while LOS "F" indicates severely congested conditions. Intermediate grades of "B," "C," "D," and "E" reflect incremental increases in congestion. Exhibit 2 shows the delay thresholds for signalized and unsignalized intersections. A key characteristic of traffic congestion is that as the LOS worsens (from LOS "C" to LOS "F") smaller increases in traffic can cause a noticeable increase in traffic delay for all users. For example, the transition from LOS "D" to LOS "E" occurs with a smaller amount of traffic increase than the transition from LOS "C" to LOS "D". This is because motorists are more affected to increases in amount of traffic when roadways are operating at or near capacity as compared to roadways operating well under capacity.

Queuing analysis was performed for all signalized intersections with LOS "F" using the Synchro computer software package. The estimated queue lengths from the software were compared to the existing turn pocket storage lengths to determine if queues during the peak hour exceed capacity. The reported queue is the 50th percentile queue, which Synchro identifies as the "maximum back of queue on a typical cycle." In addition, queue spillback into adjacent intersections was evaluated at select intersections.

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[3] See *Transportation Study to Support Marine Corps Relocation, Guam*, Naval Facilities Engineering Command Pacific

[4] Two study intersections, namely Tiyan Parkway/Route 10A and Tiyan Parkway/Route 8, do not currently exist. The intersection of Route 1 and Route 27 Extension is currently limited by a median to right-in and right-out movements.

[5] *Guam and CNMI Military Relocation (2012 Roadmap Adjustments) Supplemental Environmental Impact Statement (SEIS) Model Development Report,* Parsons Brinckerhoff, April 2013.

[6] *Guam and CNMI Military Relocation (2012 Roadmap Adjustments) Supplemental Environmental Impact Statement (SEIS) Model Assumptions Report,* Parsons Brinckerhoff, May 2013

Exhibit 2: Delay Thresholds for Level of Service

Level of Service	Description	Average Control Delay (seconds/vehicle)	
		Signalized Intersections	Unsignalized Intersections
A	Very low control delay. Progression is very favorable; most vehicles do not stop.	≤ 10	≤ 10
B	Low delay with good progression and/or short cycle lengths.	> 10 to 20	> 10 to 15
C	Moderate delay resulting from fair progression and/or longer cycle times. Some vehicles may not clear intersection in one green phase.	> 20 to 35	> 15 to 25
D	Longer control delays with noticeable congestion. Many vehicles stop and the proportion not served by the first green phase rises	> 35 to 55	> 25 to 35
E	High delay due to poor progression, long cycle lengths, or both.	> 55 to 80	> 35 to 50
F	Intersection oversaturated; arrival rates exceed intersection capacity so queues build up.	> 80	> 50

Source: *Highway Capacity Manual 2010*, Transportation Research Board, 2010

Note: For signalized intersections the LOS is based on the average for all vehicles entering the intersection. For unsignalized intersections the LOS is based on the delay for the worst-performing approach. Intersections with a volume-to-capacity ratio over 1.0 are automatically assigned LOS "F".

Analysis of Road Segments

In some cases capacity constraints extend beyond the immediate vicinity of an intersection. Roadway segment analysis is used to determine whether a road needs to be widened over a longer area. This analysis was conducted by comparing the model's forecast of traffic volumes to the capacity of the roadway. The volume to capacity (v/c) ratio is an indicator of roadway performance and can be used to compare potential impacts of increased traffic due to the USMC 2012 Roadmap Adjustments. A v/c ratio less than 1.00 indicates that the roadway is operating under capacity, while a v/c ratio over 1.00 indicates that the roadway is operating over capacity. The capacity is based on GovGuam's LOS policy target of LOS "E" or better during peak hours.

The roadway capacity is based on research conducted and published by the Florida Department of Transportation (FDOT) using the methodologies in the *Highway Capacity Manual* from the Transportation Research Board. The FDOT capacity and service level tables are commonly used for planning purposes by jurisdictions across the U.S.

Exhibit 3 provides the peak hour roadway capacity thresholds by direction. For example, a roadway with three lanes in each direction in a non-rural area with a volume of 2,430 vehicles (exceeding the 2,420 vehicle threshold listed in the table) is considered over capacity. The exhibit provides capacities for characteristics of the study roadways, which contain between two and six lanes.

Exhibit 3: Peak Hour Directional Roadway Capacity Thresholds

Number of Lanes	Median Type	Capacity
Class 2 (Posted speed 35 MPH or lower, Rural areas)		
1	Undivided	740
1	Divided with left-turn lanes	777
2	Undivided without turn lanes	1,264
2	Divided with left-turn lanes	1,580
3	Divided with left-turn lanes	2,400
Class 2 (Posted Speed 35 MPH or lower, Transitional urban areas; population density at least 1,000 persons/square mile)		
1	Undivided	720
1	Divided with left-turn lanes	756
2	Undivided without turn lanes	1,280
2	Divided with left-turn lanes	1,600
3	Divided with left-turn lanes	2,420
Notes: 1) Capacity thresholds are per direction. 2) Source: Florida Department of Transportation Quality/Level of Service Handbook Tables.		

The capacity thresholds distinguish between rural and transitional (semi-urban) areas. For the purposes of this study the rural areas included Route 9, the northern portion of Route 3, Route 3A, the southern portion of Route 1, Route 6, and Routes 2 and 4 in the southern portion of the island (see Exhibit 4).

Roadway segments were analyzed by direction during the AM and PM peak hours[7] for every link in the travel demand forecasting model. It is common for one travel direction of a roadway segment to experience a higher volume of traffic than the opposite direction during a peak hour. In locations where the v/c by direction differed, the v/c ratio for the more congested direction is shown in the exhibits in this report.

Definition of Significant Impacts

Chapter 7 of the *2030 Guam Transportation Plan* (Government of Guam Department of Public Works, 2008) recommended that, "All intersections and roadway segments should operate at LOS "E" during peak periods" (with the intent that intersections and roadways should operate at LOS "E" *or better* conditions). Therefore, for the purposes of this study, LOS "E" conditions or better are considered acceptable. Some tables in this report describe traffic conditions in terms of the volume-to-capacity (v/c) ratio. In such cases the threshold between LOS "E" and LOS "F" is considered the capacity of the road.

[7] The AM peak hour used in this analysis was from 7:00 to 8:00 and the PM peak hour was from 16:30 to 17:30. These were based on the highest volumes found in recent traffic counts.

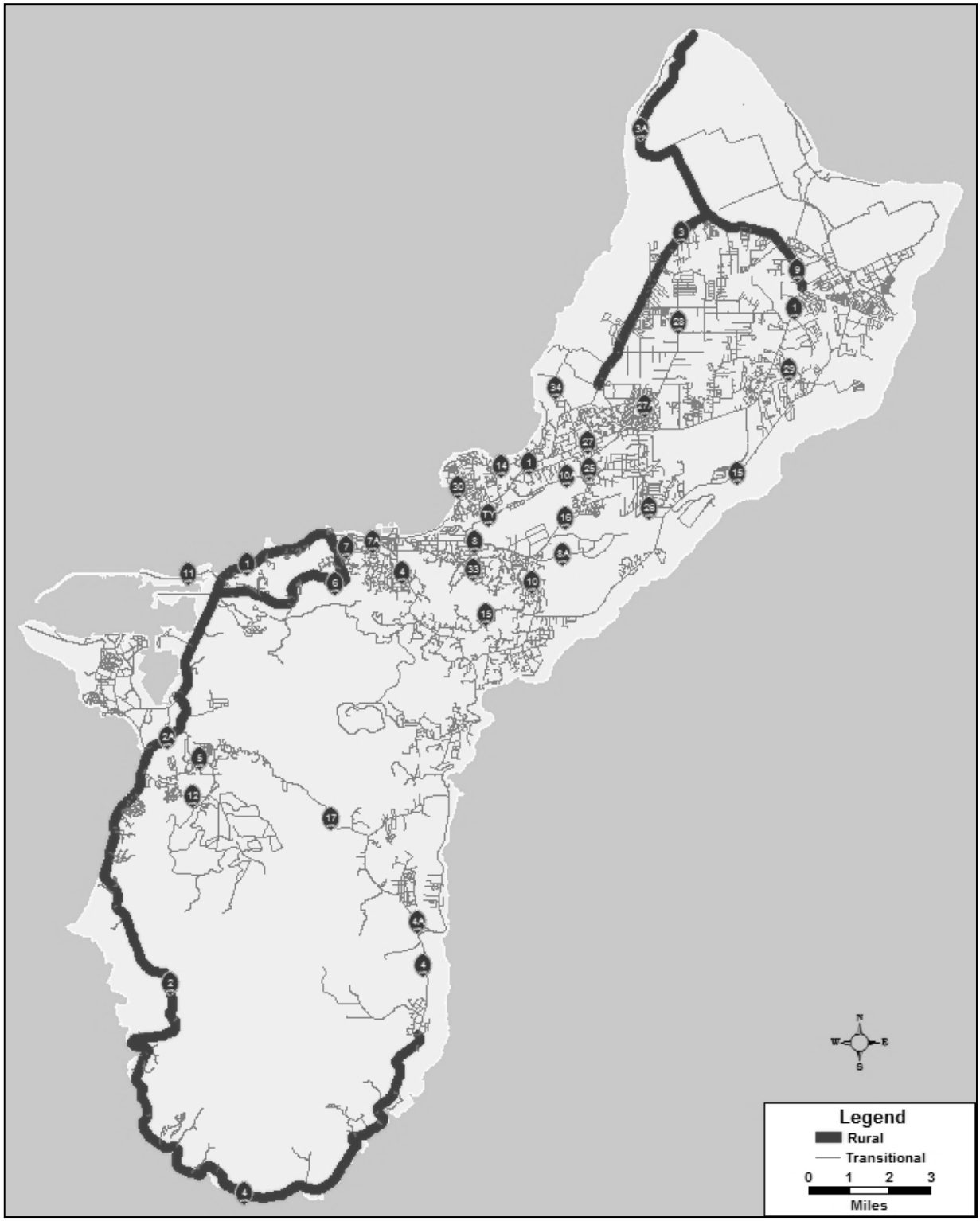


Exhibit 4: **Roads Classified as Rural for the Purposes of LOS Analysis**

Based on the LOS policy and engineering practice, significant impacts are defined as:

> For Intersections – A significant impact occurs if the project adds 50 or more peak hour trips (measured in passenger car equivalents) and the resulting LOS is "F".
>
> For Roadways – A significant impact occurs if the project adds 5% or more to the total directional peak hour volume (measured in passenger car equivalents) and the resulting LOS is "F".

Note that under these definitions a significant impact can occur in two ways, either: 1) a road would operate at an acceptable LOS without the USMC 2012 Roadmap Adjustments and the project would cause the LOS to become unacceptable, or 2) the road (or intersection) would be congested with or without the project and the project would exacerbate the problem. Both of these situations arose in the course of the alternatives analysis though the latter was more common.

The USMC 2012 Roadmap Adjustments' impacts can also be divided into direct and indirect impacts. Direct impacts are those that arise from trips going to or from the gates to the Main Cantonment or Family Housing. Besides these, there are indirect impacts arising from the trips made by members of the households of USMC civilian workers and project-induced civilian population growth. Although these trips would not go to or from the project site, they would nevertheless be part of the project's impact because these households would not be on Guam were it not for the USMC 2012 Roadmap Adjustments. There are fewer indirect trips[8] than direct trips and they are dispersed over a wider area. Still, they were enough to cause significant impacts at critical bottleneck intersections in the central part of the island in several scenarios.

For places where a significant impact is forecast to occur, further analysis was performed to identify mitigation measures that would bring the project's impacts to less-than-significant. Note that this does not always mean improving the facility to operate at LOS "E" or better; the proposed mitigation measure need only reduce the delay to less than would occur without the USMC 2012 Roadmap Adjustments project. That condition may or may not be LOS "E" or better.

1.4 Data Collection

Intersections

Field data on existing lane configurations, signal operations, and traffic volumes were collected at most study intersections in December 2012, except for two locations that were recounted in March 2013 to verify significant turning movement volumes. Information on signal timings for the signalized study intersections was provided by the Guam Department of Public Works.

Roadways

Roadway segments were reviewed to determine the existing number of travel lanes and median type. Data on peak hour traffic volumes for the roadway segments came from intersection counts done in early December 2012 and roadway hose counts from September and October 2011. In some locations far from the sites of the USMC 2012 Roadmap Adjustments a count was not available and so the calibrated model volume was used.

Heavy Vehicles

Heavy vehicles (buses and trucks) affect traffic operations differently than passenger cars. The analysis of intersection LOS took the presence of heavy vehicles on the Guam roadways and intersections into account through the use of heavy vehicle percentages. These percentages were determined through classified traffic counts done in 2011 at 17 sites around the island, and are shown in Exhibit 5.

[8] Indirect trips were roughly one-third of the total external (outside the gates) trips generated by the USMC 2012 Roadmap Adjustments.

Exhibit 5: Heavy Vehicle Percentages

Road	Average Percent Heavy Vehicles from Classified Traffic Counts	Percent Heavy Vehicles Used in Synchro Analysis
Route 1	2.7%	3%
Routes 3 and Route 9	1.6%	2%
Route 16	2.4%	3%
Route 11 (inside port)	13.9%	14%
Route 15 and Chalan Lujana (near the aggregate mine)	2.9%	3%
Minor Routes	1.5%	2%

Synchro does not allow fractional inputs so the surveyed averages had to be rounded to a whole percentage. In each case the number was rounded up (i.e. 2.4% was rounded to 3%) to ensure that the analysis did not under-estimate the effect of heavy vehicles.

2. EXISTING CONDITIONS

This chapter describes existing (2013) traffic conditions based on recent traffic counts.

2.1 Description of Road Network

North Region Roadway Network

Route 1 - Route 1, also known as Marine Corps Drive, is a major arterial roadway that extends approximately 22 miles from Andersen Air Force Base (AAFB) in Yigo on the northeastern corner of the island down to Naval Base Guam in Santa Rita in the central western area of the island. Route 1 from AAFB to Route 29 in Yigo is a four-lane road with a raised median. The lanes are approximately 12 feet wide. There is a shoulder on either side of the road; however, there is no curb, gutter, or sidewalk. The median becomes flush at Route 29 and continues to Chalan Lujuna in Yigo. South of Route 28 in Dededo, the roadway has six lanes with a raised median.

Route 3 - Route 3 is located on the northern end of the island in Dededo. It connects with Route 9 at the Route 3A intersection and intersects Route 1 at its southern terminus. Route 3 is 5.7 miles long and is entirely located within the north region. From Route 1 to Route 28, the roadway is a minor arterial that consists of four lanes with intermittent center turn lanes and shoulders and no curb, gutter or sidewalks. From Route 28 to Route 9, the roadway decreases to two lanes with no median/center lane, shoulders, curb and gutter, or sidewalk. The lanes are generally 12 feet wide.

Route 9 - Route 9 is located on the northern end of the island near AAFB and connects Route 3 at its western terminus with Route 1 at its eastern terminus at the entrance to AAFB. Route 9 is 3.1 miles long and is entirely located within the north region. The roadway is classified as a minor collector. The road has two lanes with limited median/center turn lane, intermittent shoulders, curb and gutter, and no sidewalks.

Route 14 - Route 14 is located on the northern end of the island and serves as the main access road to Tumon Bay. From its northern terminus at Route 1 it runs west to Gun Beach Road, then runs south parallel to Tumon Bay. This section of Route 14, which is also called Pale San Vitores Road, serves as the backbone for Guam's resort strip. Route 1 changes direction at a roundabout and becomes Chalan San Antonio heading eastbound to its terminus at Route 1, which is the busiest intersection on Guam in terms of traffic served. Route 14 is classified as a minor collector. The road has four lanes with limited median/center turn lane, curb and gutter, and sidewalks.

Route 15 - Route 15 is located on the northeastern part of the island, with its northern terminus in Yigo and southern terminus in Chalan-Pago-Ordot at Route 4. Route 15 is 14.2 miles long and is classified as a minor arterial in the north region. The portion of Route 15 in the north region has approximately 8.6 lane-miles with the roadway extending into the central region. From Smithbridge Quarry to just north of Chalan Lujuna, there are two lanes with no center lane, a flush median, no shoulders, curb, gutter, or sidewalk. The lanes are generally 12 feet wide.

Route 16 - Route 16 is located on the east side of Guam International Airport and extends from Route 1 to Route 8 in Barrigada. The section of Route 16 in the north region is between Route 1 and Route 27 and has approximately 5.2 lane-miles. The roadway is classified as a major arterial. From Route 10A to Route 27A, the road has six lanes, a center turn lane, an intermittent raised median, shoulders, and no curb, gutter, or sidewalks. The lanes are generally 12 feet wide in this section.

Route 26 - Route 26 is located in the north-central part of the island and connects Route 1 in Dededo with Route 15 in Mangilao. Route 26 is approximately 2.3 miles long and is classified as a minor arterial. The road has two lanes with no median, intermittent shoulders, no curb or gutter, and intermittent sidewalks in the Latte Heights Estates area. The lanes are generally 12 feet wide. The majority of Route 26 is located in the central region, although 1.3 lane-miles are within the north region.

Route 27 - Route 27 is located in the north-central part of the island and connects Route 16 with Route 1 in Dededo. Route 27 is approximately 1.1 miles long and is classified as a major arterial. The road has six lanes with a raised median and left-turn queuing lanes at intersections, curb and gutter, sidewalks, and no shoulders. The lanes are generally 12 feet wide.

Route 28 - Route 28 is located in the northern part of the island and connects Route 1 with Route 3 in Dededo. Route 28 is 3.9 miles long and is classified as a minor arterial. The road has two lanes with intermittent median or center lane, no shoulders, curb, gutter, or sidewalks. The lanes are generally 11 to 12 feet wide.

Central Region Roadway Network

Route 1 - Route 1 continues from the north region and travels along the western side of the island in the central region. The six-lane portion of Route 1 extends to Route 6 in Hagatna, at which point it has four lanes. The lanes are generally 12 feet wide. There are left-turn queuing lanes at intersections and at other access points along Route 1. There are curb, gutter and sidewalks along this section of the roadway. Just south of the Route 6 intersection in Hagatna, the road becomes four lanes again to where it ends near Naval Base Guam in Santa Rita. There is a raised median from Route 6 to Route 11 in Piti.

Route 2A - Route 2A is located near Naval Base Guam in Santa Rita and connects Route 1 to Route 2. A 3.4 mile portion of the road, from approximately Route 1 to Route 5, is in the central region. This section of Route 2A is a two-lane minor arterial with no median, shoulders, curb, gutter, or sidewalk. The lanes are generally 12 feet wide.

Route 8 - Route 8 is located in the center of the island, with its eastern terminus at the Admiral Nimitz Golf Course in Barrigada and western terminus in Hagatna. Route 8 is 4.3 miles long and is a major arterial between Route 10/16 and Route 1 and a major collector east of the Route 10/16 intersection. The road has four lanes with a two-way center turn lane, intermittent shoulders and sidewalks, and curb and gutter between Route 10/16 and Route 1. The lanes are generally 12 feet wide.

Route 10 - Route 10 is located in the center of the island, with its northern terminus in Barrigada at Route 8/16 and southern terminus in Chalan-Pago-Ordot at Route 4. Route 10 is 3.2 mi (5.1 km) long and is classified as a major arterial. Generally, the road has four lanes with a two-way center turn lane, shoulders, curb and gutter, and sidewalks. The lanes are generally 12.0 ft (3.6 m) wide.

Route 11 - Route 11 is located on the central west side of the island and serves as the entrance to the Port Authority and Family Beach in Piti. Route 11 is 2.9 miles long and is classified as a minor arterial. The road has two lanes with no median, intermittent shoulders, curb and gutter, and sidewalks. The lanes are generally 12 feet wide.

Route 15 - Route 15 continues into the central region from the north region and has its southern terminus in Chalan-Pago-Ordot at Route 4. Route 15 has 20.2 lane-miles in the central region and is classified as both a minor arterial (north of Route 10) and a major collector (south of Route 10). From Chalan Lujuna to Route 26, there are two lanes with no center lane, a flush median, no shoulders, curb, gutter, or sidewalk. From Route 26 to Route 10, the road has two lanes with an intermittent center lane, a flush median, no shoulders, curb, gutter, or sidewalks. The lanes are generally 12 feet wide.

Route 16 - Route 16 in the central region is between Route 27 and Route 8 and has 15.3 lane-miles. From Route 8 to Route 10A, the road has four lanes with a center lane, intermittent raised and flush medians, shoulders, curb and gutter, and no sidewalks. The lanes are generally 12 feet wide in this section. At the intersection with Route 10A, Route 16 continues below-grade under Route 10A, with four through lanes. There are two lanes that exit to the at-grade intersection with Route 10A.

Route 25 - Route 25 is located in the central part of the island and connects Route 16 with Route 26 in Dededo. Route 25 is approximately 1.4 miles long and is classified as a minor arterial. The road generally has two lanes with a two-way center turn lane, shoulders, and no sidewalks, curb or gutter

for approximately 0.5 miles west of Route 16. The road then decreases in width and has no center lane or median, no curb, gutter, sidewalks, or shoulders for the remainder of the route. The lanes are generally 12 feet wide.

Route 26 - Route 26 is located in the north-central part of the island and was described in the previous section. The characteristics of the roadway in this section are consistent with the north region. The portion of Route 26 in the central region has 5.5 lane-miles.

South Region Roadway Network

Route 2A - Route 2A is connects Route 1 to Route 2. The portion of the road included in the south region, from approximately Route 5 to Route 2, has 3.6 lane-miles. This section of Route 2A is a two-lane minor arterial with no median, shoulders, curb, gutter, or sidewalk. The lanes are generally 12 feet wide.

Route 5 - Route 5 is located near Naval Base Guam in Santa Rita and intersects with Route 2A at its northern terminus. It loops around to join Route 12 at its southern terminus. The study roadway has 4.0 lane-miles and is considered a minor arterial for the portion in this project. Route 5 has two lanes with an intermediate raised median and queuing left-turn lane at intersections and no shoulders, curb, gutter, or sidewalks. The lanes are generally 12 feet wide.

Route 12 - Route 12 is located in the southern part of the island and connects with Route 5 at its eastern terminus in Santa Rita and Route 2 at the western terminus in Agat. Route 12 is 2.7 miles long and is classified as a major collector. The road has two lanes, intermittent shoulders, and no curb, gutter or sidewalks. The lanes are generally 12 miles wide.

2.2 Roadway-Level LOS

This section describes the existing traffic conditions analysis for the north region of Guam, generally defined as the area north of Tumon Bay.

Roadway LOS in North Region

A tabular summary of existing roadway conditions in the north region is shown in Exhibit 6 for the AM and PM peak hours. Locations with v/c ratios greater than 1.00 are highlighted by shaded cells and bold font.

Exhibit 7 shows the AM peak hour v/c ratio for the study roadways in the north region, while Exhibit 8 shows the conditions for the PM peak hour. The exhibits are color-coded with roads that have a v/c ratio of less than 0.80 shown in green; roads that have a v/c ratio between 0.80 and 0.90 shown in yellow; roads that have a v/c ratio from 0.90 to 1.00 shown in amber; and roads have a v/c ratio greater than 1.00 (the most severely congested) shown in red. The width of the color band on the roadway corresponds to the traffic volume; the wider the roadway band, the larger the traffic volume.

The commuter routes connecting the northern residential villages (Dededo and Yigo) to the employment centers in the central region (Tamuning, Hagatna, Mongmong) are currently the most congested. Commuter-related congestion in the north region is generally southbound in the morning and northbound in the evening. The following roadways in the north region operate over capacity during either the AM peak hour or PM peak hour:

- Route 1 between Chalan Lujuna and Route 28 - This section of roadway operates over capacity in the southbound direction during the AM peak hour and in the northbound direction during the PM peak hour. The over capacity conditions mostly occur near Route 28.

- Route 1 between Route 3 and Route 14A - Route 1 in this area operates over capacity in the southbound direction during the AM peak hour and in the northbound direction during the PM peak hour.

Exhibit 6: Roadway V/C for Existing Conditions – North Region

Roadway			Existing Conditions	
Route	**Segment**	**Capacity**	**AM Peak**	**PM Peak**
Route 1	AAFB to Route 29	1,600	0.56	0.60
Route 1	Route 29 to Chalan Lujuna	1,600	0.96	0.78
Route 1	Chalan Lujuna to Route 28	1,600	**1.24**	**1.12**
Route 1	Route 28 to Route 26	2,420	0.93	0.89
Route 1	Route 26 to Route 27	2,420	1.00	0.85
Route 1	Route 27 to Route 27A	2,420	0.68	0.58
Route 1	Route 27A to Route 3	2,420	0.72	0.60
Route 1	Route 3 to Route 34	2,420	**1.40**	0.94
Route 1	Route 34 to Route 16	2,420	**1.21**	0.96
Route 1	Route 16 to Route 14 (N)	2,420	**1.28**	**1.24**
Route 1	Route 14 (N) to Route 14A	2,420	**1.20**	**1.18**
Route 3	Route 3A/9 to Fin. Main Gate	740	0.62	0.48
Route 3	Fin. Main Gate to Secondary Gate	740	**1.06**	0.58
Route 3	Fin. Secondary Gate to Route 28	740	**1.20**	0.95
Route 3	Route 28 to S.Fin. Main Gate	1,580	**1.04**	0.69
Route 3	S.Fin. Main Gate to Route 1	777	**2.04**	0.87
Route 3A	North of Route 3/9	740	0.09	0.12
Route 9	Route 3/3A to AAFB North Gate	740	0.46	0.34
Route 9	AAFB Main Gate to Route 1	740	0.43	0.35
Route 14	Route 1 to Gun Beach Rd.	1,600	0.53	0.54
Route 14	Gun Beach Rd. to Route 14A	1,600	0.45	0.68
Route 15	AAFB to Route 29	720	0.83	0.55
Route 15	Route 29 to Route 26	720	0.91	0.57
Route 16	Route 1 to Route 27A	2,420	0.39	0.45
Route 16	Route 27A to Route 27	2,420	0.54	0.57
Route 16	Route 27 to Route 10A	2,420	0.83	0.80
Route 26	Route 1 to Route 25	720	**1.10**	**1.03**
Route 27	Route 16 to Route 1	2,420	0.57	0.61
Route 27A	Route 16 to Route 1	756	**1.51**	**1.38**
Route 27A	Route 1 to Route 28	756	0.89	0.66
Route 28	Route 1 to Route 27A	720	0.77	0.84
Route 28	Route 27A to Chalan Balako	720	**1.05**	0.86
Route 28	Chalan Balako to Route 3	720	**1.25**	0.85
Route 29	Route 1 to Route 15	720	0.82	0.51
Route 34	North of Route 1	720	0.17	0.20

Notes:
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

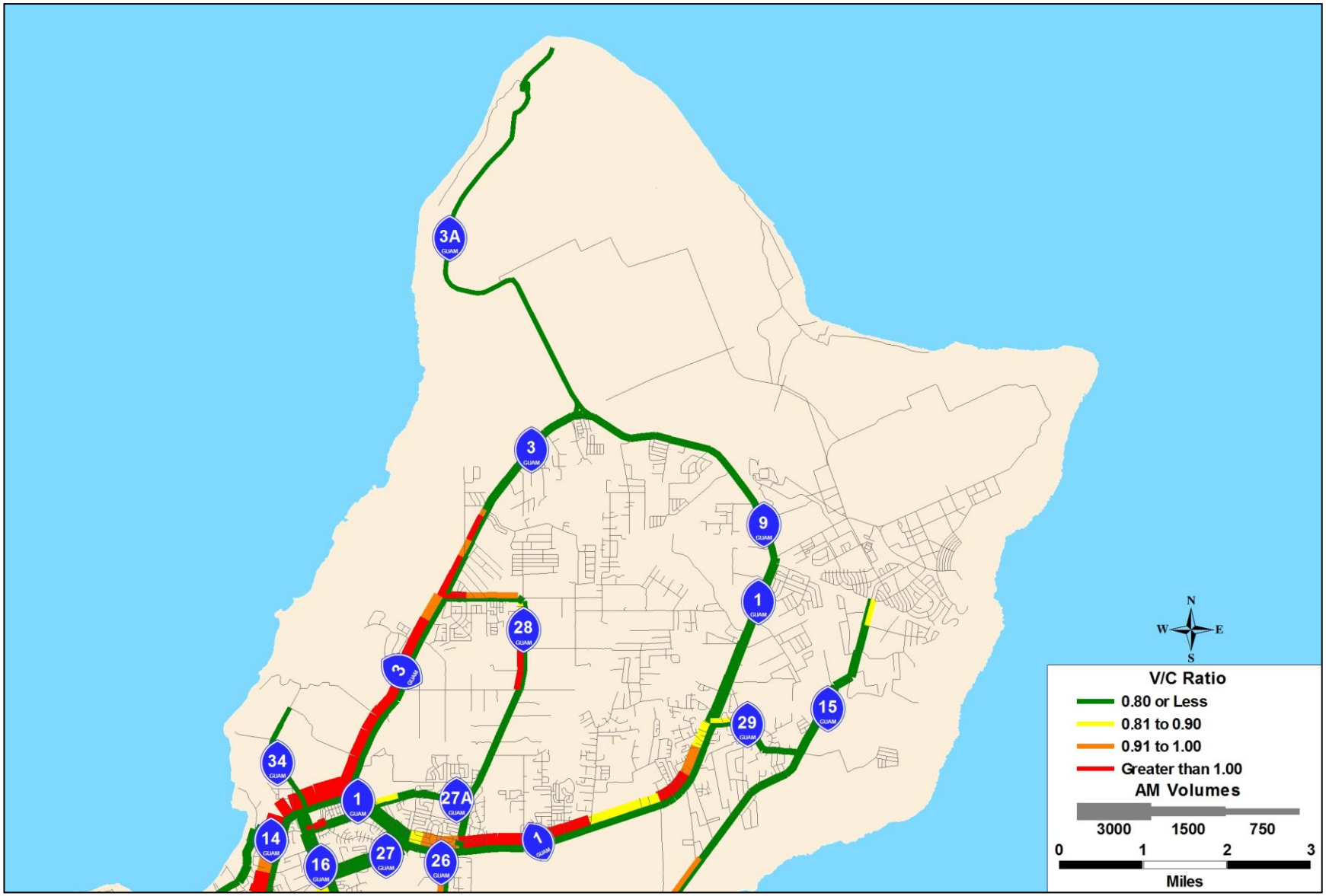


Exhibit 7: Roadway V/C for Existing Conditions, AM Peak Hour – North Region

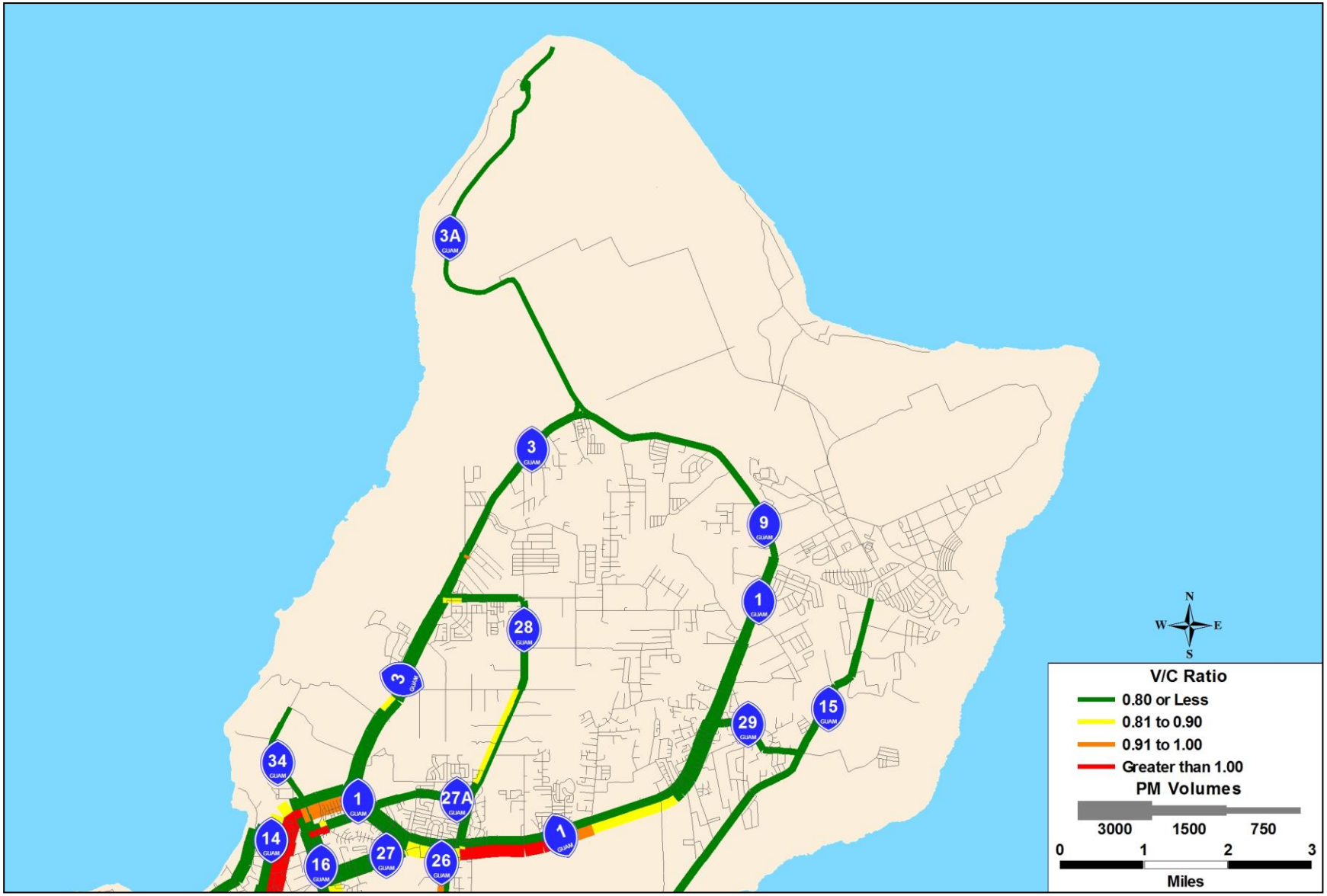


Exhibit 8: Roadway V/C for Existing Conditions, PM Peak Hour – North Region

- Route 3 between Finegayan Main Gate and Route 1 - This section of Route 3 operates over capacity in the southbound direction during the AM peak hour. The roadway operates under capacity during the PM peak hour.

- Route 27A between Route 16 and Route 1 - A relatively short section of Route 27A, near Route 16, operates over capacity during both peak hours.

- Route 28 between Route 27A and Route 3 - A relatively short section of Route 28, near Route 3 and near Chalan Balako operates over capacity during the AM peak hour.

Roadway LOS in Central Region

A summary of the existing roadway analysis is shown in Exhibit 9 to Exhibit 11 on the following pages. The v/c ratio for each study roadway in the central region of the Project study area is shown in the tables for both the AM and PM peak hour.

The maps presented for each peak hour shows the v/c ratio on the study roadways in the central region, with the red roads operating over capacity. The following roadways in the central region operate unacceptably, over capacity, under existing conditions:

- Route 1 between Route 14A and Route 14 - This section of Route 1, through the central core of the island, experiences congestion in both directions during the PM peak hour.

- Route 4 between Route 7B and Route 15 - This roadway operates over capacity for much of its length in the northbound direction during the AM peak hour and for a shorter segment in the southbound direction during the PM peak hour.

- Route 4 between Route 10 and Route 17 - Route 4 in this section operates over capacity in the southbound direction during the PM peak hour and over capacity in the northbound direction in the AM peak hour (segment shown on maps for south region).

- Route 7 between Route 6 and Route 7A - A short segment of Route 7 operates unacceptably during the AM peak hour west of Route 7B and unacceptably during both the AM and PM peak hours east of Route 7B.

- Route 7A between Route 8 and Route 4 - This short segment of Route 7A operates unacceptably during the PM peak hour.

- Route 8 between Route 10 and Route 33(W) - Route 8 operates over capacity in the westbound direction during the AM peak hour and for a relatively short section in the eastbound direction during the PM peak hour.

- Route 10 between Route 8 and Route 4 – Sections of Route 10 operate over capacity in the northbound direction during the AM peak hour.

- Route 10A between Route 16 and Route 1 - Route 10A experiences congestion for much of its length as the roadway varies in number of travel lanes adjacent to the airport. The roadway is over capacity during both the AM and PM peak hour.

- Route 16 between Route 10A and Barrigada Main Gate – A relatively short section of Route 16 operates over capacity in the PM peak hour.

Exhibit 9: Roadway V/C for Existing Conditions – Central Region

Roadway			Existing Conditions	
Route	**Segment**	**Capacity**	**AM Peak**	**PM Peak**
Route 1	Route 14A to Route 10A	2,420	0.77	**1.08**
Route 1	Route 10A to Route 14B	2,420	0.94	**1.07**
Route 1	Route 14B to Route 14 (S)	2,420	0.85	**1.02**
Route 1	Route 14 (S) to Route 30	2,420	0.88	0.83
Route 1	Route 30 to Route 8	2,420	0.87	0.95
Route 1	Route 8 to Route 4	2,420	0.72	0.80
Route 1	Route 4 to Route 6 (N)	2,420	0.83	0.58
Route 1	Route 6 (N) to Route 11	1,580	0.94	0.88
Route 1	Route 11 to Route 6 (S)	1,580	0.71	0.66
Route 1	Route 6 (S) to Route 18	1,580	0.70	0.66
Route 1	Route 18 to Route 2A	1,580	0.80	0.69
Route 2A	Route 1 to Route 5	1,580	0.64	0.62
Route 4	Route 1 to Route 33	2,420	0.50	0.46
Route 4	Route 33 to Route 7B	2,420	0.68	0.53
Route 4	Route 7B to Route 15	1,600	**1.28**	**1.14**
Route 4	Route 15 to Route 10	1,600	**1.04**	0.83
Route 4	Route 10 to Route 17	720	**1.44**	**1.29**
Route 6	Route 1 (N) to Route 7	777	0.68	0.81
Route 6	Route 7 to Murray Rd.	740	0.44	0.55
Route 6	Murray Rd. to Route 1 (S)	1,264	0.16	0.23
Route 7	Route 6 to Route 7B	756	**1.07**	0.97
Route 7	Route 7B to Route 7A	756	**1.04**	**1.04**
Route 7A	Route 8 to Route 33	720	0.94	**1.03**
Route 7A	Route 33 to Route 4	720	0.86	**1.06**
Route 7A	Route 4 to Route 7	1,600	0.58	0.41
Route 7A	West of Route 7	720	0.36	0.58
Route 7B	Route 7 to Route 4	720	0.87	0.85
Route 8	Bar. Main Gate To Route 16	720	0.47	0.19
Route 8	Route 16 to Route 10	1,600	0.99	0.95

Notes:
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 9: Roadway V/C for Existing Conditions – Central Region (Continued)

Roadway			Existing Conditions	
Route	**Segment**	**Capacity**	**AM Peak**	**PM Peak**
Route 8	Route 10 to Route 33 (E)	1,600	**1.08**	0.93
Route 8	Route 33 (E) to Route 33 (W)	1,600	**1.10**	**1.11**
Route 8	Route 33 (W) to Route 1	1,600	0.78	0.78
Route 10	Route 8 to Route 15	1,600	**1.11**	0.87
Route 10	Route 15 to Route 32	1,600	**1.02**	0.83
Route 10	Route 32 to Route 4	1,600	**1.02**	0.80
Route 10A	Route 16 to Sunset Blvd.	756	**2.19**	**1.51**
Route 10A	Sunset Blvd. to Route 1	756	**1.86**	**1.43**
Route 11	West of Route 1	720	0.52	0.46
Route 14	Route 14A to Route 14B	1,600	0.66	0.71
Route 14	Route 14B to Route 1 (S)	1,600	0.45	0.58
Route 14A	Route 14 to Route 1	1,280	0.45	0.76
Route 14B	Route 14 to Route 1	720	0.67	0.71
Route 15	Route 26 to Bar. South Gate	720	0.99	0.85
Route 15	Bar. South Gate to Route 10	756	0.88	0.85
Route 15	Route 10 to Route 4	720	0.55	0.36
Route 16	Route 10A to Bar. Main Gate	1,600	0.97	**1.04**
Route 16	Bar. Main Gate to Route 8	1,600	0.86	0.90
Route 25	Route 16 to Route 26	720	**1.65**	**1.36**
Route 26	Route 25 to Route 15	720	**1.16**	**1.07**
Route 30	North of Route 1	720	0.49	0.45
Route 33	Route 8 (E) to Route 7A	720	0.92	0.50
Route 33	Route 7A to Route 8 (W)	720	0.46	0.13

Notes:
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

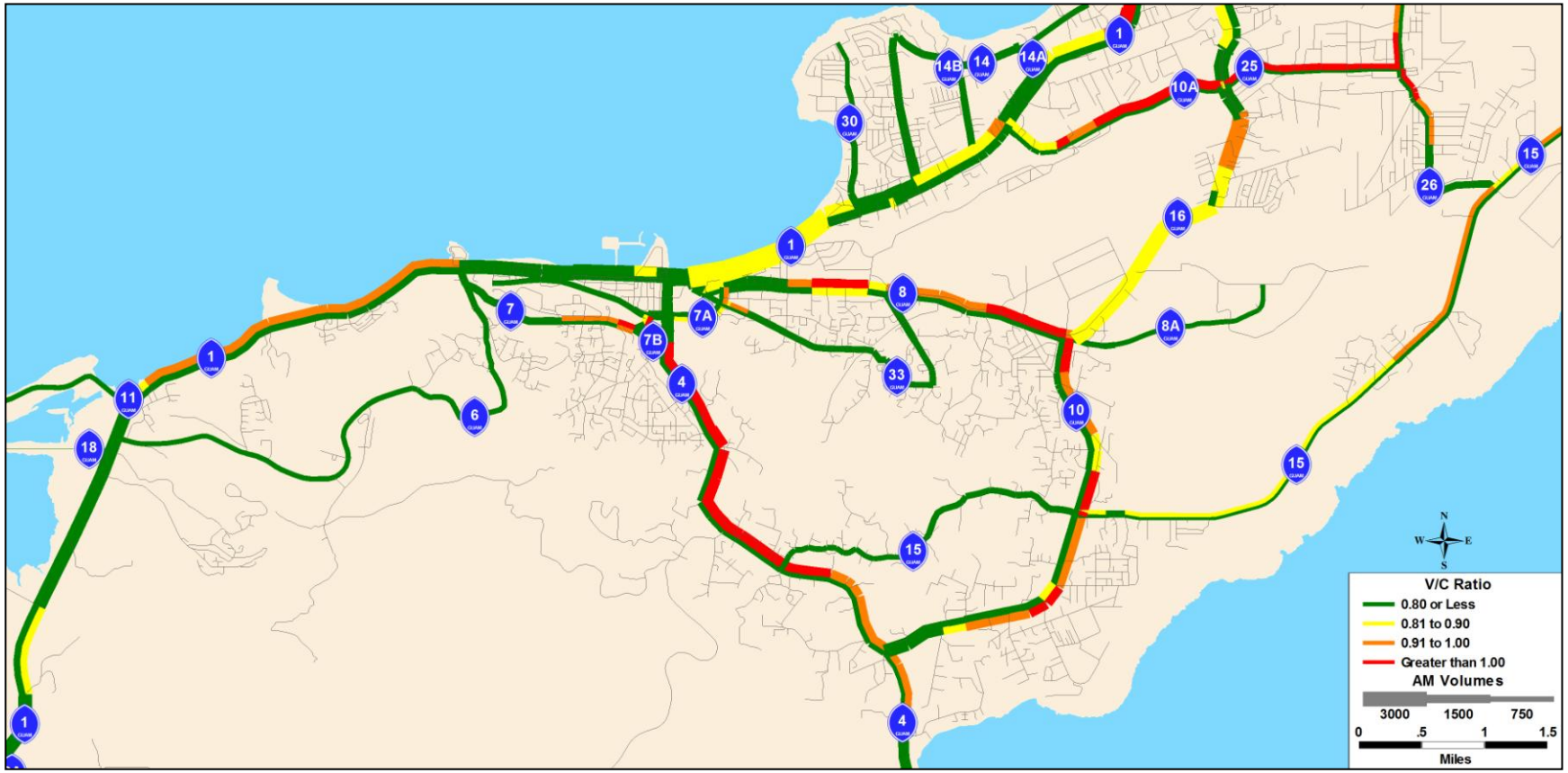


Exhibit 10: Roadway V/C for Existing Conditions, AM Peak Hour – Central Region

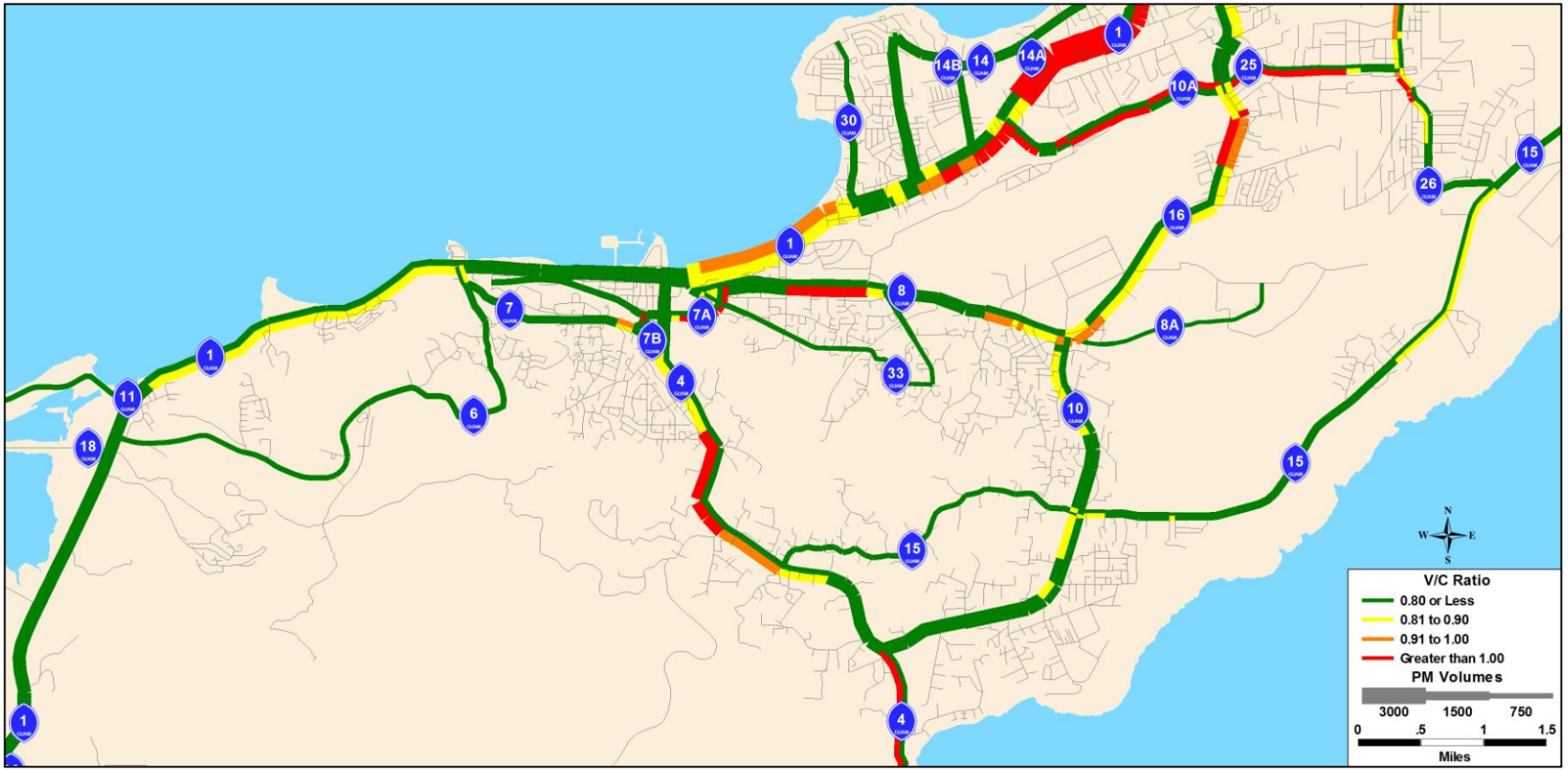


Exhibit 11: Roadway V/C for Existing Conditions, PM Peak Hour – Central Region

- Route 25 between Route 16 and Route 26 - Route 25 (Bello Road), the eastern extension of Route 10A, provides motorists with one lane in each direction and operates over capacity in the westbound direction during the AM peak hour and in the eastbound direction during the PM peak hour.

- Route 26 between Route 25 and Route 15 – A short portion of Route 26 near the intersection with Route 25 (Bello Road) operates over capacity in the northbound direction during the AM peak hour and in the southbound direction during the PM peak hour.

Roadway LOS in South Region

A summary of the existing roadway analysis is shown in Exhibit 12 to Exhibit 14 on the following pages. The v/c ratio for each study roadway in the south region of the Project study area is shown in the tables for both the AM and PM peak hour.

The maps presented for each peak hour shows the v/c ratio on the study roadways in the south region. A short link of Route 2 in the south region, near Route 12, operates over capacity during the AM peak hour in the northbound direction. (The red link shown for Route 4 in the maps has been reflected in the results summary for the central region.)

Exhibit 12: Roadway V/C for Existing Conditions – South Region

Roadway			Existing Conditions	
Route	**Segment**	**Capacity**	**AM Peak**	**PM Peak**
Route 2	Route 2A to Route 12	740	**1.20**	0.96
Route 2	Route 12 to Nimitz Beach	740	**1.09**	0.83
Route 2	Nimitz Beach to Route 4	740	0.40	0.34
Route 2A	Route 5 to Route 2	740	0.88	0.74
Route 4	Route 17 to Route 4A	720	0.87	0.46
Route 4	Route 4A to Inarajan	720	0.45	0.29
Route 4	Inarajan to Route 2	740	0.23	0.16
Route 4A	Route 17 to Route 4	720	0.47	0.36
Route 5	Route 2A to Route 17	720	0.81	0.52
Route 5	Route 17 to Route 12	720	0.18	0.12
Route 12	Route 5 to Route 2	720	0.81	0.48
Route 17	Route 5 to Route 4A	720	0.72	0.46
Route 17	Route 4A to Route 4	720	0.62	0.40

Notes:
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

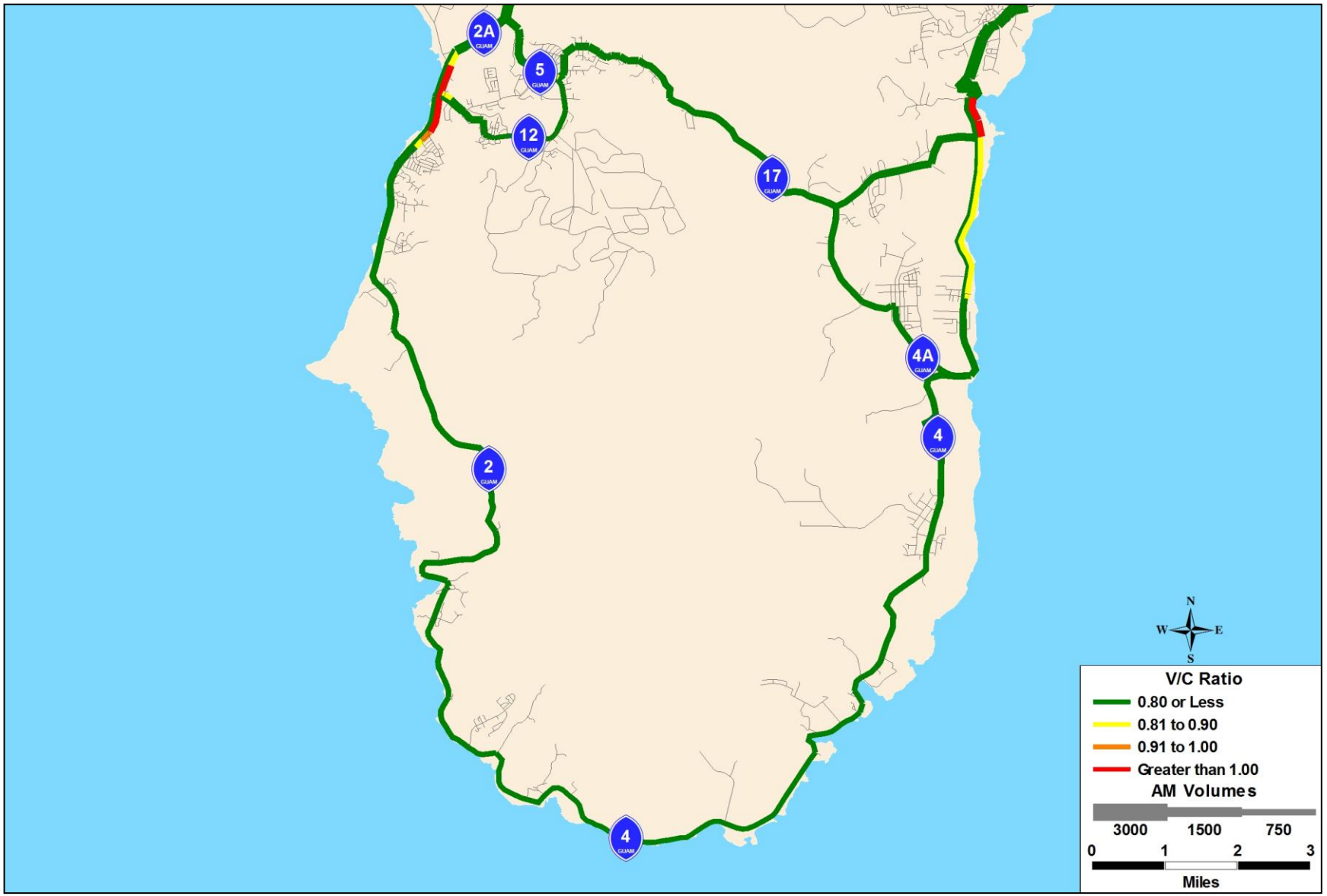


Exhibit 13: Roadway V/C for Existing Conditions, AM Peak Hour – South Region

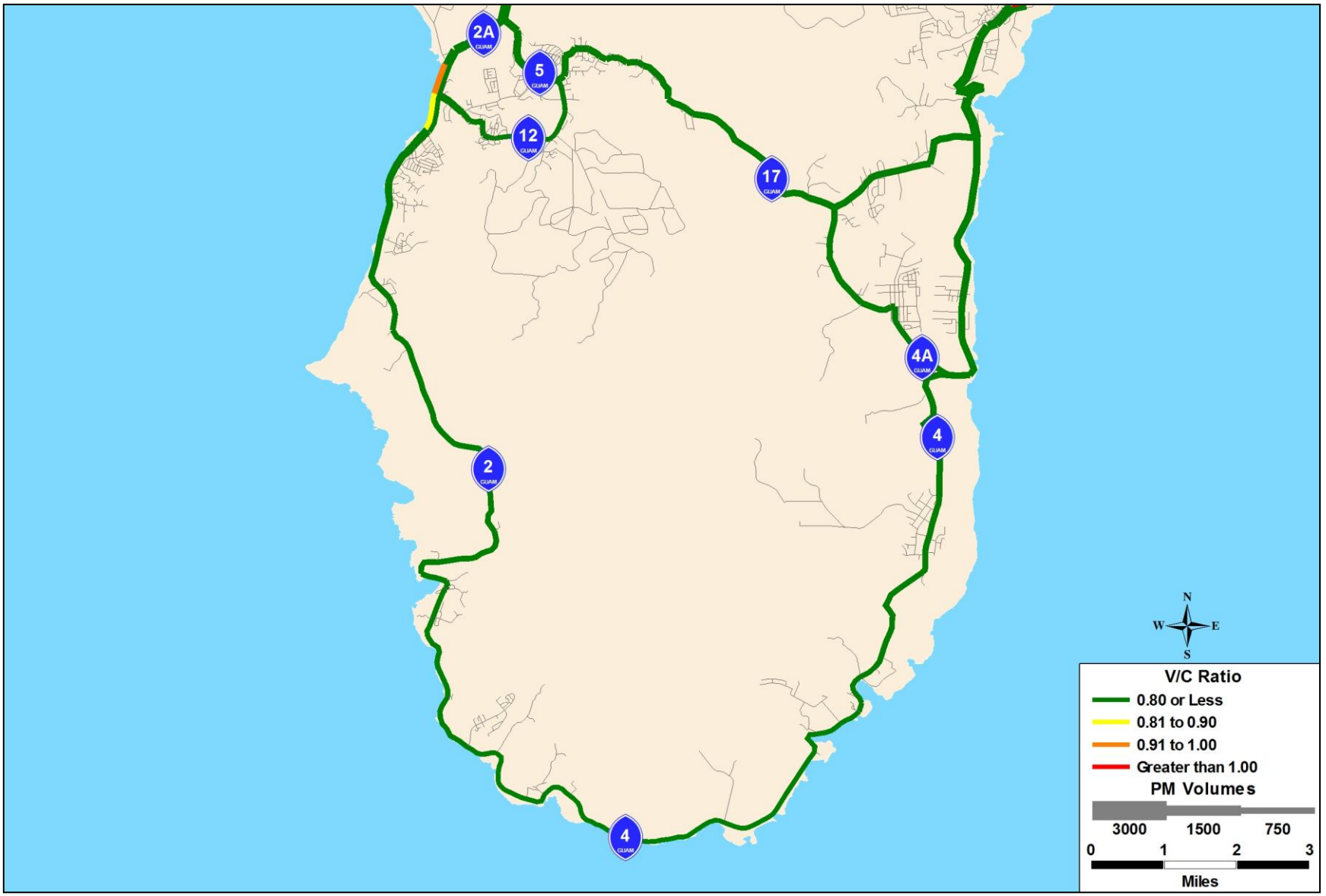


Exhibit 14: Roadway V/C for Existing Conditions, PM Peak Hour – South Region

2.3 Intersection-Level LOS

Intersection LOS was analyzed for the existing traffic volumes and lane configurations of the intersections. The existing LOS of the study intersections in the north region are summarized in Exhibit 15. The queuing under existing conditions for the two intersections that operate at LOS "F" conditions in the north region are presented in Exhibit 16[9]. The queues are based on operational analysis using Synchro software and represent the average length of queuing during peak hours. According to the analysis, queues for the Route 1 / Route 3 intersection exceed capacity for the southbound left-turn during the AM peak hour and the eastbound left-turn during the PM peak hour. During the PM peak hour the eastbound left-turn experiences a traffic demand of greater than 1,000 vehicles, contributing to the excessive queue length which exceeds the existing storage despite the 1,000 foot turn pocket.

The LOS for study intersections in the north region are shown in Exhibit 17 to Exhibit 18. The maps show the intersection LOS in a color code, with LOS "C" or better conditions represented by a green circle, LOS "D" by a yellow circle, LOS "E" by an orange circle, and LOS "F" conditions by a red circle.

Three intersections in the north region currently operate at worse than the target LOS "E", namely:

- Route 15 / Route 29 – the eastbound movement operates at LOS "F" conditions during the AM peak hour[10].
- Route 1 / Route 3 – the intersection operates unacceptably during the AM peak due to the significant number of southbound right-turning vehicles. The intersection currently has dual southbound right-turn lanes; however, the southbound right-turn movement continues to operate at LOS "F" during the AM peak hour.
- Route 1 / Route 16 – the intersection operates unacceptably during the PM peak hour due primarily to the conflict between large volumes of the eastbound through and northbound right-turn traffic.

[9] Queue lengths are only shown for signalized intersections operating at LOS "F". In Exhibit 16 and Exhibit 22 the storage length for turning movements refers to the length of the turn pockets. For through movements storage lengths are generally undefined except at a few places, such as the intersection of Route 8 with Route 10 (known as the Tri-Intersection), where a nearby signalized intersection limits the queuing space available for through movements.

[10] Note that this is an unsignalized intersection, so the LOS is based on the worse-performing approach.

Exhibit 15: Intersection LOS for Existing Conditions – North Region

Intersection			Existing Conditions			
			AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	12.9	B	10.2	B
2	Route 3/9 / Chalan Santa Anita	TWSC	21.9	C	12.8	B
3	Route 9 / Route 3A	TWSC	13.9	B	12.0	B
4	Route 3 / Bullard Avenue	TWSC	16.3	C	11.8	B
5	Route 3 / Route 28	Signalized	27.5	C	18.9	B
6	Route 3 / Royal Palm Drive	TWSC	25.0	C	13.3	B
7	Route 1/9 / AAFB Entrance	Signalized	15.1	B	30.2	C
8	Route 1 / Route 29	Signalized	43.2	D	21.0	C
9	Route 15 / Route 29	TWSC	**51.3**	**F**	21.7	C
10	Route 1 / Chalan Lajuna	Signalized	21.4	C	16.3	B
11	Route 15 / Chalan Lajuna	TWSC	30.7	D	23.9	C
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	70.8	E
13	Route 1 / Route 16	Signalized	27.4	C	**81.5**	**F**
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	36.0	D	39.2	D
15	Route 16 / Route 27A	Signalized	19.6	B	28.7	C
16	Route 1 / Route 27A	Signalized	68.4	E	52.9	D
17	Route 28 / Route 27A	AWSC	10.4	B	43.8	E
18	Route 1 / Route 27	Signalized	70.3	E	43.8	D
19	Route 1 / Route 26	Signalized	23.3	C	27.9	C
20	Route 1 / Route 28	Signalized	35.2	D	37.0	D
21	Route 16 / Route 27	Signalized	50.1	D	71.2	E

Notes:

LOS – level of service

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

Bold indicates LOS "F" conditions.

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

Exhibit 16: Intersection Queue Lengths – North Region

Intersection / Movement	Storage Length (feet)	Queue Length (feet)		Queues Exceed Storage Length?
		AM Peak Hour	PM Peak Hour	
Route 1 / Route 3				
East-bound left	1,000	480	1,150	**Yes in PM**
East-bound through	N/A	30	70	N/A
South-bound left	180	200	120	**Yes in AM**
South-bound right	N/A	710	30	N/A
West-bound through	N/A	800	340	N/A
Route 1 / Route 16				
East-bound U-turn	300	30	30	No
East-bound through	N/A	320	990	N/A
West-bound left	430	350	170	No
West-bound through	N/A	240	70	N/A
North-bound left	N/A	250	260	N/A
North-bound through	N/A	40	220	N/A

Note:
- Queue length based on "50th percentile queue" from Synchro.
- Minimum queue shown as 30 feet.
- For lanes with multiple movements, the main movement has been shown.
- "EB"

Exhibit 17: Intersection LOS for Existing Conditions, AM Peak Hour – North Region

Exhibit 18: Intersection LOS for Existing Conditions, PM Peak Hour – North Region

The central region is generally defined as the area between Apra Harbor and Tumon Bay. The existing conditions analysis for the central region of Guam is provided in this section.

Intersection Level of Service in Central Region

The existing LOS of the study intersections summarized in Exhibit 19 to Exhibit 21. The maps are color coded to easily identify those intersections that operate unacceptably (LOS "F" conditions, shown in red).

The following six intersections in the central region operate at LOS "F" conditions during at least one peak hour. Of the six intersections, four are side-street stop controlled intersections that experience a significant amount of delay associated with vehicles turning from the side streets. The two signalized intersections that operate at LOS "F" conditions are Route 16 / Route 10A and Route 1 / Route 14A.

- Route 16 / Route 10A – the signalized intersection operates at LOS "F" during the AM peak hour despite the grade separation of the through movements on Route 16. The intersection operates unacceptably primarily due to the split phasing of the side-street movements (Route 16)[11].
- Route 26 / Route 25 – the intersection operates at LOS "F" conditions during both peak hours due to the large delay experienced by the eastbound left turning vehicles (those motorists making a left turn from Route 25 to travel north on Route 26).
- Route 15 / Route 26 – the unsignalized intersection operates at LOS "F" conditions during both peak hours. The stop controlled movement experiencing the most delay at the intersection is the left turn from Route 26 to northbound Route 15.
- Route 1 / Route 14A (Tumon Bay Road) – the signalized intersection operates at LOS "F" during the PM peak hour due to the high southbound left-turn volume (from Tumon Bay Road to northbound Route 1) combined with the traffic exiting the retail parking lot. The intersection operates with split phasing on the side-streets.
- Route 8 / Chalan Santo Papa – the unsignalized intersection operates at LOS "F" conditions during both peak hours due to the relatively small number of vehicles making the eastbound left turn that are required to wait for a gap in both directions of travel on Route 8. The side-street stop controlled intersection is located close to the signalized intersection of the Route 1 / Route 8.

[11] "Split phasing" is when the green times for two opposing approaches do not overlap. Split phasing is seldom used because it is usually more efficient to share at least part of the green time between opposing approaches. However, in this case the presence of shared left-through lanes on the side streets makes concurrent phasing impractical. ROW constraints preclude the provision of exclusive left-turn lanes.

Exhibit 19: Intersection LOS for Existing Conditions – Central Region

Intersection			AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS
22	Route 16 / Route 10A	Signalized	**> 80.0**	**F**	42.3	D
23	Route 26 / Route 25	TWSC	**> 50.0**	**F**	**> 50.0**	**F**
24	Route 15 / Route 26	TWSC	**> 50.0**	**F**	**> 50.0**	**F**
25	Route 10A / Sunset Blvd (Airport)	Signalized	37.1	D	54.9	D
26	Route 1 / Route 14A	Signalized	34.5	C	**> 80.0**	**F**
27	Route 1 / Route 10A	Signalized	35.0	C	62.6	E
28	Route 1 / Route 14B	Signalized	26.0	C	33.5	C
29	Route 1 / Route 14	Signalized	64.3	E	39.9	D
30	Route 1 / Route 30	Signalized	36.0	D	39.9	D
31	Route 1 / Route 6 (Adelup)	Signalized	20.8	C	23.9	C
32	Route 1 / Route 4	Signalized	19.1	B	17.6	B
33	Route 1 / Route 8	Signalized	16.0	B	18.3	B
34	Route 8 / Chalan Santo Papa	TWSC	**> 50.0**	**F**	**> 50.0**	**F**
35	Route 8 / Route 7A	Signalized	17.3	B	25.2	C
36	Route 4 / Chalan Santo Papa	Signalized	42.5	D	43.3	D
37	Route 4 / Route 7A	Signalized	43.2	D	54.2	D
38	Route 4 / Route 7B	TWSC	21.1	C	45.7	E
39	Route 7A / Route 7	Signalized	23.5	C	24.9	C
40	Route 8 / Sunset Blvd	TWSC	13.5	B	15.0	B
41	Route 8 / Route 33	Signalized	33.4	C	28.4	C
42	Route 8 / Route 10	Signalized	25.6	C	26.9	C
43	Route 16 / Route 8A	Signalized	32.9	C	9.6	A
44	Route 10 / Route 15	Signalized	38.2	D	33.3	C
45	Route 4 / Route 15	Signalized	62.9	E	31.7	C
46	Route 4 / Route 10	Signalized	71.1	E	52.7	D
47	Route 1 / Route 11	Signalized	10.1	B	15.8	B
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	11.5	B	11.7	B
49	Route 1 / Polaris Point	Signalized	10.5	B	10.3	B

Notes:

LOS – level of service

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

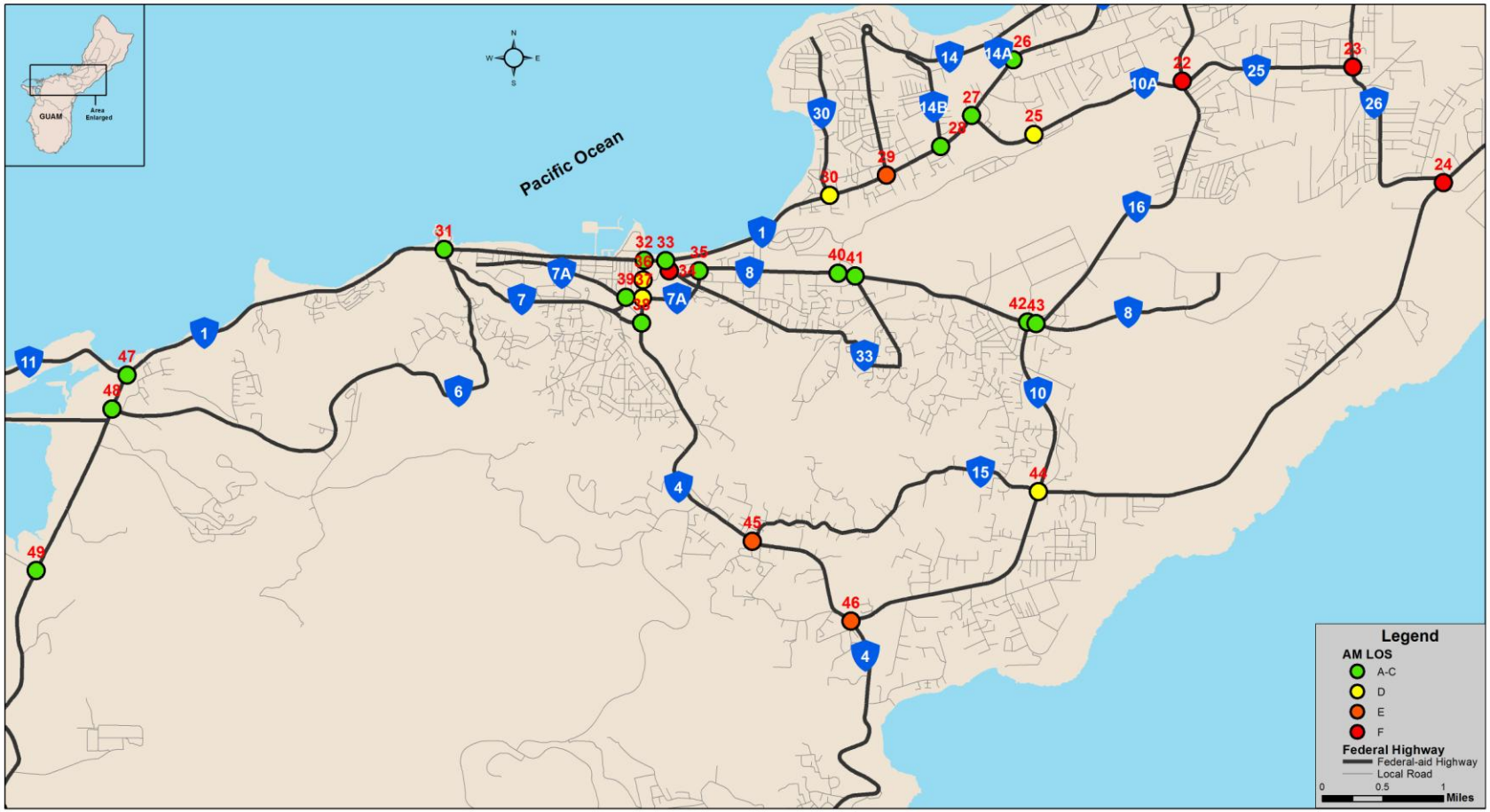


Exhibit 20: Intersection LOS for Existing Conditions, AM Peak Hour – Central Region

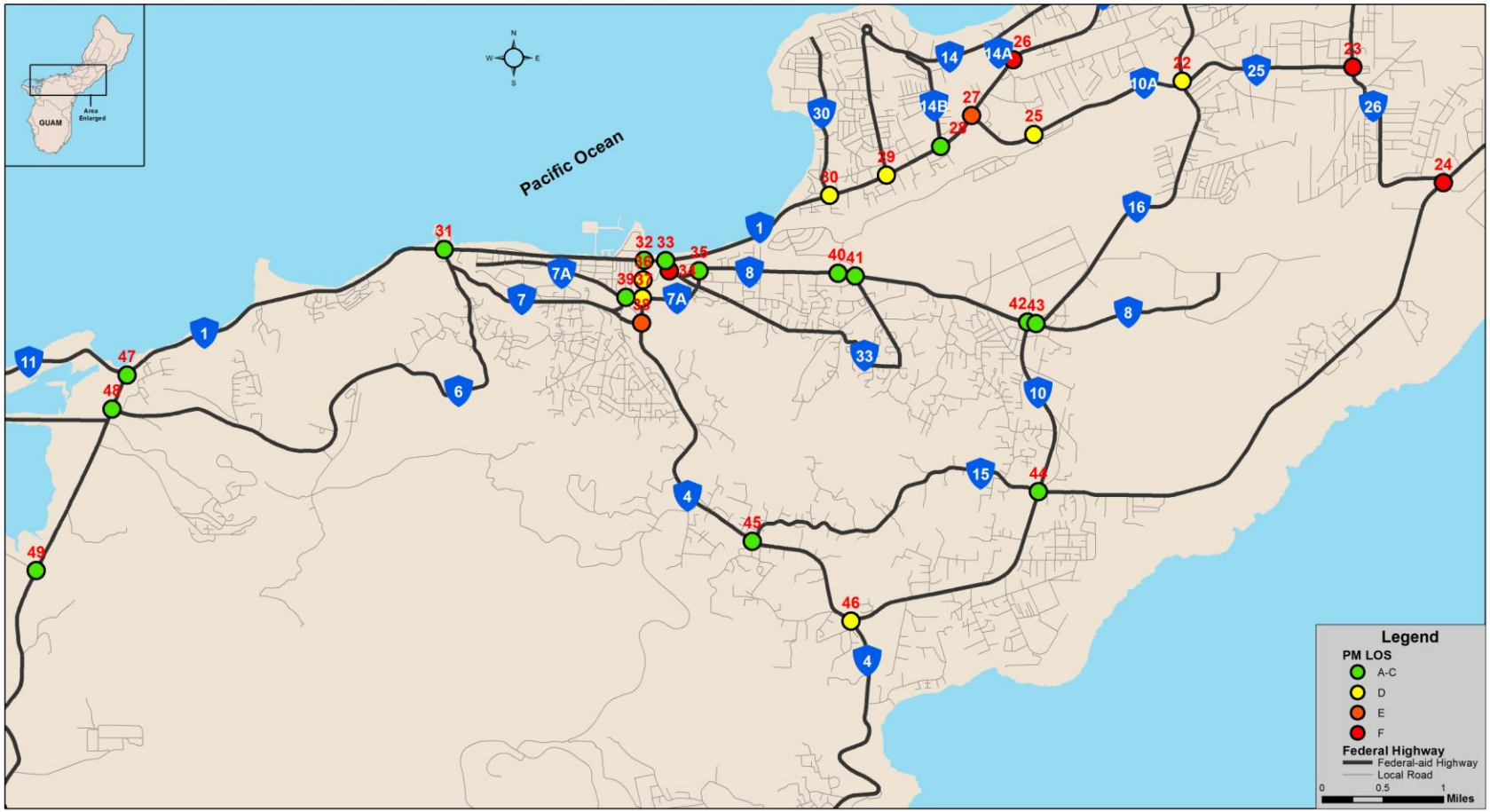


Exhibit 21: Intersection LOS for Existing Conditions, PM Peak Hour – Central Region

Intersection Queues in Central Region

The queuing under existing conditions for the two intersections that operate with LOS "F" conditions has been reported in Exhibit 22. In addition, the Route 8 / Route 10 and Route 16 / Route 8(A) intersections were selected for evaluation due to the close proximity of the intersections. The queues shown in Exhibit 22 are based on the Synchro intersection operations analysis and represent the maximum queue length for a typical cycle.

At the Route 16 / Route 10A intersection, the southbound right-turn and northbound left-turn queues exceed capacity during the AM peak hour. The queuing is due to the heavy vehicle demand for westbound travel on Route 10A during the AM peak hour.

The Route 1 / Route 14A intersection experiences substantial queuing in the PM peak hour. The southbound left-turn queue exceeds capacity as motorists turn from Route 14A onto Route 1. The three other movements where queuing exceeds capacity are associated with ingress and egress from the retail area to the south of Route 1: the westbound left-turn into the retail driveway and the northbound through and left-turn movements from the retail driveway exceed capacity. (The capacity of the driveway was assumed to be the storage depth of the driveway.)

According to the analysis for the closely spaced intersections of Route 8 / Route 10 and Route 16 / Route 8(A), the queues exceed capacity for the westbound left-turn during the PM peak hour at the Route 8 / Route 10 intersection. During the AM peak hour the queue for the eastbound through movement at the Route 16 / Route 8(A) intersection exceeds the storage distance between the adjacent intersection.

Exhibit 22: Intersection Queue Lengths – Central Region

Intersection / Movement	Storage Length (feet)	Queue Length (feet)		Queue Exceeds Storage Length?
		AM Peak Hour	PM Peak Hour	
Route 16 / Route 10A				
East-bound left	350	120	160	No
East-bound through	N/A	60	140	N/A
East-bound right	450	30	30	No
South-bound through	N/A	50	80	N/A
South-bound right	480	580	30	**Yes in AM**
West-bound left	350	410	120	**Yes in AM**
West-bound through	N/A	360	80	N/A
North-bound left	N/A	400	170	N/A
North-bound through	500	360	250	No
Route 1 / Route 14A				
East-bound left	630	180	490	No
East-bound through	N/A	80	820	N/A
South-bound left	360	160	520	**Yes in PM**
South-bound through	1,200	170	540	No
South-bound right	250	30	30	No
West-bound left	350	110	390	**Yes in PM**
West-bound through	N/A	620	910	N/A
North-bound left	150	70	290	**Yes in PM**
North-bound through	150	70	300	**Yes in PM**
North-bound right	150	30	40	No
Route 8 / Route 10				
East-bound through	N/A	160	310	N/A
East-bound right	200	60	200	No
West-bound left	250	200	260	**Yes in PM**
West-bound through	370	110	90	No
North-bound left	350	230	130	No
North-bound right	400	210	130	No
Route 16 / Route 8(A)				
East-bound through	370	540	200	**Yes in AM**
West-bound left	200	70	40	No
West-bound through	N/A	130	140	N/A
North-bound left	N/A	140	60	N/A
North-bound right	200	30	30	No

Notes:
- Queue length based on "50th percentile queue" from Synchro.
- Minimum queue shown as 30 feet.
- For lanes with multiple movements, the main movement has been shown.

Intersection LOS in South Region

The existing LOS of the study intersections in the south region are summarized in Exhibit 23. The intersection LOS is displayed on the maps in Exhibit 24 to Exhibit 25.

All study intersections in the south region operate at LOS "D" conditions or better, so no queuing analysis was performed.

Exhibit 23: Intersection LOS for Existing Conditions– South Region

Intersection			AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS
50	Route 1 / Route 2A	Signalized	16.1	B	23.4	C
51	Route 2A / Route 5	Signalized	20.4	C	17.4	B
52	Route 2 / Route 12	Signalized	26.2	C	13.4	B
53	Route 17 / Route 5	TWSC	18.7	C	12.5	B
54	Route 12 / Naval Magazine Entrance	TWSC	9.5	A	8.7	A
55	Route 17 / Route 4A	TWSC	17.2	C	17.4	C
56	Route 4 / Route 17	Signalized	45.4	D	15.1	B
57	Route 4 / Route 4A	TWSC	18.3	C	11.3	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

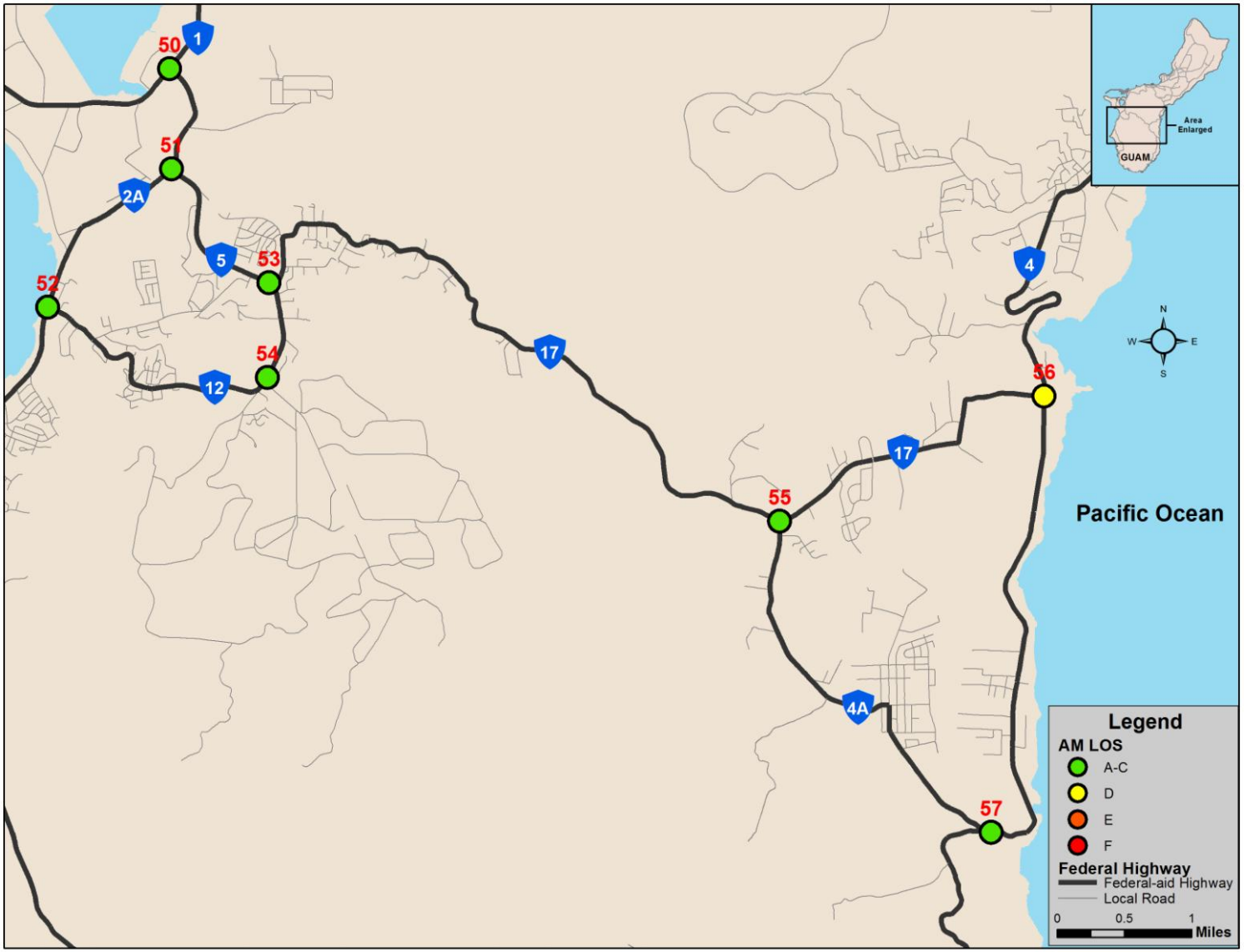


Exhibit 24: Intersection LOS for Existing Conditions, AM Peak Hour – South Region

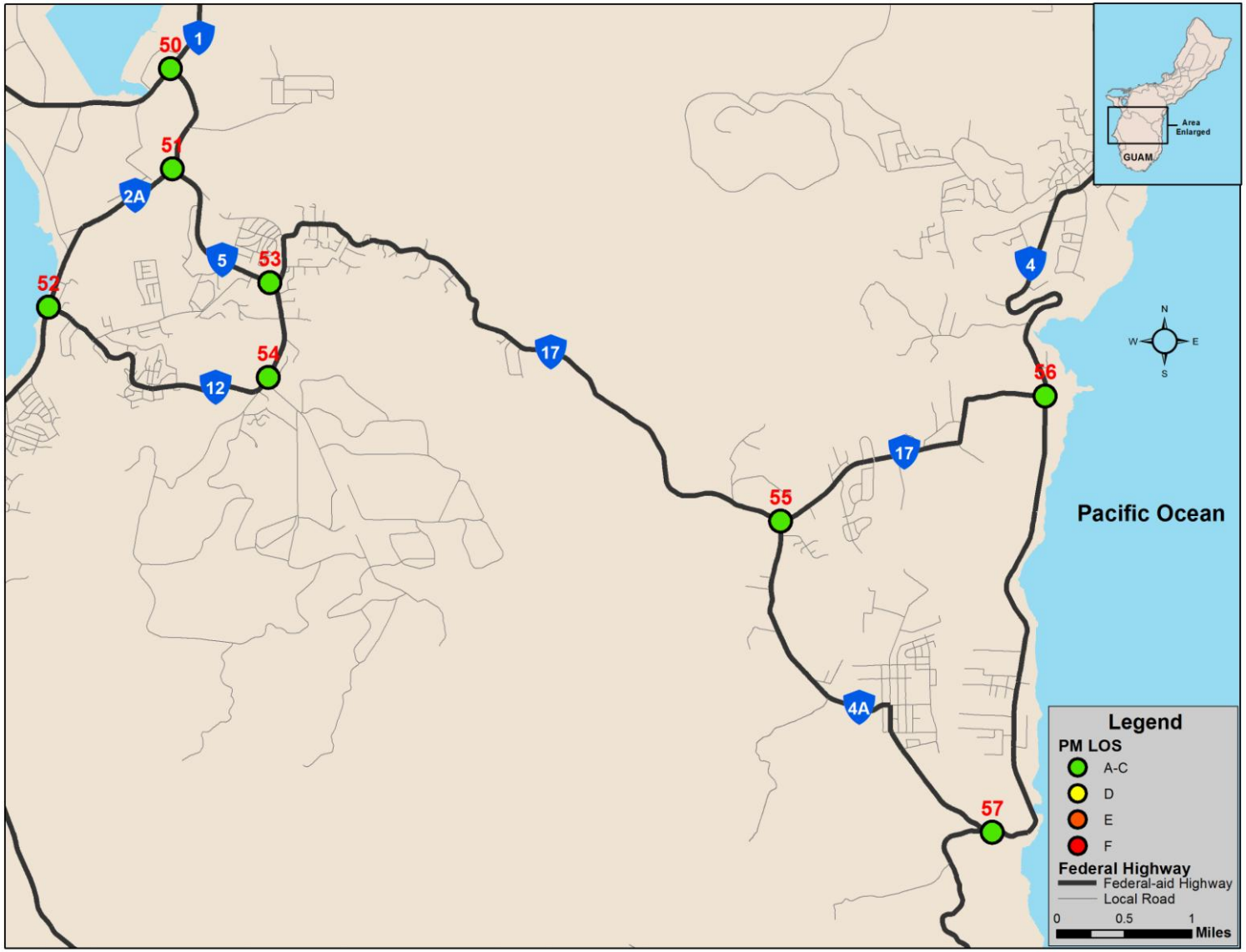


Exhibit 25: Intersection LOS for Existing Conditions, PM Peak Hour – South Region

3. THE NO-BUILD ALTERNATIVE

3.1 Description of the Alternative

The No-Build Alternative describes what traffic conditions would be like on Guam if neither the 2010 FEIS Preferred Alternative nor the USMC 2012 Roadmap Adjustments is implemented. This scenario forms a baseline against which project impacts are measured.

This scenario includes growth in the civilian population of Guam by approximately 11,700 by 2021 and 23,000 people by 2030; the equivalent of 8% and 15% of the 2012 population respectively (see Exhibit 26). Other DOD actions unrelated to the USMC 2012 Roadmap Adjustments would add approximately 2,200 people (1%) to the 2030 population[12].

Exhibit 26: Population Growth Unrelated to USMC 2012 Roadmap Adjustments

Component of Growth	Group	2021	2030
Organic Growth	Guam Civilian Population	11,723	23,446
DOD Direct Population Growth (Unrelated to USMC Relocation)	Active-Duty Personnel	111	111
	Active Duty Dependents	240	240
	Transient Personnel	1,780	1,780
	Civilian Military Workers	116	116
	Civilian Military Worker Dependents	-57	-57
	Off-Island Construction Workers	488	0
	Dependents of Off-Island Construction Workers	98	0
DOD Indirect Population Growth	Off-Island Workers for Indirect/Induced Jobs	74	27
	Dependents of Off-Island Workers for Indirect/Induced Jobs	72	27
Total	Total Additional Population on Guam Unrelated to USMC Relocation	14,645	25,690

The Government of Guam Department of Public Works 2030 Transportation Plan that includes various capacity-enhancing improvements unrelated to military projects. Funding and other constraints are likely to preclude many of the projects from being implemented in the 2013-2030 period. A subset of projects with a high probability of being implemented either by 2021 or by 2030 was assumed to be part of the roadway network for their respective scenarios. These are shown in Exhibit 27.

[12] Exhibit 26 shows an increase in civilian military workers but a decrease in military worker dependents. This is due to the fact that the new workers would be under different contracting arrangements that would result in fewer dependents being brought to Guam from off-island.

Exhibit 27: Background Road Improvements

Route	Project Limits	Project Description	Complete by 2021?
Route 3	Guam Regional Medical City Intersection	Construct new signalized intersection with turn lanes.	Yes
	Okkodo High School Intersection	New traffic signal. Restores 2nd SB thru lane on Route 3.	Yes
Route 8	Canada-Toto Loop Rd Intersection	New traffic signal	Yes
Route 9	North side near near Chalan Ramirez	New ACE gate providing access to AAFB internal road system	Yes
Route 10	Jesus Mariano Rd.	New traffic signal	No
Route 10a	Route 1 to Airport	Widen from 2 to 4 lanes plus a 2-way left turn lane	Yes
Route 10a	Airport to Route 16	Widen from 2 or 3 lanes to six lanes	No
Route 14b	Route 1 to Carmen Memorial Drive	Add 2-way left turn lane	Yes
Route 26	Route 1 to Route 25	Widen from 2 to 4 lanes. Add signal and turn lanes at intersection with Rte 25 (Alageta Rd.)	Only the signal and turn lanes at intersection with Rte 25.
	Route 25 to Route 15	Add 2-way left turn lane.	No
Route 27 Ext	Route 16 to Route 1	Widen from 2 to 4 lanes. Signalize intersection with Rte.1	Only signalizing the intersection with Rte.1
Tiyan Parkway	Route 10a to Route 8	Construct 4 lanes plus a 2-way left turn lane. Signalize intersection with Rte. 8. Route 10a intersection aligns with existing signalized T-intersection (Home Depot).	Only a 2-lane facility with signalized intersection at Route 8.

The 2030 Guam Transportation Plan includes plans to replace the existing civilian bus system with five new fixed routes, purchase 50 new buses, develop formal bus stops, revised scheduling and maintenance policies, and other upgrades to the public transit system. It was hoped that this ambitious

plan would increase annual bus ridership 12-fold from 111,367 (2006-2007) to 1.32 million trips in 2030. However, to date little progress has been made on implementing this plan and the funding and organizational prerequisites are not in place. The assumption was therefore made not to assume improvements to the existing system as described in the 2008 transit assessment[13].

3.2 Traffic Conditions in 2021 (Study Year for Peak Construction Activities)

There will be no project-related construction in the No Build Alternative. However, since 2021 is the peak year for construction activity for the other two scenarios, a 2021 scenario is needed for the No Build Alternative to provide a basis of comparison for determining project impacts.

Roadway-Level Conditions

The v/c ratios for the No Build Alternative in 2021 are shown in Exhibit 28 through Exhibit 36. A comparison of the 2021 conditions to existing conditions shows a general worsening of congestion but only three cases where a roadway would go from a v/c ratio of less than 1.00 in 2012 to greater than 1.00 in 2021.

[13] *Draft Conditions Assessment and Baseline for 2030 Mass Transit Plan*, Parsons Brinckerhoff, March 2008

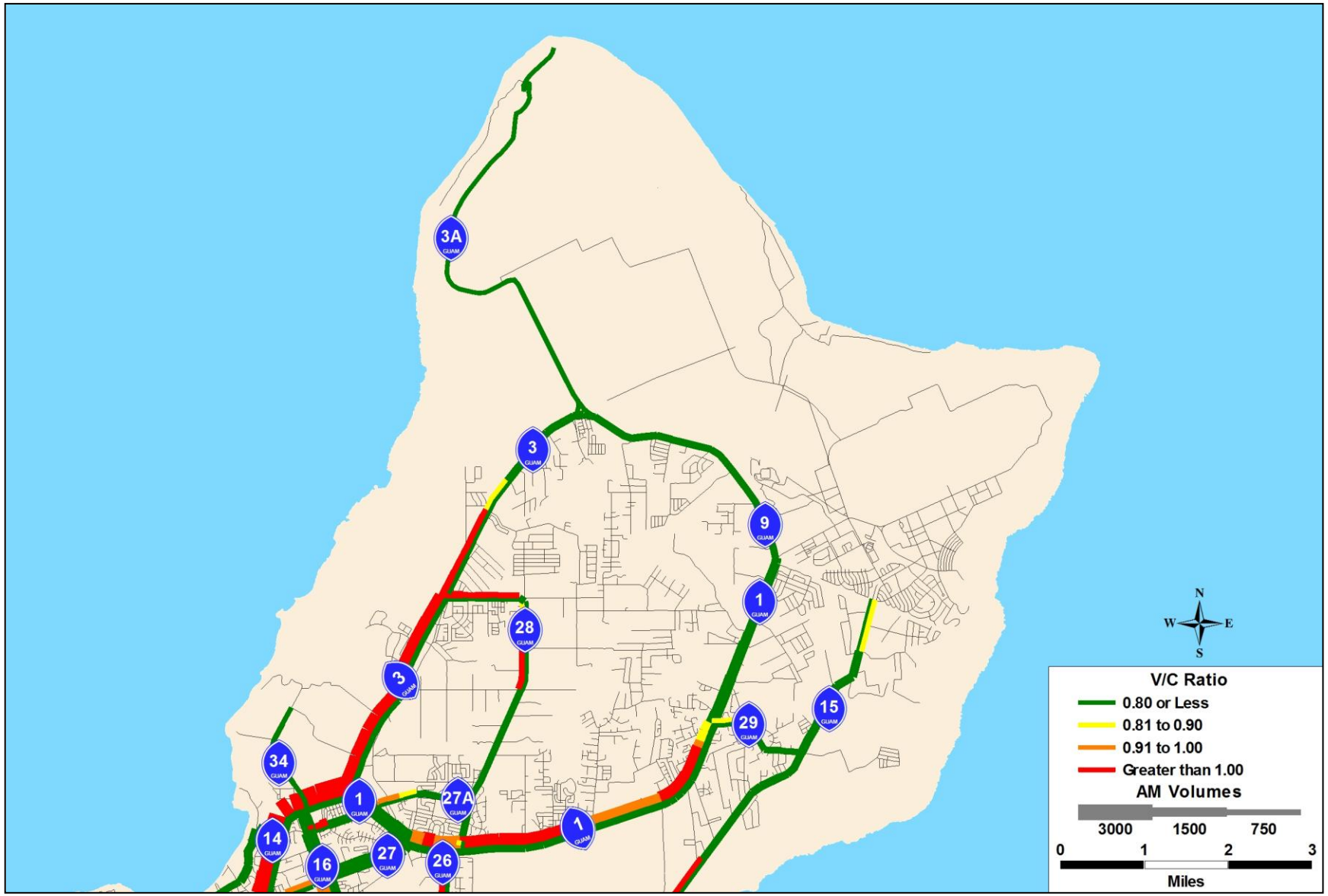


Exhibit 28: Roadway V/C for No Build Alternative, AM Peak Hour – North Region 2021

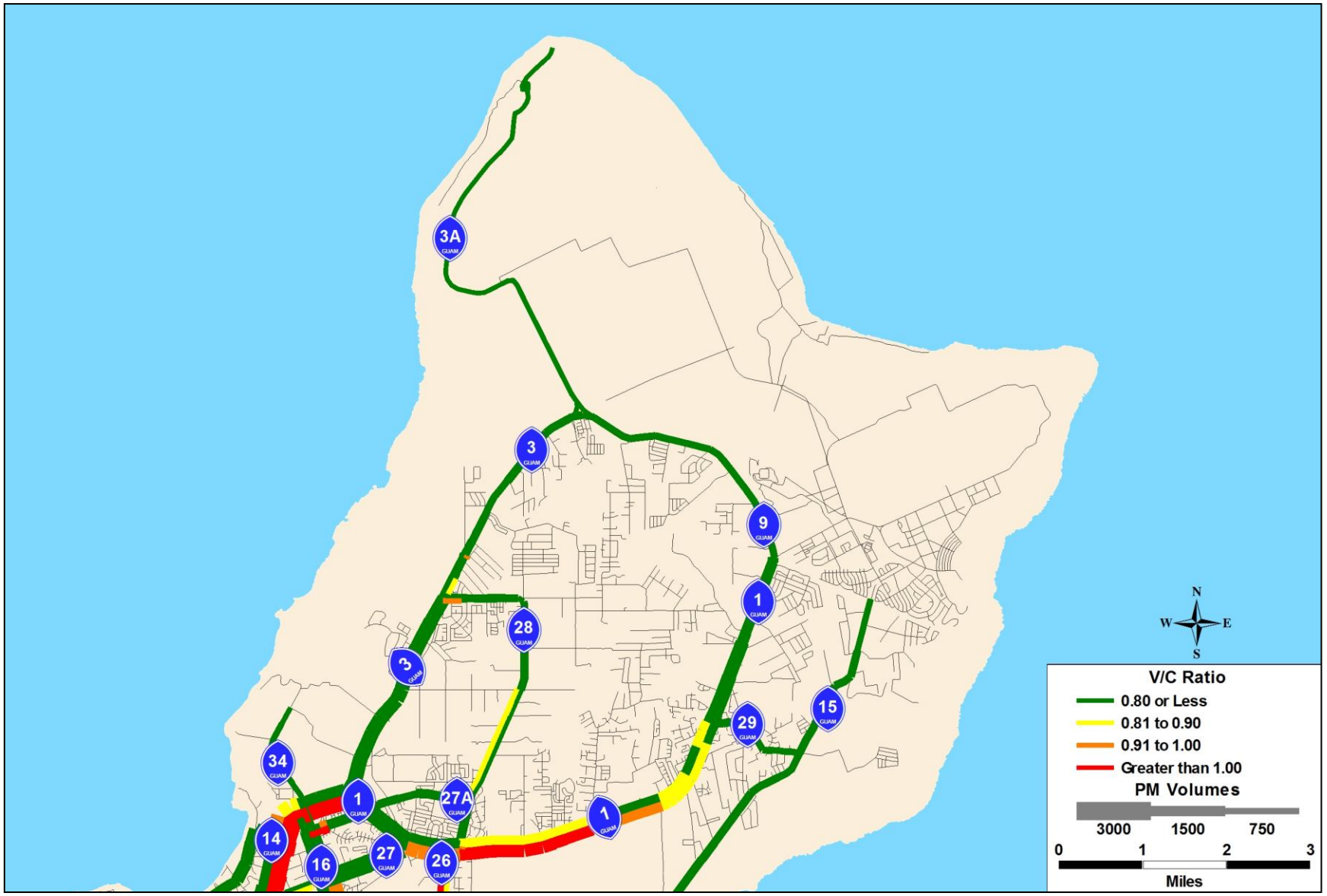


Exhibit 29: Roadway V/C for No Build Alternative, PM Peak Hour – North Region 2021

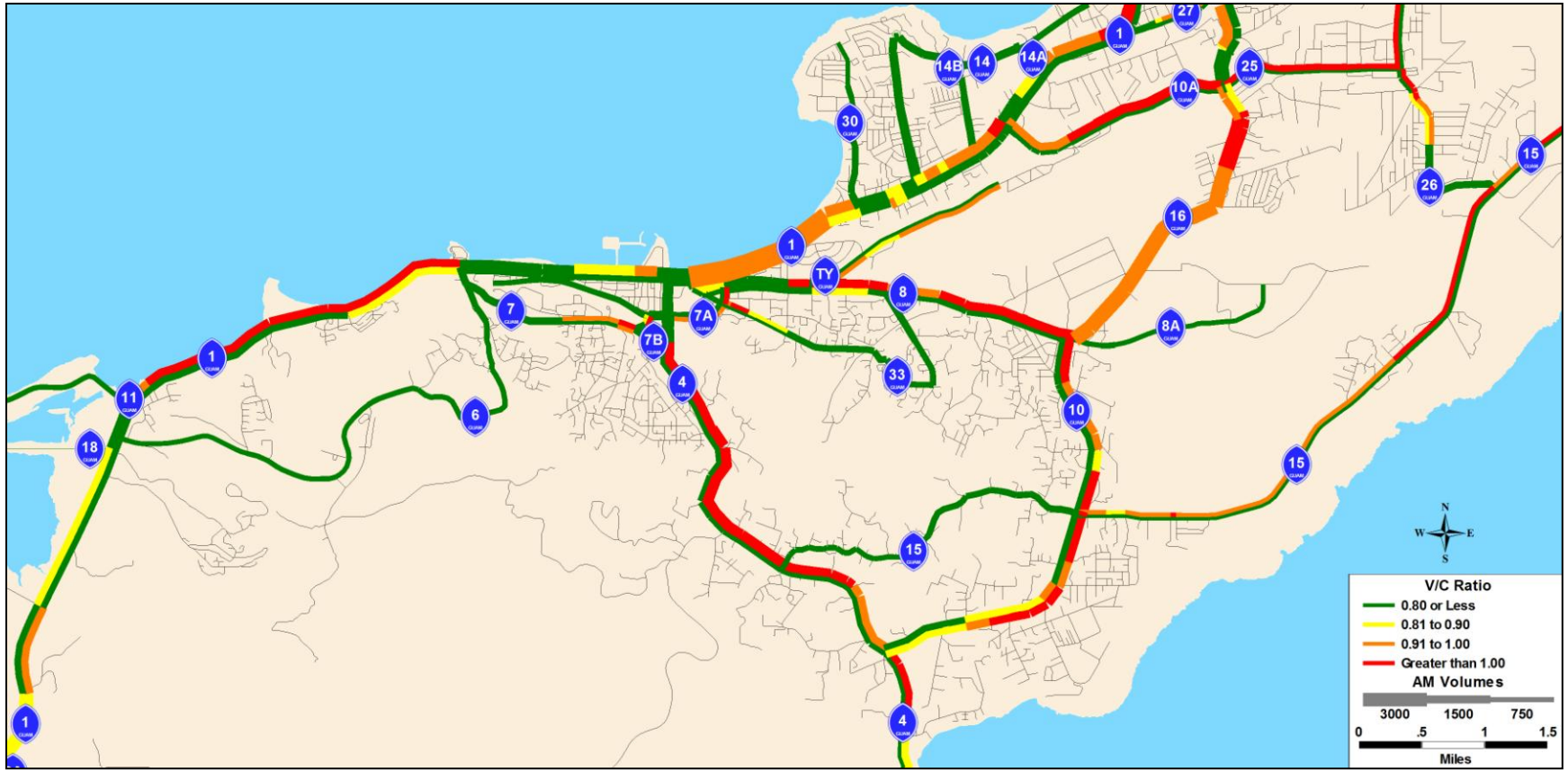


Exhibit 30: Roadway V/C for No Build Alternative, PM Peak Hour – Central Region 2021

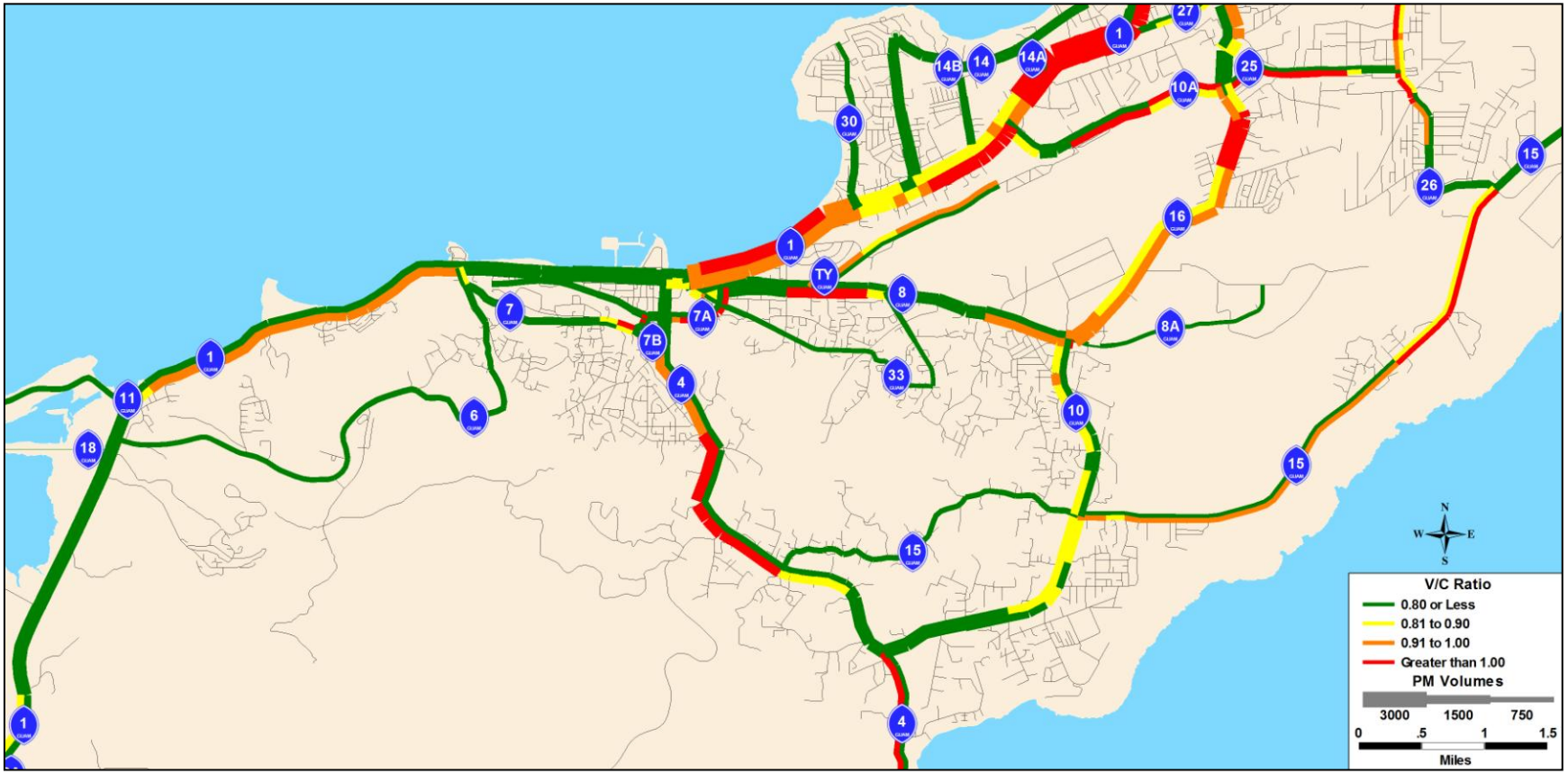


Exhibit 31: Roadway V/C for No Build Alternative, PM Peak Hour – Central Region 2021

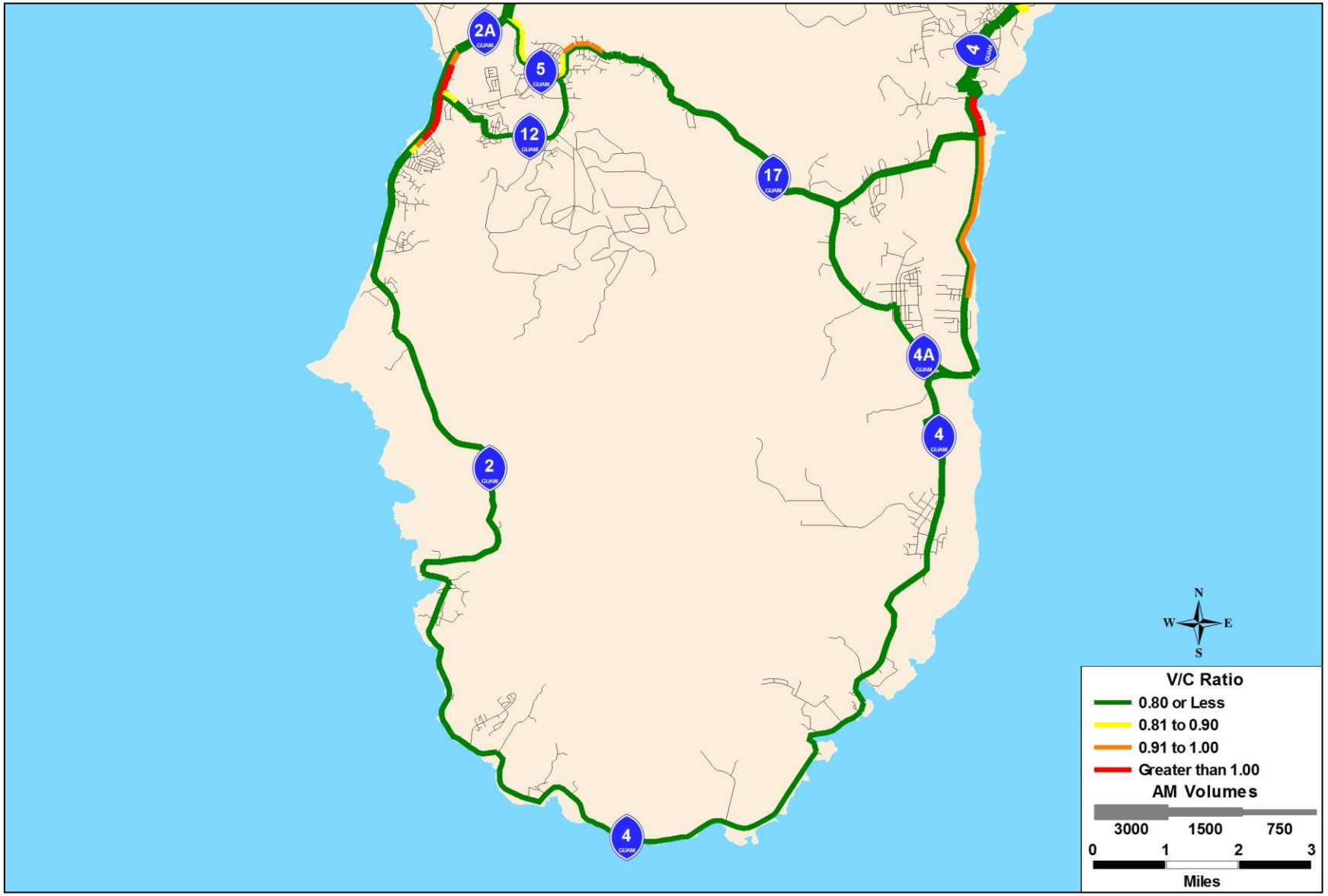


Exhibit 32: Roadway V/C for No Build Alternative, AM Peak Hour – South Region 2021

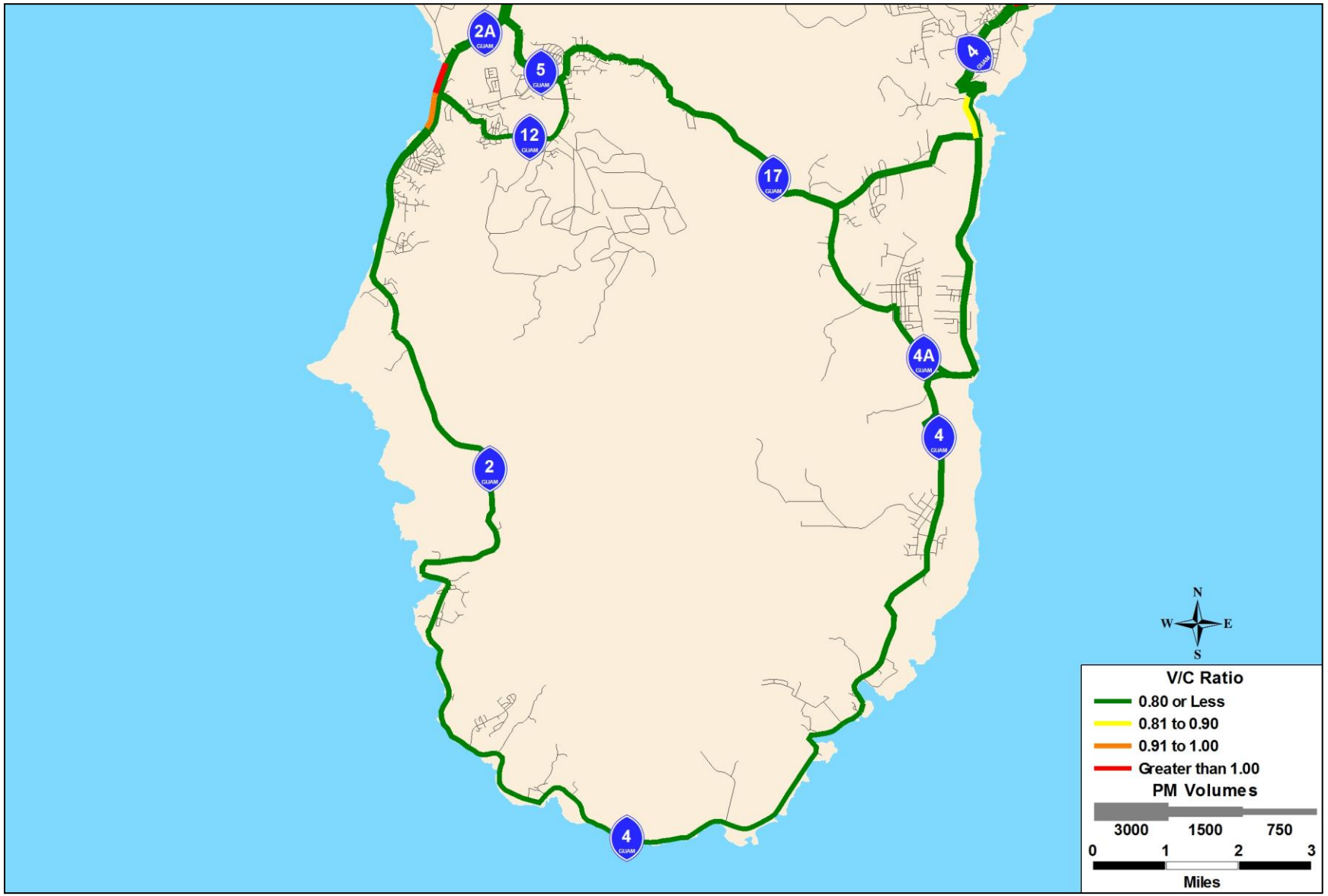


Exhibit 33: Roadway V/C for No Build Alternative, PM Peak Hour – South Region 2021

Exhibit 34: Roadway V/C for No Build Alternative, North Region 2021

Roadway				Existing				No Build Alternative			
Route	Segment	Capacity		AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	1,600	1,600	0.46	0.59	0.56	0.63	0.50	0.64	0.63	0.70
Route 1	Route 29 to Chalan Lujuna	1,600	1,600	0.66	**1.01**	0.78	0.82	0.70	**1.06**	0.83	0.88
Route 1	Chalan Lujuna to Route 28	1,600	1,600	0.68	**1.30**	**1.18**	0.84	0.72	**1.33**	**1.23**	0.90
Route 1	Route 28 to Route 26	2,420	2,420	0.48	0.98	0.93	0.64	0.51	1.00	0.99	0.68
Route 1	Route 26 to Route 27	2,420	2,420	0.50	**1.06**	0.90	0.59	0.53	**1.08**	0.95	0.62
Route 1	Route 27 to Route 27A *	2,420	2,420	0.31	0.72	0.61	0.44	0.33	0.70	0.62	0.46
Route 1	Route 27A to Route 3 *	2,420	2,420	0.32	0.76	0.63	0.44	0.34	0.75	0.65	0.45
Route 1	Route 3 to Route 34	2,420	2,420	0.41	**1.47**	0.99	0.68	0.41	**1.53**	**1.03**	0.70
Route 1	Route 34 to Route 16	2,420	2,420	0.45	**1.28**	**1.01**	0.69	0.45	**1.34**	**1.04**	0.72
Route 1	Route 16 to Route 14 (N)	2,420	2,420	0.51	**1.35**	**1.31**	0.89	0.50	**1.42**	**1.36**	0.92
Route 1	Route 14 (N) to Route 14A	2,420	2,420	0.58	**1.26**	**1.25**	**1.12**	0.58	**1.22**	**1.27**	**1.11**
Route 3	Route 3A/9 to Fin. Main Gate	740	740	0.44	0.64	0.50	0.42	0.47	0.71	0.54	0.48
Route 3	Fin. Main Gate to Secondary Gate	740	740	0.45	**1.09**	0.60	0.51	0.48	**1.18**	0.64	0.55
Route 3	Fin. Secondary Gate to Route 28	740	740	0.67	**1.23**	0.81	0.67	0.69	**1.31**	0.86	0.71
Route 3	Route 28 to S. Fin. Main Gate	1,580	1,580	0.42	**1.07**	0.72	0.47	0.43	**1.21**	0.76	0.49
Route 3	S. Fin. Main Gate to Route 1	1,580	1,580	0.50	**2.11**	0.72	0.89	0.52	**1.30**	0.77	0.50
Route 3A	North of Route 3/9	740	740	0.09	0.02	0.01	0.12	0.11	0.03	0.02	0.13
Route 9	Route 3/3A to AAFB North Gate	740	740	0.42	0.47	0.35	0.32	0.45	0.54	0.39	0.37
Route 9	AAFB Main Gate to Route 1	740	740	0.44	0.32	0.24	0.37	0.48	0.36	0.28	0.43
Route 14	Route 1 to Gun Beach Rd.	1,600	1,600	0.24	0.55	0.55	0.56	0.25	0.62	0.61	0.57
Route 14	Gun Beach Rd. to Route 14A	1,600	1,600	0.47	0.37	0.39	0.69	0.48	0.39	0.43	0.71
Route 15	AAFB to Route 29	720	720	0.86	0.66	0.37	0.58	0.87	0.70	0.41	0.60
Route 15	Route 29 to Route 26	720	720	0.55	0.96	0.60	0.61	0.59	**1.03**	0.71	0.64
Route 16	Route 1 to Route 27A	2,420	2,420	0.41	0.39	0.45	0.48	0.45	0.43	0.47	0.51
Route 16	Route 27A to Route 27	2,420	2,420	0.41	0.57	0.60	0.52	0.45	0.60	0.62	0.56
Route 16	Route 27 to Route 10A	2,420	2,420	0.70	0.87	0.84	0.80	0.76	0.95	0.91	0.84
Route 26	Route 1 to Route 25	720	720	**1.03**	**1.14**	1.00	**1.06**	**1.07**	**1.20**	**1.05**	**1.14**
Route 27	Route 16 to Route 1	2,420	2,420	0.33	0.58	0.63	0.40	0.35	0.65	0.70	0.42
Route 27A	Route 16 to Route 1	756	756	0.69	**1.52**	**1.44**	0.91	0.73	**1.61**	**1.48**	0.94
Route 27A	Route 1 to Route 28	756	756	0.48	0.91	0.61	0.68	0.49	0.94	0.64	0.69
Route 28	Route 1 to Route 27A	720	720	0.45	0.80	0.87	0.76	0.46	0.82	0.93	0.77
Route 28	Route 27A to Chalan Balako	720	720	0.54	**1.08**	0.68	0.89	0.56	**1.10**	0.76	0.89
Route 28	Chalan Balako to Route 3	720	720	0.56	**1.29**	0.87	0.49	0.53	**1.45**	0.93	0.53
Route 29	Route 1 to Route 15	720	720	0.56	0.85	0.53	0.49	0.59	0.88	0.54	0.53
Route 34	North of Route 1	720	720	0.17	0.08	0.15	0.20	0.19	0.14	0.23	0.24

Notes:
* The widening of Route 27 will divert some traffic from Route 1.
** Route 26 will be widened so the volume-to-capacity ratio will decrease.
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 35: Roadway V/C for No Build Alternative, Central Region 2021

Roadway				Existing				No Build Alternative			
Route	Segment	Capacity		AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 14A to Route 10A	2,420	2,420	0.70	0.81	**1.14**	**1.09**	0.70	0.85	**1.18**	**1.11**
Route 1	Route 10A to Route 14B	2,420	2,420	0.71	0.99	**1.13**	0.93	0.71	**1.05**	**1.19**	0.94
Route 1	Route 14B to Route 14 (S)	2,420	2,420	0.73	0.89	**1.07**	0.86	0.75	0.92	**1.10**	0.88
Route 1	Route 14 (S) to Route 30	2,420	2,420	0.93	0.79	0.86	0.87	0.96	0.84	0.92	0.89
Route 1	Route 30 to Route 8	2,420	2,420	0.91	0.92	0.94	**1.01**	0.97	0.97	1.00	**1.07**
Route 1	Route 8 to Route 4	2,420	2,420	0.72	0.75	0.84	0.62	0.77	0.80	0.90	0.66
Route 1	Route 4 to Route 6 (N)	2,420	2,420	0.49	0.87	0.56	0.61	0.54	0.91	0.62	0.65
Route 1	Route 6 (N) to Route 11	1,580	1,580	0.82	0.99	0.93	0.71	0.87	**1.04**	0.99	0.76
Route 1	Route 11 to Route 6 (S)	1,580	1,580	0.72	0.74	0.69	0.66	0.77	0.79	0.75	0.71
Route 1	Route 6 (S) to Route 18	1,580	1,580	0.72	0.74	0.70	0.63	0.77	0.79	0.76	0.68
Route 1	Route 18 to Route 2A	1,580	1,580	0.85	0.80	0.71	0.72	0.94	0.82	0.77	0.81
Route 2A	Route 1 to Route 5	1,580	1,580	0.66	0.36	0.32	0.64	0.75	0.37	0.36	0.72
Route 4	Route 1 to Route 33	2,420	2,420	0.51	0.26	0.37	0.48	0.54	0.28	0.41	0.51
Route 4	Route 33 to Route 7B	2,420	2,420	0.70	0.24	0.42	0.55	0.73	0.26	0.45	0.60
Route 4	Route 7B to Route 15	1,600	1,600	**1.32**	**1.32**	**1.18**	**1.18**	**1.39**	**1.39**	**1.26**	**1.26**
Route 4	Route 15 to Route 10	1,600	1,600	**1.07**	**1.07**	0.86	0.85	**1.11**	**1.12**	0.89	0.88
Route 4	Route 10 to Route 17	720	1,600	**1.48**	0.79	**1.14**	**1.33**	**1.56**	0.83	**1.18**	**1.37**
Route 6	Route 1 (N) to Route 7	777	777	0.70	0.55	0.84	0.52	0.70	0.58	0.85	0.57
Route 6	Route 7 to Murray Rd.	740	740	0.45	0.43	0.57	0.40	0.48	0.47	0.61	0.44
Route 6	Murray Rd. to Route 1 (S)	1,264	1,264	0.15	0.17	0.24	0.13	0.16	0.18	0.24	0.14
Route 7	Route 6 to Route 7B	756	756	0.93	**1.10**	0.83	0.99	0.98	**1.13**	0.89	**1.03**
Route 7	Route 7B to Route 7A	756	756	**1.07**	0.88	0.67	**1.07**	**1.13**	0.87	0.72	**1.12**
Route 7A	Route 8 to Route 33	720	1,280	0.97	0.49	**1.06**	0.65	**1.07**	0.51	**1.09**	0.75
Route 7A	Route 33 to Route 4	720	1,280	0.89	0.65	**1.09**	0.56	0.99	0.69	**1.15**	0.67
Route 7A	Route 4 to Route 7	1,600	1,600	0.38	0.60	0.36	0.42	0.40	0.61	0.39	0.47
Route 7A	West of Route 7	720	720	0.35	0.37	0.59	0.28	0.37	0.42	0.63	0.36
Route 7B	Route 7 to Route 4	720	720	0.50	0.86	0.85	0.60	0.54	0.95	0.92	0.66
Route 8	Bar. Main Gate To Route 16	720	720	0.49	0.37	0.17	0.20	0.48	0.33	0.16	0.15
Route 8	Route 16 to Route 10	1,600	1,600	**1.02**	**1.04**	1.00	0.89	**1.07**	**1.12**	**1.05**	0.97
Route 8	Route 10 to Route 33 (E)	1,600	1,600	0.62	**1.13**	0.97	0.68	0.64	**1.17**	1.00	0.73
Route 8	Route 33 (E) to Route 33 (W)	1,600	1,600	0.89	**1.13**	**1.14**	0.78	0.84	**1.26**	**1.18**	0.80
Route 8	Route 33 (W) to Route 1	1,600	1,600	0.39	0.81	0.81	0.51	0.45	0.86	0.88	0.53
Route 10	Route 8 to Route 15	1,600	1,600	**1.14**	0.70	0.70	0.89	**1.17**	0.76	0.73	0.93
Route 10	Route 15 to Route 32	1,600	1,600	**1.05**	0.86	0.80	0.85	**1.10**	0.93	0.86	0.90
Route 10	Route 32 to Route 4	1,600	1,600	**1.05**	0.81	0.75	0.82	**1.07**	0.86	0.80	0.86
Route 10A	Route 16 to Sunset Blvd.	756	756	0.65	**2.26**	**1.55**	**1.15**	0.75	**2.42**	**1.76**	**1.20**
Route 10A	Sunset Blvd. to Route 1	1,600	1,600	0.82	**1.91**	**1.47**	**1.34**	0.51	0.99	0.84	0.67
Route 11	West of Route 1	720	720	0.15	0.67	0.59	0.13	0.15	0.66	0.59	0.13
Route 14	Route 14A to Route 14B	1,600	1,600	0.24	0.68	0.73	0.45	0.25	0.74	0.78	0.49
Route 14	Route 14B to Route 1 (S)	2,420	1,600	0.38	0.46	0.60	0.51	0.42	0.53	0.66	0.55
Route 14A	Route 14 to Route 1	1,280	1,280	0.41	0.47	0.78	0.65	0.42	0.49	0.80	0.67
Route 14B	Route 14 to Route 1	720	720	0.61	0.69	0.73	0.71	0.71	0.73	0.78	0.85
Route 15	Route 26 to Bar. South Gate	720	720	0.69	**1.05**	0.90	0.76	0.74	**1.13**	**1.05**	0.86
Route 15	Bar. South Gate to Route 10	756	756	0.46	0.93	0.90	0.62	0.56	1.00	1.00	0.71
Route 15	Route 10 to Route 4	720	720	0.48	0.58	0.37	0.33	0.52	0.61	0.41	0.36
Route 16	Route 10A to Bar. Main Gate	1,600	1,600	**1.03**	**1.01**	**1.09**	**1.09**	**1.09**	**1.10**	**1.15**	**1.18**
Route 16	Bar. Main Gate to Route 8	1,600	1,600	0.89	0.91	0.87	0.95	0.93	0.97	0.95	0.97
Route 25	Route 16 to Route 26	720	720	0.39	**1.70**	**1.40**	0.68	0.40	**1.74**	**1.46**	0.70
Route 26	Route 25 to Route 15	720	720	**1.20**	0.81	0.84	**1.10**	**1.26**	0.85	0.89	**1.19**
Route 30	North of Route 1	1,600	720	0.32	0.51	0.47	0.47	0.36	0.55	0.52	0.51
Route 33	Route 8 (E) to Route 7A	720	720	0.75	0.95	0.53	0.29	0.62	**1.03**	0.58	0.26
Route 33	Route 7A to Route 8 (W)	720	720	0.26	0.48	0.14	0.03	0.26	0.49	0.15	0.04
Tiyan Pkwy	Route 1 to Route 8	756	756	**NA**	**NA**	**NA**	**NA**	0.95	0.47	0.66	0.98

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 36: Roadway V/C for No Build Alternative, South Region 2021

Roadway				Existing				No Build Alternative			
Route	Segment	Capacity		AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 2	Route 2A to Route 12	740	740	**1.25**	0.41	0.53	0.99	**1.33**	0.43	0.55	**1.04**
Route 2	Route 12 to Nimitz Beach	740	740	**1.12**	0.75	0.57	0.86	**1.19**	0.80	0.61	0.92
Route 2	Nimitz Beach to Route 4	740	740	0.41	0.41	0.35	0.35	0.44	0.44	0.37	0.37
Route 2A	Route 5 to Route 2	740	740	0.91	0.48	0.46	0.76	0.97	0.50	0.48	0.80
Route 4	Route 17 to Route 4A	720	720	0.89	0.89	0.47	0.47	0.95	0.95	0.52	0.52
Route 4	Route 4A to Inarajan	720	720	0.37	0.47	0.30	0.23	0.40	0.51	0.34	0.26
Route 4	Inarajan to Route 2	740	740	0.23	0.23	0.17	0.12	0.25	0.25	0.18	0.13
Route 4A	Route 17 to Route 4	720	720	0.48	0.30	0.25	0.37	0.51	0.31	0.27	0.40
Route 5	Route 2A to Route 17	720	720	0.33	0.83	0.53	0.24	0.32	0.98	0.67	0.28
Route 5	Route 17 to Route 12	720	720	0.19	0.18	0.12	0.12	0.20	0.19	0.13	0.13
Route 12	Route 5 to Route 2	720	720	0.47	0.84	0.49	0.32	0.48	0.88	0.51	0.35
Route 17	Route 5 to Route 4A	720	720	0.21	0.74	0.47	0.23	0.22	0.91	0.60	0.25
Route 17	Route 4A to Route 4	720	720	0.64	0.35	0.28	0.41	0.68	0.41	0.32	0.45

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Intersection-Level Conditions

The intersection LOS for existing and 2021 No Build conditions are compared in Exhibit 37 through Exhibit 45. The table shows a general increase in intersection delays, but only four cases of intersections that changed from LOS "E" or better to LOS "F". These were:

North Region

- Intersection 11 (Rte 15/ Chalan Lajuna)
- Intersection 17 (Rte 28 / Rte 27A)

Central Region

- Intersection 27 (Rte 1 / Rte 10A)

Intersection 38 (Rte 4 / Rte 7B)

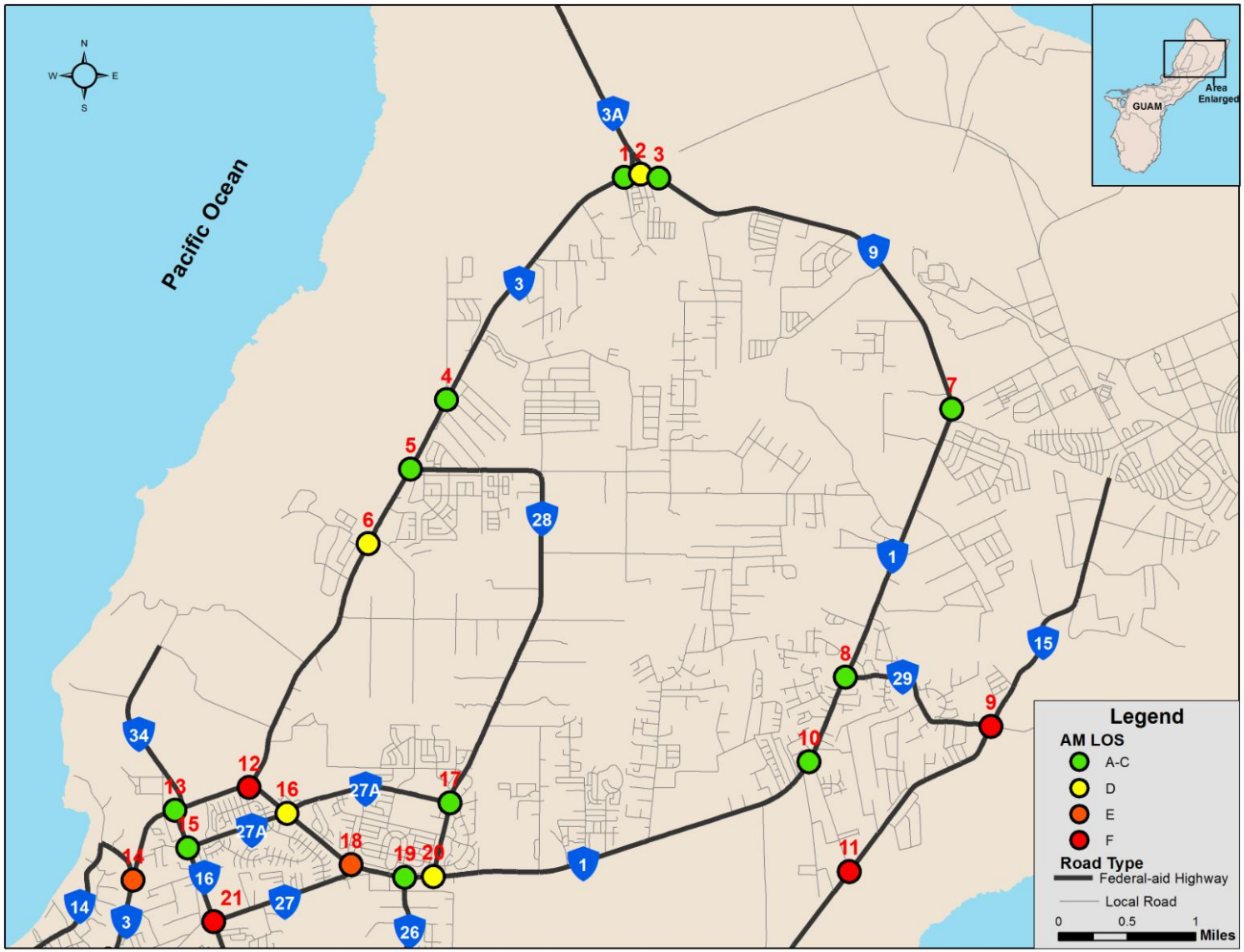


Exhibit 37: Intersection LOS for No Build Alternative, AM Peak Hour – North Region, 2021

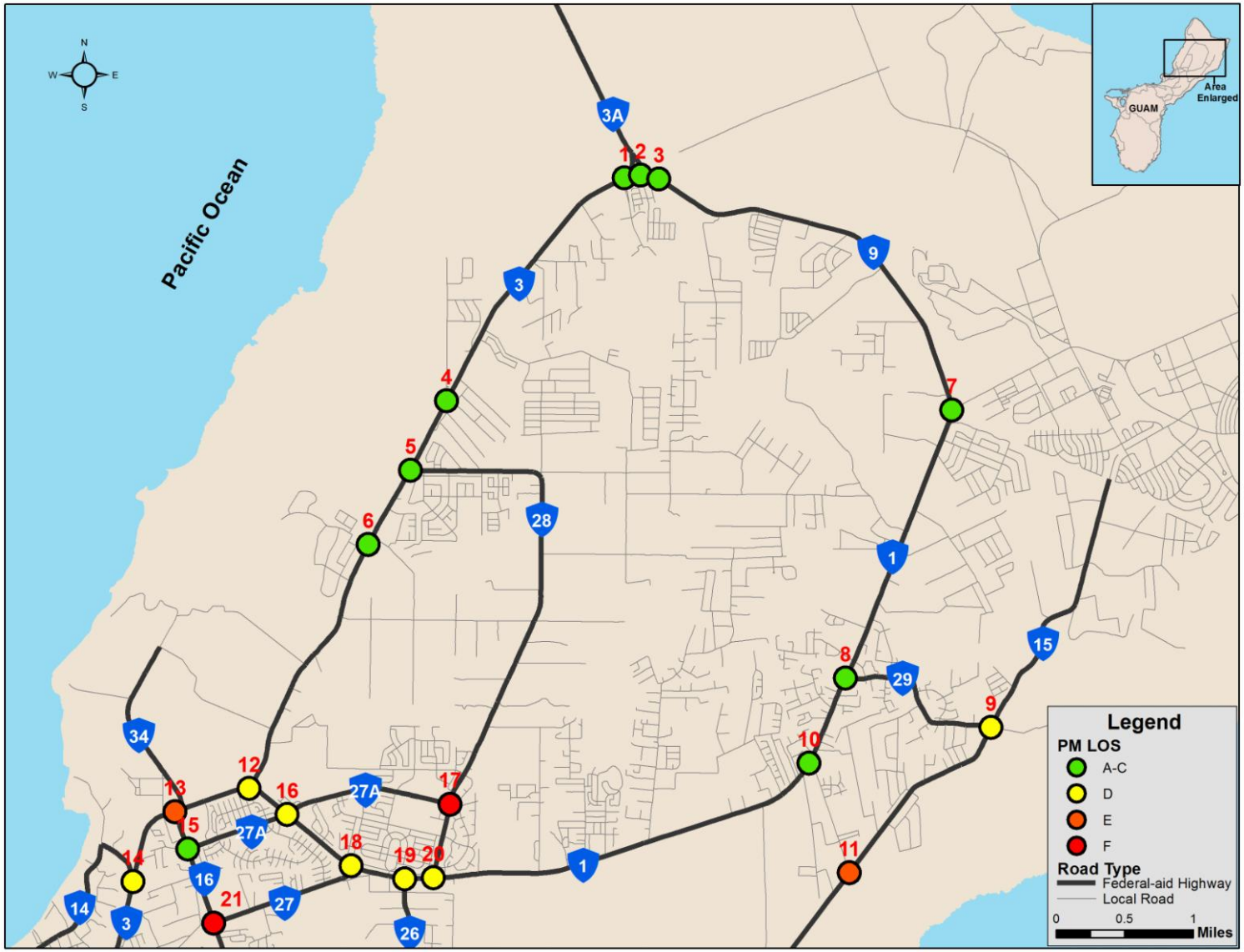


Exhibit 38: Intersection LOS for No Build Alternative, PM Peak Hour – North Region, 2021

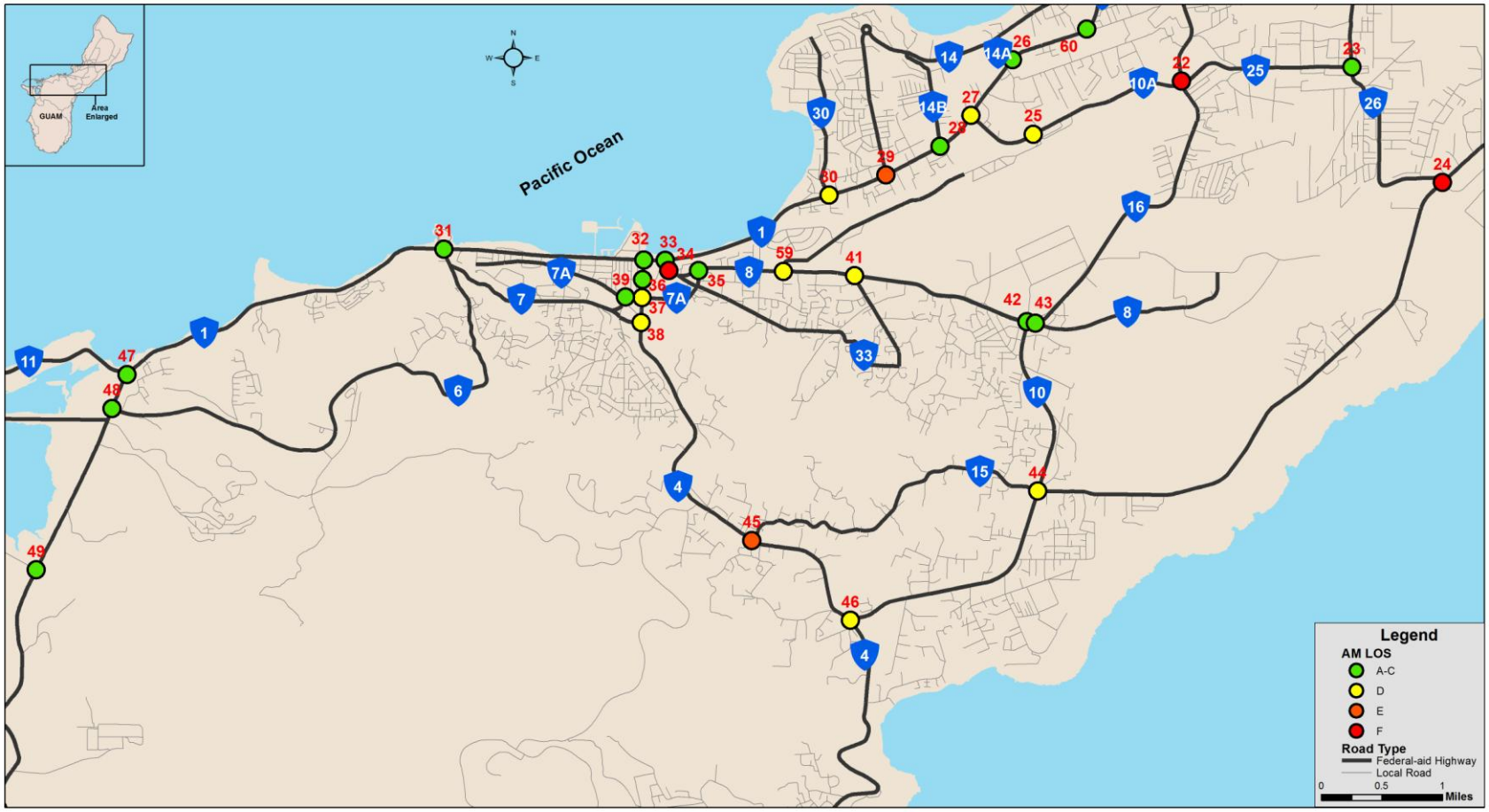


Exhibit 39: Intersection LOS for No Build Alternative, AM Peak Hour – Central Region, 2021

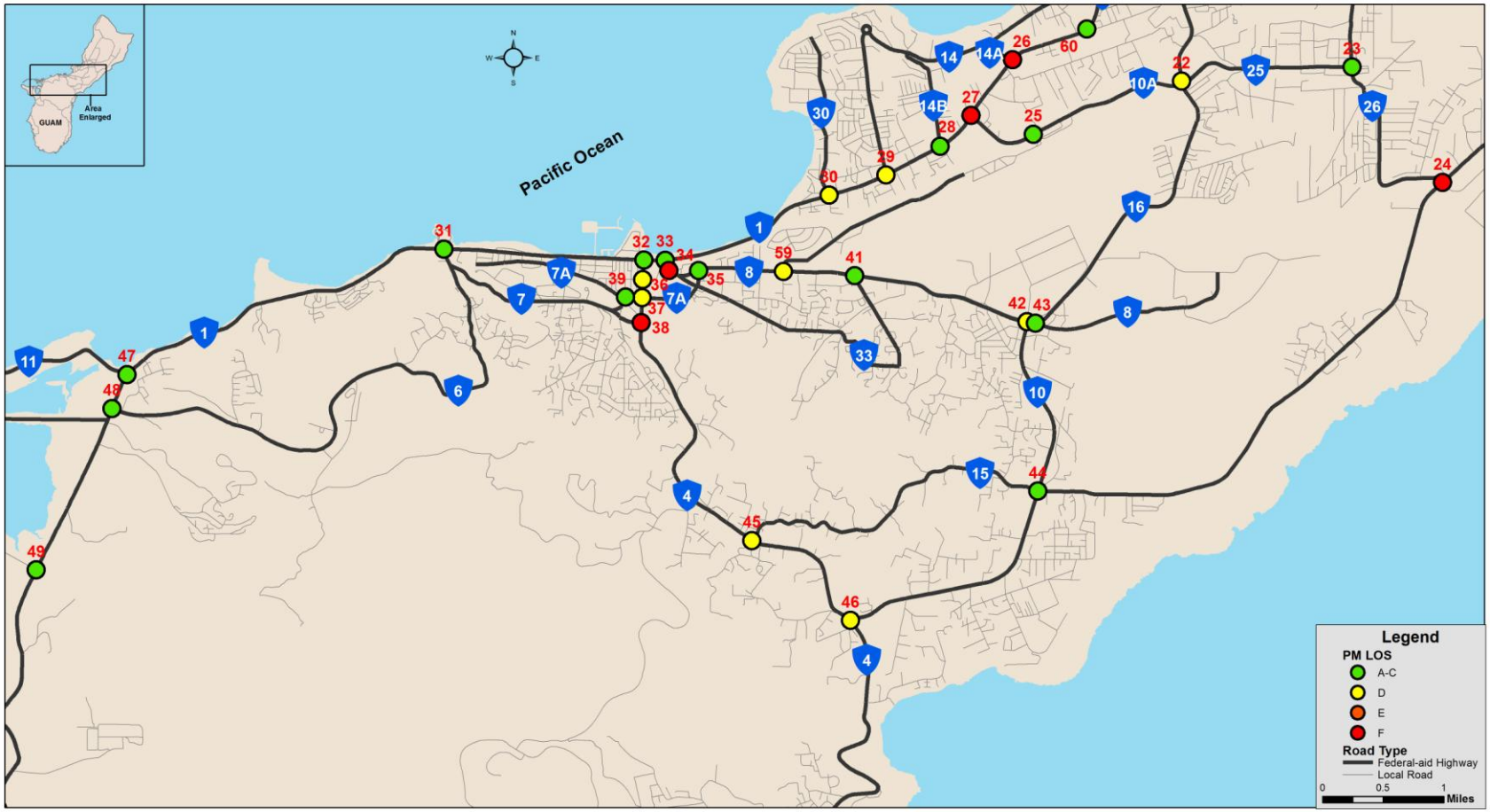


Exhibit 40: Intersection LOS for No Build Alternative, PM Peak Hour – Central Region, 2021

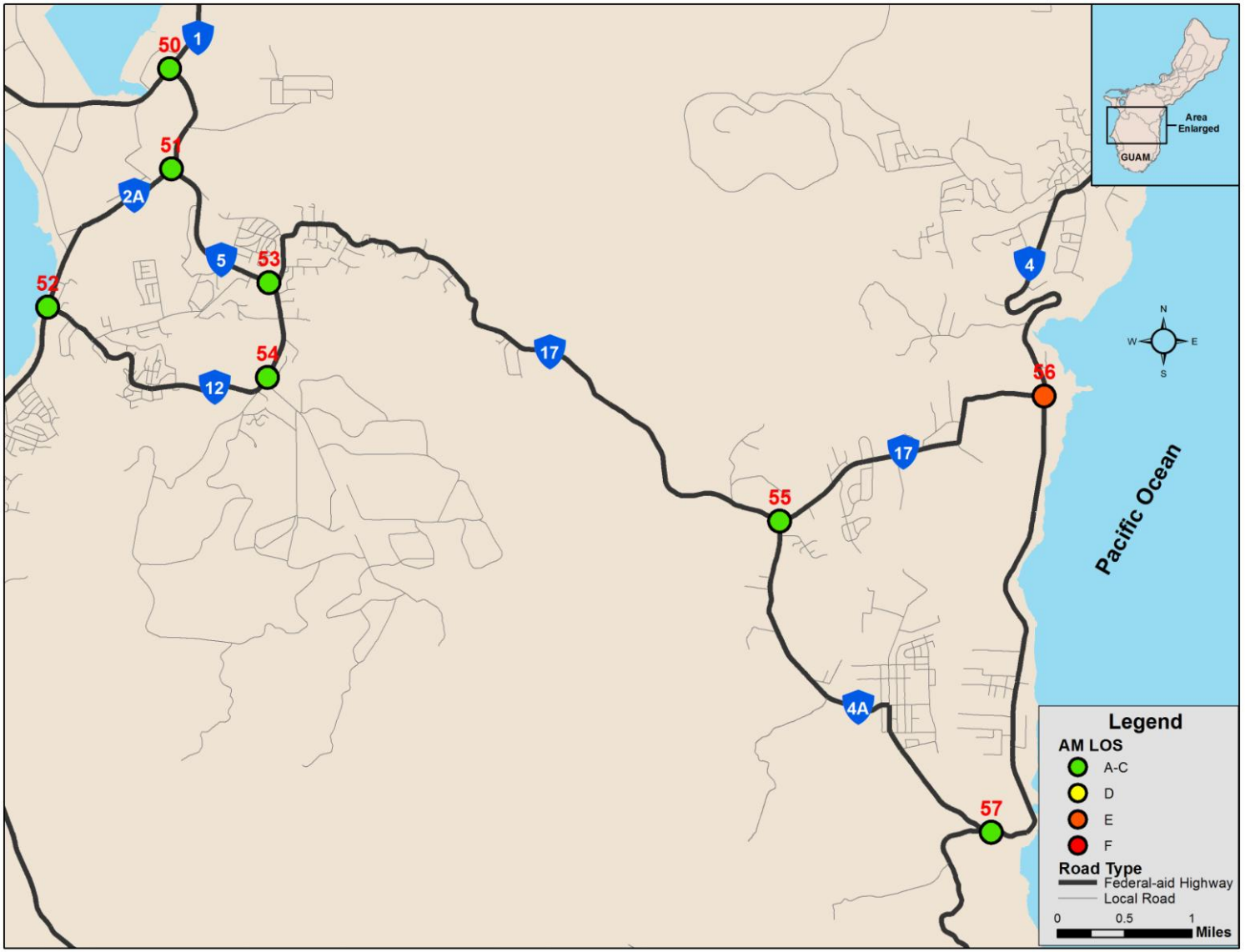


Exhibit 41: Intersection LOS for No Build Alternative, AM Peak Hour – South Region, 2021

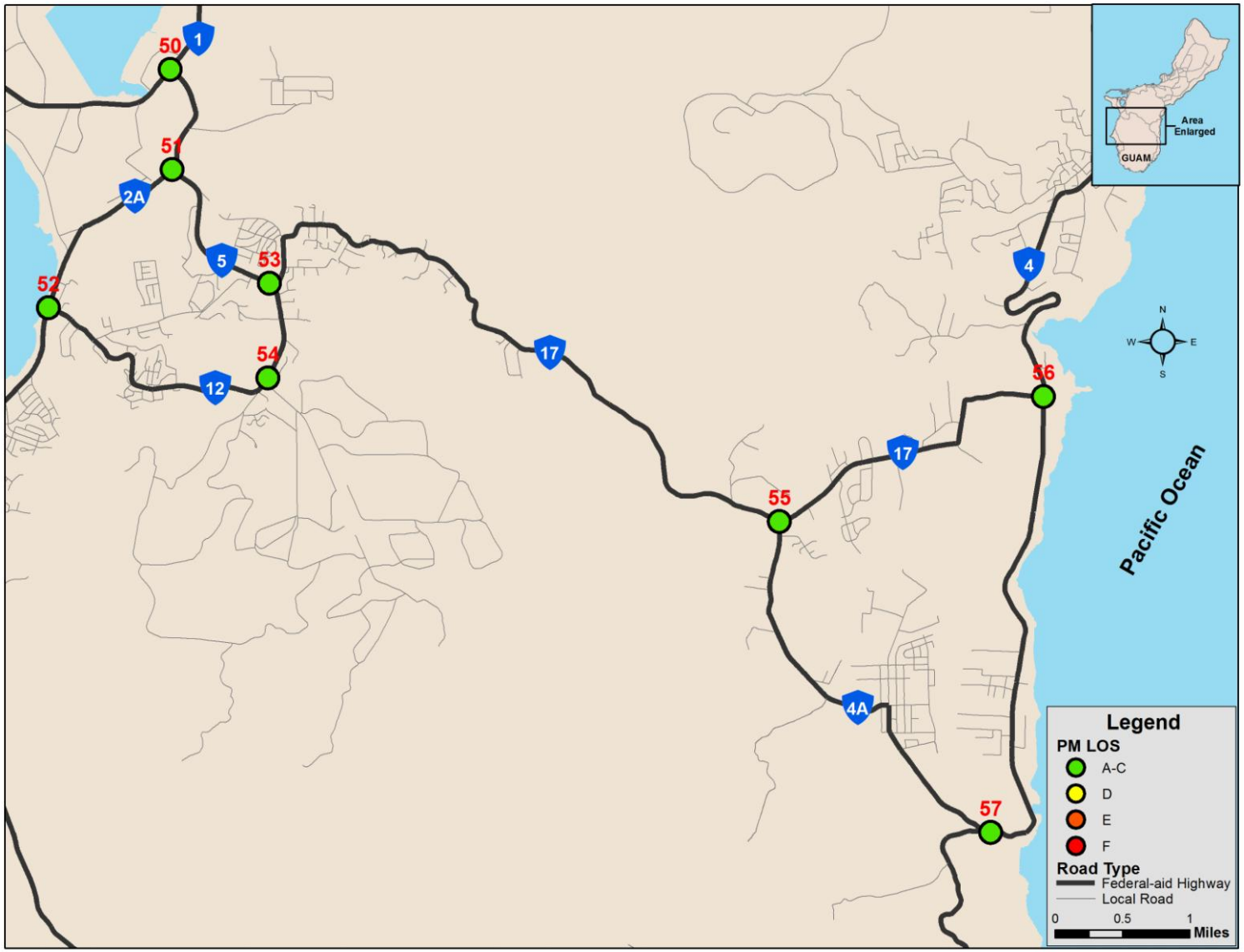


Exhibit 42: Intersection LOS for No Build Alternative, PM Peak Hour – South Region, 2021

Exhibit 43: Intersection LOS for No Build Alternative - North Region, 2021

Intersection			Existing Conditions				No Build Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	12.9	B	10.2	B	15.6	C	11.1	B
2	Route 3/9 / Chalan Santa Anita	TWSC	21.9	C	12.8	B	26.8	D	13.8	B
3	Route 9 / Route 3A	TWSC	13.9	B	12.0	B	14.1	B	13.1	B
4	Route 3 / Bullard Avenue	TWSC	16.3	C	11.8	B	18.1	C	12.2	B
5	Route 3 / Route 28	Signalized	27.5	C	18.9	B	32.6	C	22.3	C
6	Route 3 / Royal Palm Drive	TWSC	25.0	C	13.3	B	33.8	D	14.4	B
7	Route 1/9 / AAFB Entrance	Signalized	9.3	A	9.7	A	10.2	B	10.4	B
8	Route 1 / Route 29	Signalized	43.2	D	21.0	C	33.1	C	22.1	C
9	Route 15 / Route 29	TWSC	**51.3**	**F**	21.7	C	**80.8**	**F**	26.6	D
10	Route 1 / Chalan Lajuna	Signalized	21.4	C	16.3	B	19.3	B	12.9	B
11	Route 15 / Chalan Lajuna	TWSC	30.7	D	23.9	C	**59.1**	**F**	45.9	E
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	70.8	E	**> 180.0**	**F**	49.8	D
13	Route 1 / Route 16	Signalized	27.4	C	**81.5**	**F**	33.3	C	67.5	E
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	36.0	D	39.2	D	56.7	E	40.9	D
15	Route 16 / Route 27A	Signalized	19.6	B	28.7	C	16.9	B	16.6	B
16	Route 1 / Route 27A	Signalized	68.4	E	52.9	D	39.5	D	45.6	D
17	Route 28 / Route 27A	AWSC	10.4	B	43.8	E	10.9	B	**56.7**	**F**
18	Route 1 / Route 27	Signalized	70.3	E	43.8	D	65.4	E	49.1	D
19	Route 1 / Route 26	Signalized	23.3	C	27.9	C	22.5	C	43.3	D
20	Route 1 / Route 28	Signalized	35.2	D	37.0	D	44.6	D	35.3	D
21	Route 16 / Route 27	Signalized	50.1	D	71.2	E	**82.4**	**F**	**117.4**	**F**

Notes:

LOS – level of service

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

Bold indicates LOS "F" conditions. Red indicates significant impact.

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

Exhibit 44: Intersection LOS for No Build Alternative - Central Region, 2021

Intersection			Existing Conditions				No Build Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
22	Route 16 / Route 10A	Signalized	**143.3**	**F**	42.3	D	**169.7**	**F**	41.0	D
23	Route 26 / Route 25	Signalized	**> 180.0**	**F**	**> 180.0**	**F**	21.9	C	7.5	A
24	Route 15 / Route 26	TWSC	**62.1**	**F**	**147.3**	**F**	**117.8**	**F**	**> 180.0**	**F**
25	Route 10A / Sunset Blvd (Airport)	Signalized	37.1	D	54.9	D	50.8	D	28.0	C
26	Route 1 / Route 14A	Signalized	34.5	C	**156.1**	**F**	32.1	C	**> 180.0**	**F**
27	Route 1 / Route 10A	Signalized	35.0	C	62.6	E	37.7	D	**92.2**	**F**
28	Route 1 / Route 14B	Signalized	26.0	C	33.5	C	28.1	C	25.5	C
29	Route 1 / Route 14	Signalized	64.3	E	39.9	D	68.2	E	50.9	D
30	Route 1 / Route 30	Signalized	36.0	D	39.9	D	45.0	D	45.5	D
31	Route 1 / Route 6 (Adelup)	Signalized	20.8	C	23.9	C	17.8	B	24.5	C
32	Route 1 / Route 4	Signalized	19.1	B	17.6	B	10.2	B	17.2	B
33	Route 1 / Route 8	Signalized	16.0	B	18.3	B	14.5	B	30.4	C
34	Route 8 / Chalan Santo Papa	TWSC	**55.1**	**F**	**53.0**	**F**	**170.0**	**F**	**114.2**	**F**
35	Route 8 / Route 7A	Signalized	17.3	B	25.2	C	18.4	B	31.9	C
36	Route 4 / Chalan Santo Papa	Signalized	42.5	D	43.3	D	30.9	C	38.5	D
37	Route 4 / Route 7A	Signalized	43.2	D	54.2	D	46.3	D	48.3	D
38	Route 4 / Route 7B	TWSC	21.1	C	45.7	E	26.7	D	**82.9**	**F**
39	Route 7A / Route 7	Signalized	23.5	C	24.9	C	27.4	C	26.8	C
40	Route 8 / Sunset Blvd	TWSC	13.5	B	15.0	B	-[3]	-[3]	-[3]	-[3]
41	Route 8 / Route 33	Signalized	33.4	C	28.4	C	46.7	D	24.5	C
42	Route 8 / Route 10	Signalized	25.6	C	26.9	C	24.1	C	38.3	D
43	Route 16 / Route 8A	Signalized	32.9	C	9.6	A	18.0	B	7.0	A
44	Route 10 / Route 15	Signalized	38.2	D	33.9	C	41.0	D	31.5	C
45	Route 4 / Route 15	Signalized	62.9	E	31.7	C	77.6	E	35.9	D
46	Route 4 / Route 10	Signalized	46.3	D	36.8	D	51.7	D	40.1	D
47	Route 1 / Route 11	Signalized	10.1	B	15.8	B	10.7	B	14.1	B
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	11.5	B	11.7	B	10.0	B	11.9	B
49	Route 1 / Polaris Point	Signalized	10.5	B	10.3	B	12.8	B	13.4	B
59	Tiyan Parkway / Route 8	Signalized	-[4]	-[4]	-[4]	-[4]	47.3	D	40.9	D
60	Route 1 / Route 27 Extension	Signalized	-[4]	-[4]	-[4]	-[4]	14.2	B	3.7	A

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in Existing Conditions.

Exhibit 45: Intersection LOS for No Build Alternative - South Region, 2021

Intersection			Existing Conditions				No Build Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
50	Route 1 / Route 2A	Signalized	16.1	B	23.4	C	13.0	B	22.2	C
51	Route 2A / Route 5	Signalized	20.4	C	17.4	B	20.5	C	19.6	B
52	Route 2 / Route 12	Signalized	26.2	C	13.4	B	26.3	C	14.0	B
53	Route 17 / Route 5	TWSC	15.2	C	11.4	B	19.8	C	14.6	B
54	Route 12 / Naval Magazine Entrance	TWSC	9.5	A	8.7	A	9.7	A	8.9	A
55	Route 17 / Route 4A	TWSC	17.2	C	17.4	C	21.9	C	19.8	C
56	Route 4 / Route 17	Signalized	45.4	D	15.1	B	55.5	E	19.5	B
57	Route 4 / Route 4A	TWSC	18.3	C	11.3	B	20.3	C	12.0	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

3.3 Traffic Conditions in 2030 (Study Year for Full Build-Out)

System-Level Conditions

Exhibit 46 summarizes traffic conditions for the No Build Alternative at a system-wide level. The 16.1% growth in vehicle miles travelled (VMT) tracks closely with the population growth of approximately 16% (15% from organic growth and 1% from DOD project unrelated to the USMC 2012 Roadmap Adjustments project).

Exhibit 46: System-Level Conditions for the No Build Alternative

	No-Build Alternative	Change from Existing
Vehicle-Miles Traveled (VMT)		
Existing	2,323,962	
2021	2,530,847	8.9%
2030	2,697,073	16.1%
Vehicle-Hours Traveled (VHT)		
Existing	89,704	
2021	99,588	11.0%
2030	105,960	18.1%
Average Speed		
Existing	25.9	
2021	25.4	-1.9%
2030	25.5	-1.5%

The growth in vehicle hours of travel (VHT) is somewhat higher than VMT, as is normally the case when congestion builds over time.

Roadway-Level Conditions

The roadway segment LOS for the 2030 No-Build Alternative shown in Exhibit 47 to Exhibit 52, and is compared to Existing Conditions in Exhibit 53 to Exhibit 55. The exhibits show an increase in congestion levels in most places, including 9 segments that would worsen to v/c ratios of over 1.00 in the AM peak hour and 4 that would worsen to over 1.00 in the PM peak hour.

Offsetting this to some extent were several positive changes, namely:

- The construction of Tiyan Parkway will divert some traffic away from Routes 1 and 16, slowing the growth in traffic on those parallel routes
- The widening of Route 27 will relieve traffic on a portion of Route 1 in the north region
- Adding a second through lane on Route 3 near the entrance to the high school will eliminate an existing bottleneck
- Widening Route 26 will bring the v/c ratio from over 1.0 (heavily congested) to a moderately-congested 0.7-0.8 range.
- Widening Route 10A will reduce the v/c ratio somewhat, but it will still operate above capacity.

The overall result of the increase in traffic demand and the planned roadway improvements will be a moderate worsening of traffic conditions, with the number of segments operating above capacity changing from 39 to 42 in the AM peak hour and from 28 to 31 in the PM peak hour.

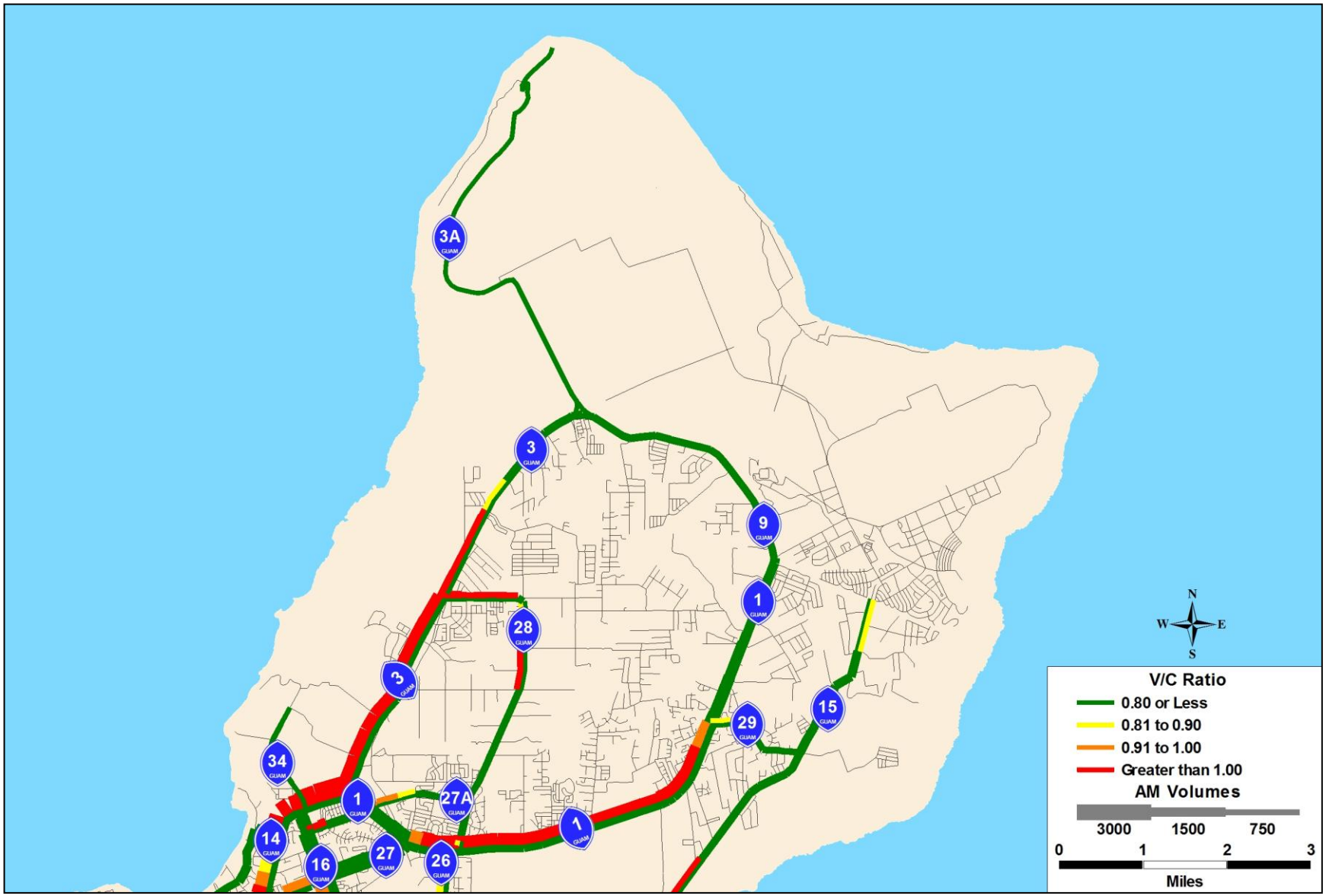


Exhibit 47: Roadway V/C for No Build Alternative, AM Peak Hour – North Region 2030

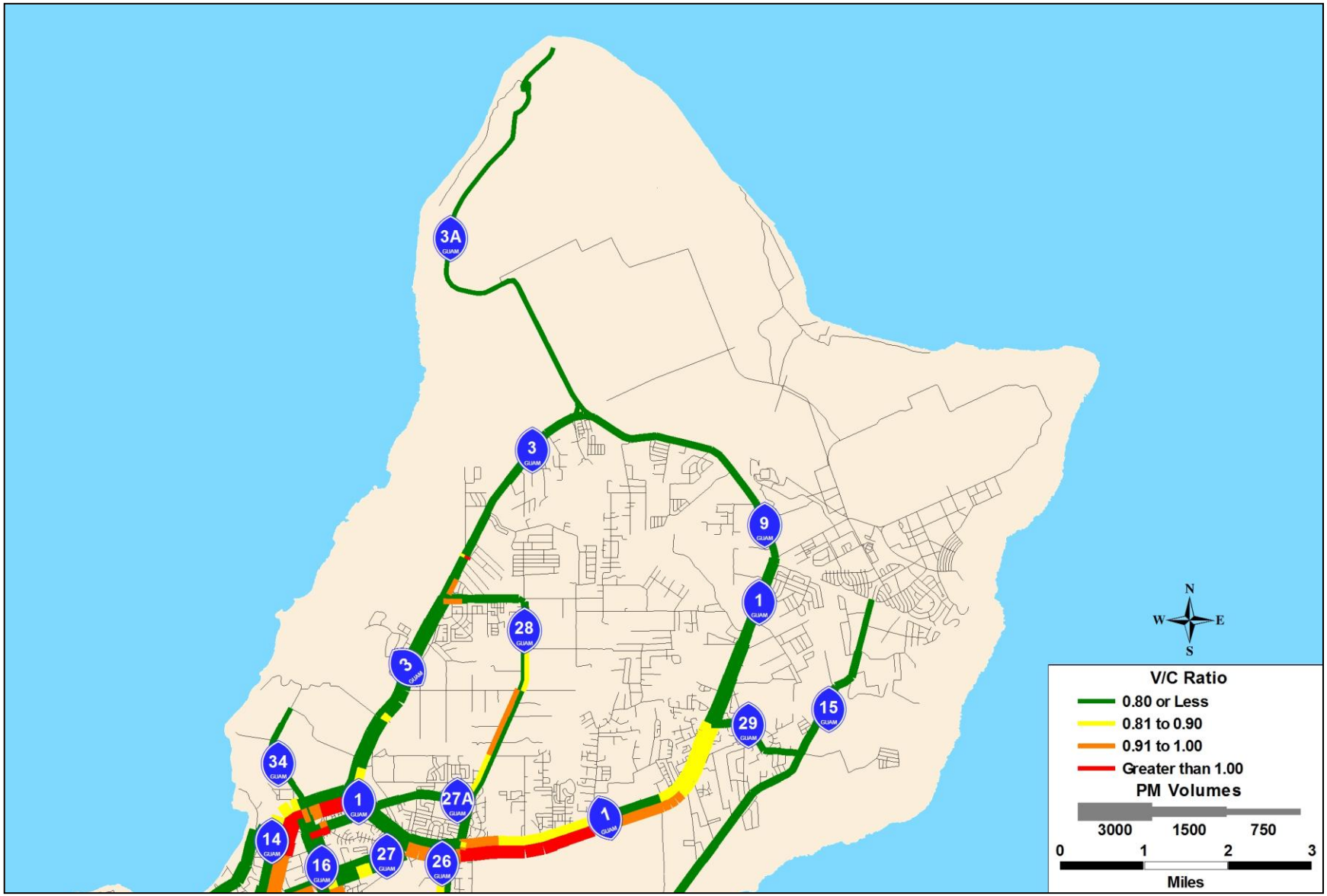


Exhibit 48: Roadway V/C for No Build Alternative, PM Peak Hour – North Region 2030

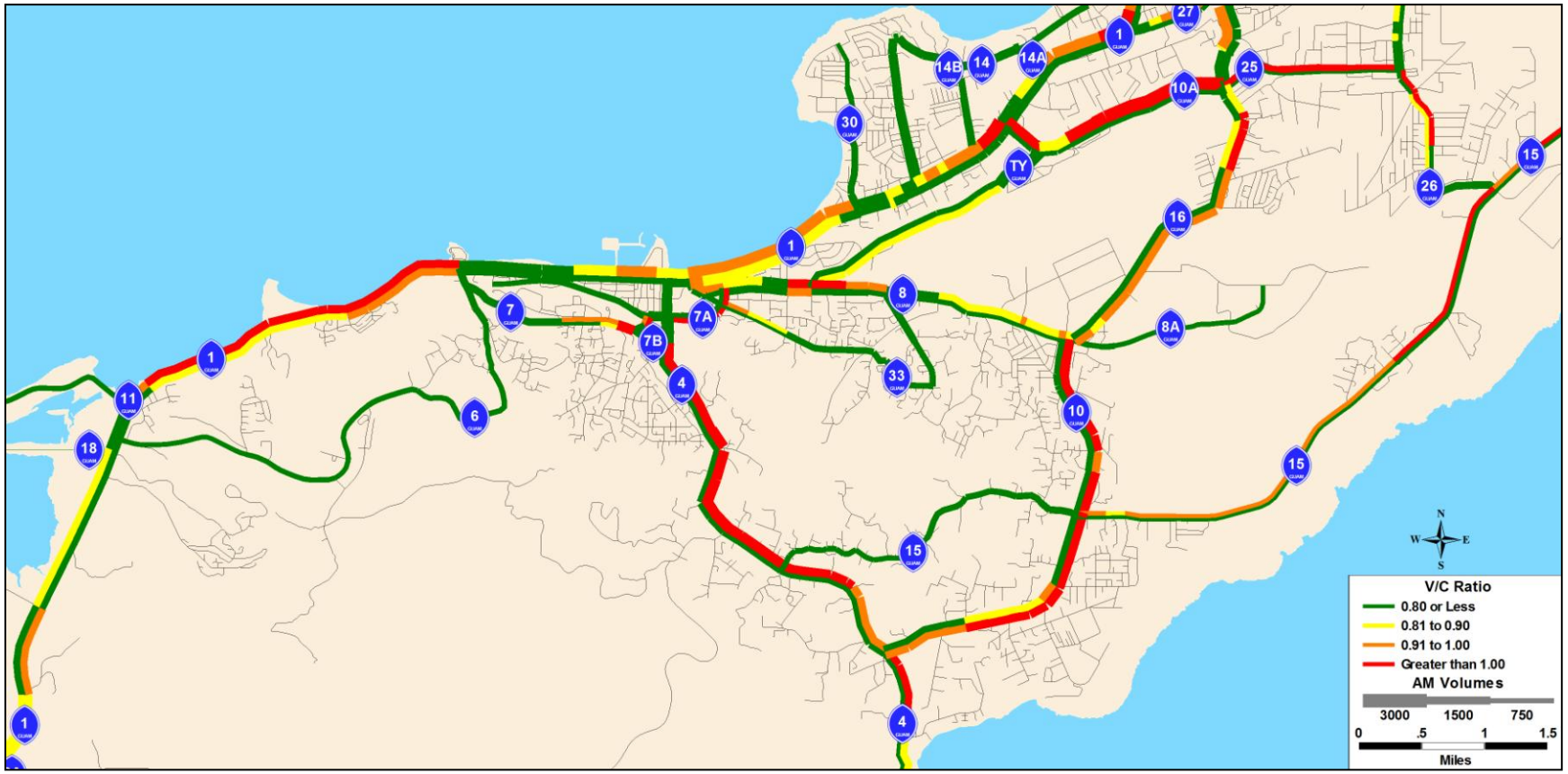


Exhibit 49: Roadway V/C for No Build Alternative, PM Peak Hour – Central Region 2030

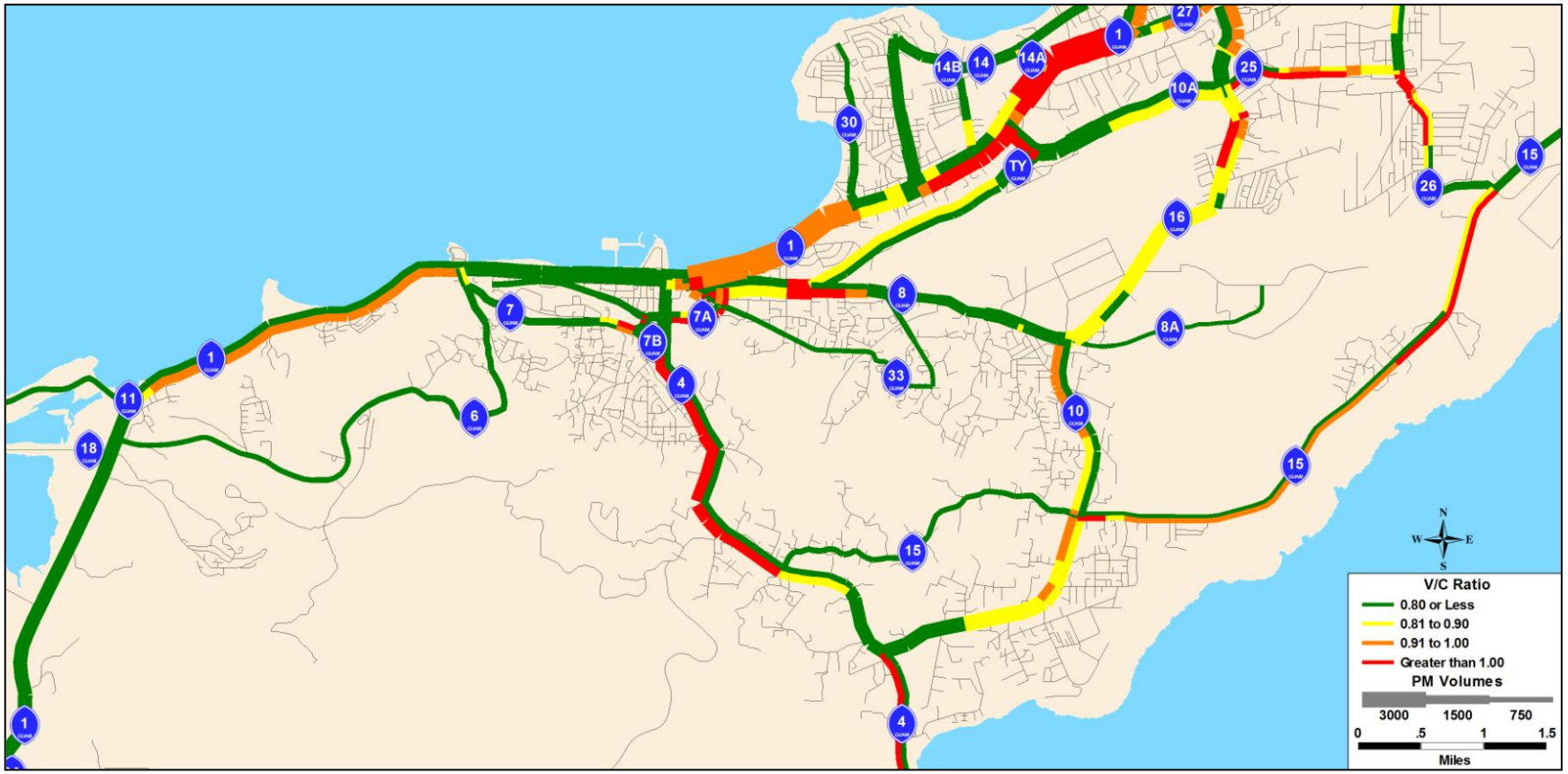


Exhibit 50: Roadway V/C for No Build Alternative, PM Peak Hour – Central Region 2030

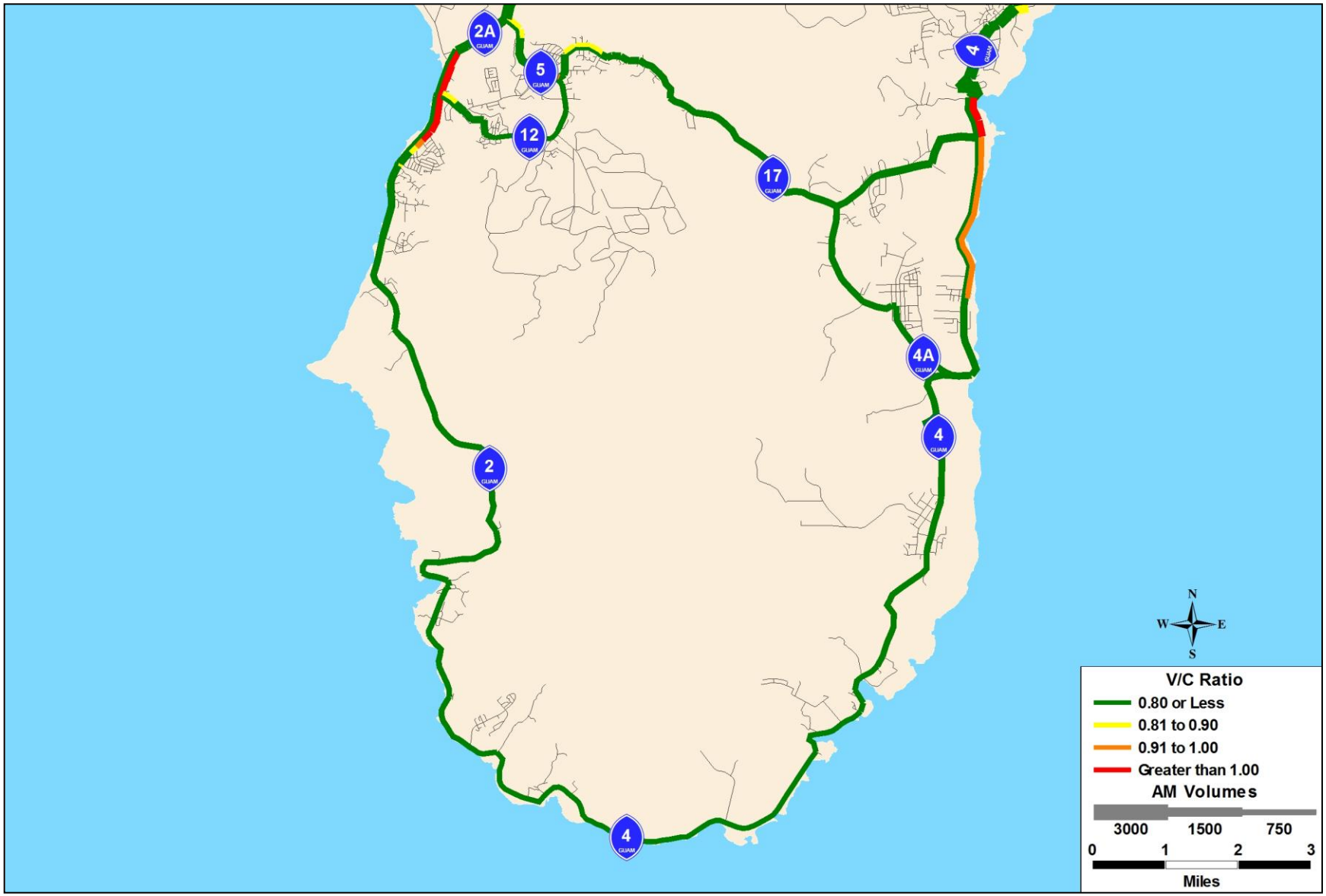


Exhibit 51: Roadway V/C for No Build Alternative, AM Peak Hour – South Region 2030

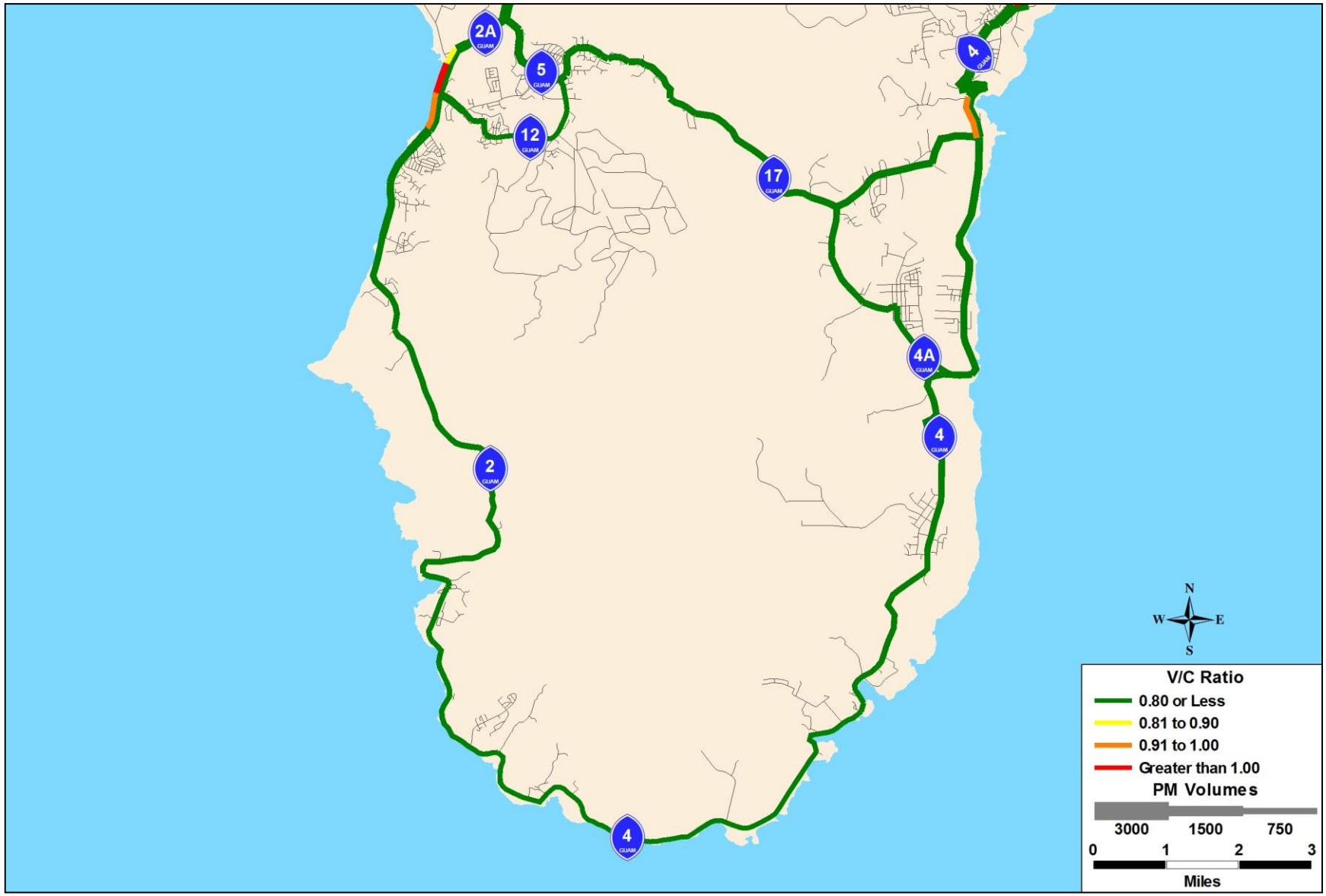


Exhibit 52: Roadway V/C for No Build Alternative, PM Peak Hour – South Region 2030

Exhibit 53: Roadway V/C for No Build Alternative - North Region, 2030

Roadway		Existing				2030 No Build			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.46	0.59	0.56	0.63	0.49	0.68	0.67	0.71
Route 1	Route 29 to Chalan Lujuna	0.66	**1.01**	0.78	0.82	0.71	**1.10**	0.86	0.89
Route 1	Chalan Lujuna to Route 28	0.68	**1.30**	**1.18**	0.84	0.73	**1.38**	**1.29**	0.93
Route 1	Route 28 to Route 26	0.48	0.98	0.93	0.64	0.54	**1.04**	**1.05**	0.71
Route 1	Route 26 to Route 27	0.50	**1.06**	0.90	0.59	0.56	**1.10**	1.00	0.60
Route 1	Route 27 to Route 27A *	0.31	0.72	0.61	0.44	0.32	0.63	0.54	0.41
Route 1	Route 27A to Route 3 *	0.32	0.76	0.63	0.44	0.31	0.71	0.59	0.40
Route 1	Route 3 to Route 34	0.41	**1.47**	0.99	0.68	0.40	**1.53**	**1.01**	0.68
Route 1	Route 34 to Route 16	0.45	**1.28**	**1.01**	0.69	0.44	**1.35**	0.97	0.71
Route 1	Route 16 to Route 14 (N)	0.51	**1.35**	**1.31**	0.89	0.49	**1.26**	**1.20**	0.89
Route 1	Route 14 (N) to Route 14A	0.58	**1.26**	**1.25**	**1.12**	0.62	**1.12**	**1.32**	**1.08**
Route 3	Route 3A/9 to Fin. Main Gate	0.44	0.64	0.50	0.42	0.50	0.75	0.57	0.52
Route 3	Fin. Main Gate to Secondary Gate	0.45	**1.09**	0.60	0.51	0.49	**1.24**	0.68	0.56
Route 3	Fin. Secondary Gate to Route 28	0.67	**1.23**	0.81	0.67	0.70	**1.36**	0.91	0.74
Route 3	Route 28 to S. Fin. Main Gate	0.42	**1.07**	0.72	0.47	0.44	**1.25**	0.79	0.51
Route 3	S. Fin. Main Gate to Route 1	0.50	**2.11**	0.72	0.89	0.53	**1.35**	0.81	0.54
Route 3A	North of Route 3/9	0.09	0.02	0.01	0.12	0.11	0.03	0.02	0.13
Route 9	Route 3/3A to AAFB North Gate	0.42	0.47	0.35	0.32	0.48	0.56	0.42	0.40
Route 9	AAFB Main Gate to Route 1	0.44	0.32	0.24	0.37	0.52	0.38	0.30	0.47
Route 14	Route 1 to Gun Beach Rd.	0.24	0.55	0.55	0.56	0.26	0.64	0.64	0.63
Route 14	Gun Beach Rd. to Route 14A	0.47	0.37	0.39	0.69	0.51	0.36	0.36	0.76
Route 15	AAFB to Route 29	0.86	0.66	0.37	0.58	0.86	0.72	0.43	0.61
Route 15	Route 29 to Route 26	0.55	0.96	0.60	0.61	0.57	**1.08**	0.78	0.66
Route 16	Route 1 to Route 27A	0.41	0.39	0.45	0.48	0.35	0.50	0.53	0.48
Route 16	Route 27A to Route 27	0.41	0.57	0.60	0.52	0.36	0.74	0.73	0.52
Route 16	Route 27 to Route 10A	0.70	0.87	0.84	0.80	0.75	0.98	0.96	0.84
Route 26	Route 1 to Route 25 **	**1.03**	**1.14**	1.00	**1.06**	0.73	0.83	0.74	0.88
Route 27	Route 16 to Route 1	0.33	0.58	0.63	0.40	0.41	0.75	0.84	0.44
Route 27A	Route 16 to Route 1	0.69	**1.52**	**1.44**	0.91	0.72	**1.63**	**1.49**	0.96
Route 27A	Route 1 to Route 28	0.48	0.91	0.61	0.68	0.48	0.98	0.69	0.70
Route 28	Route 1 to Route 27A	0.45	0.80	0.87	0.76	0.51	0.90	0.99	0.79
Route 28	Route 27A to Chalan Balako	0.54	**1.08**	0.68	0.89	0.57	**1.16**	0.82	0.91
Route 28	Chalan Balako to Route 3	0.56	**1.29**	0.87	0.49	0.54	**1.48**	0.98	0.57
Route 29	Route 1 to Route 15	0.56	0.85	0.53	0.49	0.64	0.90	0.56	0.58
Route 34	North of Route 1	0.17	0.08	0.15	0.20	0.22	0.13	0.23	0.28

Notes:
* The widening of Route 27 will divert some traffic from Route 1.
** Route 26 will be widened so the volume-to-capacity ratio will decrease.
Bold indicates volume-to-capacity ratio greater than 1.00.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 54: Roadway V/C for No Build Alternative - Central Region, 2030

Roadway		Existing				2030 No Build			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 14A to Route 10A	0.70	0.81	**1.14**	**1.09**	0.76	0.84	**1.20**	**1.13**
Route 1	Route 10A to Route 14B	0.71	0.99	**1.13**	0.93	0.69	**1.13**	**1.26**	0.90
Route 1	Route 14B to Route 14 (S)	0.73	0.89	**1.07**	0.86	0.70	0.94	**1.11**	0.84
Route 1	Route 14 (S) to Route 30	0.93	0.79	0.86	0.87	0.90	0.83	0.90	0.83
Route 1	Route 30 to Route 8	0.91	0.92	0.94	**1.01**	0.98	1.00	**1.01**	1.00
Route 1	Route 8 to Route 4	0.72	0.75	0.84	0.62	0.78	0.85	0.91	0.68
Route 1	Route 4 to Route 6 (N)	0.49	0.87	0.56	0.61	0.58	0.96	0.66	0.69
Route 1	Route 6 (N) to Route 11	0.82	0.99	0.93	0.71	0.91	**1.05**	0.99	0.78
Route 1	Route 11 to Route 6 (S)	0.72	0.74	0.69	0.66	0.79	0.80	0.75	0.73
Route 1	Route 6 (S) to Route 18	0.72	0.74	0.70	0.63	0.79	0.80	0.76	0.71
Route 1	Route 18 to Route 2A	0.85	0.80	0.71	0.72	0.92	0.86	0.77	0.80
Route 2A	Route 1 to Route 5	0.66	0.36	0.32	0.64	0.75	0.40	0.38	0.72
Route 4	Route 1 to Route 33	0.51	0.26	0.37	0.48	0.49	0.27	0.41	0.46
Route 4	Route 33 to Route 7B	0.70	0.24	0.42	0.55	0.75	0.27	0.47	0.64
Route 4	Route 7B to Route 15	**1.32**	**1.32**	**1.18**	**1.18**	**1.39**	**1.39**	**1.29**	**1.29**
Route 4	Route 15 to Route 10	**1.07**	**1.07**	0.86	0.85	**1.11**	**1.12**	0.88	0.88
Route 4	Route 10 to Route 17	**1.48**	0.79	**1.14**	**1.33**	**1.63**	0.87	**1.21**	**1.42**
Route 6	Route 1 (N) to Route 7	0.70	0.55	0.84	0.52	0.71	0.61	0.87	0.59
Route 6	Route 7 to Murray Rd.	0.45	0.43	0.57	0.40	0.53	0.52	0.65	0.49
Route 6	Murray Rd. to Route 1 (S)	0.15	0.17	0.24	0.13	0.17	0.18	0.25	0.16
Route 7	Route 6 to Route 7B	0.93	**1.10**	0.83	0.99	**1.02**	**1.14**	0.92	**1.07**
Route 7	Route 7B to Route 7A	**1.07**	0.88	0.67	**1.07**	**1.16**	0.92	0.77	**1.13**
Route 7A	Route 8 to Route 33	0.97	0.49	**1.06**	0.65	**1.19**	0.56	**1.12**	0.93
Route 7A	Route 33 to Route 4	0.89	0.65	**1.09**	0.56	**1.14**	0.75	**1.20**	0.85
Route 7A	Route 4 to Route 7	0.38	0.60	0.36	0.42	0.41	0.65	0.38	0.48
Route 7A	West of Route 7	0.35	0.37	0.59	0.28	0.37	0.48	0.67	0.38
Route 7B	Route 7 to Route 4	0.50	0.86	0.85	0.60	0.59	0.94	0.92	0.71
Route 8	Bar. Main Gate To Route 16	0.49	0.37	0.17	0.20	0.48	0.35	0.15	0.18
Route 8	Route 16 to Route 10	**1.02**	**1.04**	1.00	0.89	**1.02**	0.89	0.88	0.90

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 54: Roadway V/C for No Build Alternative - Central Region, 2030 (Continued)

Roadway		Existing				2030 No Build			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 8	Route 10 to Route 33 (E)	0.62	**1.13**	0.97	0.68	0.55	0.95	0.81	0.61
Route 8	Route 33 (E) to Route 33 (W)	0.89	**1.13**	**1.14**	0.78	0.98	**1.16**	**1.29**	**1.03**
Route 8	Route 33 (W) to Route 1	0.39	0.81	0.81	0.51	0.52	0.91	0.98	0.59
Route 10	Route 8 to Route 15	**1.14**	0.70	0.70	0.89	**1.26**	0.80	0.77	1.00
Route 10	Route 15 to Route 32	**1.05**	0.86	0.80	0.85	**1.17**	0.95	0.90	0.96
Route 10	Route 32 to Route 4	**1.05**	0.81	0.75	0.82	**1.11**	0.86	0.83	0.89
Route 10A	Route 16 to Sunset Blvd.	0.65	**2.26**	**1.55**	**1.15**	0.34	**1.13**	0.86	0.65
Route 10A	Sunset Blvd. to Route 1	0.82	**1.91**	**1.47**	**1.34**	0.50	**1.27**	**1.10**	0.78
Route 11	West of Route 1	0.15	0.67	0.59	0.13	0.14	0.66	0.58	0.12
Route 14	Route 14A to Route 14B	0.24	0.68	0.73	0.45	0.27	0.80	0.84	0.52
Route 14	Route 14B to Route 1 (S)	0.38	0.46	0.60	0.51	0.45	0.58	0.70	0.60
Route 14A	Route 14 to Route 1	0.41	0.47	0.78	0.65	0.43	0.57	0.86	0.67
Route 14B	Route 14 to Route 1	0.61	0.69	0.73	0.71	0.83	0.78	0.87	0.95
Route 15	Route 26 to Bar. South Gate	0.69	**1.05**	0.90	0.76	0.75	**1.11**	**1.06**	0.84
Route 15	Bar. South Gate to Route 10	0.46	0.93	0.90	0.62	0.60	0.99	**1.02**	0.74
Route 15	Route 10 to Route 4	0.48	0.58	0.37	0.33	0.55	0.66	0.43	0.38
Route 16	Route 10A to Bar. Main Gate	**1.03**	**1.01**	**1.09**	**1.09**	**1.07**	0.89	**1.05**	**1.13**
Route 16	Bar. Main Gate to Route 8	0.89	0.91	0.87	0.95	0.76	0.94	0.89	0.85
Route 25	Route 16 to Route 26	0.39	**1.70**	**1.40**	0.68	0.38	**1.85**	**1.53**	0.96
Route 26	Route 25 to Route 15	**1.20**	0.81	0.84	**1.10**	**1.41**	0.89	**1.01**	**1.31**
Route 30	North of Route 1	0.32	0.51	0.47	0.47	0.39	0.58	0.56	0.54
Route 33	Route 8 (E) to Route 7A	0.75	0.95	0.53	0.29	0.71	1.00	0.59	0.31
Route 33	Route 7A to Route 8 (W)	0.26	0.48	0.14	0.03	0.27	0.49	0.16	0.04
Tiyan Pkwy	Route 1 to Route 8	- [1]	- [1]	- [1]	- [1]	0.82	0.67	0.73	0.90

Notes:
[1] Roadway does not exist in Existing Conditions.
Bold indicates volume-to-capacity ratio greater than 1.00.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 55: Roadway V/C for No Build Alternative - South Region, 2030

Roadway		Existing				2030 No Build			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 2	Route 2A to Route 12	**1.25**	0.41	0.53	0.99	**1.38**	0.44	0.57	**1.09**
Route 2	Route 12 to Nimitz Beach	**1.12**	0.75	0.57	0.86	**1.25**	0.84	0.64	0.98
Route 2	Nimitz Beach to Route 4	0.41	0.41	0.35	0.35	0.47	0.47	0.40	0.40
Route 2A	Route 5 to Route 2	0.91	0.48	0.46	0.76	**1.02**	0.51	0.49	0.85
Route 4	Route 17 to Route 4A	0.89	0.89	0.47	0.47	0.99	0.99	0.56	0.57
Route 4	Route 4A to Inarajan	0.37	0.47	0.30	0.23	0.44	0.55	0.37	0.28
Route 4	Inarajan to Route 2	0.23	0.23	0.17	0.12	0.26	0.26	0.20	0.15
Route 4A	Route 17 to Route 4	0.48	0.30	0.25	0.37	0.54	0.32	0.29	0.42
Route 5	Route 2A to Route 17	0.33	0.83	0.53	0.24	0.36	0.93	0.62	0.29
Route 5	Route 17 to Route 12	0.19	0.18	0.12	0.12	0.21	0.19	0.14	0.15
Route 12	Route 5 to Route 2	0.47	0.84	0.49	0.32	0.50	0.90	0.54	0.37
Route 17	Route 5 to Route 4A	0.21	0.74	0.47	0.23	0.23	0.82	0.55	0.26
Route 17	Route 4A to Route 4	0.64	0.35	0.28	0.41	0.71	0.39	0.36	0.48

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Intersection-Level Conditions

The roadway segment LOS for the 2030 No-Build Alternative shown in Exhibit 56 to Exhibit 61 , and is compared to Existing Conditions in Exhibit 62 to Exhibit 64. The exhibits show a general increase in traffic delay over time in the north and central regions (the south would remain uncongested). Some of the biggest delays would occur at stopped controlled intersections where vehicles turning into or out of the side street would have difficulty finding usable gaps in the passing traffic stream.

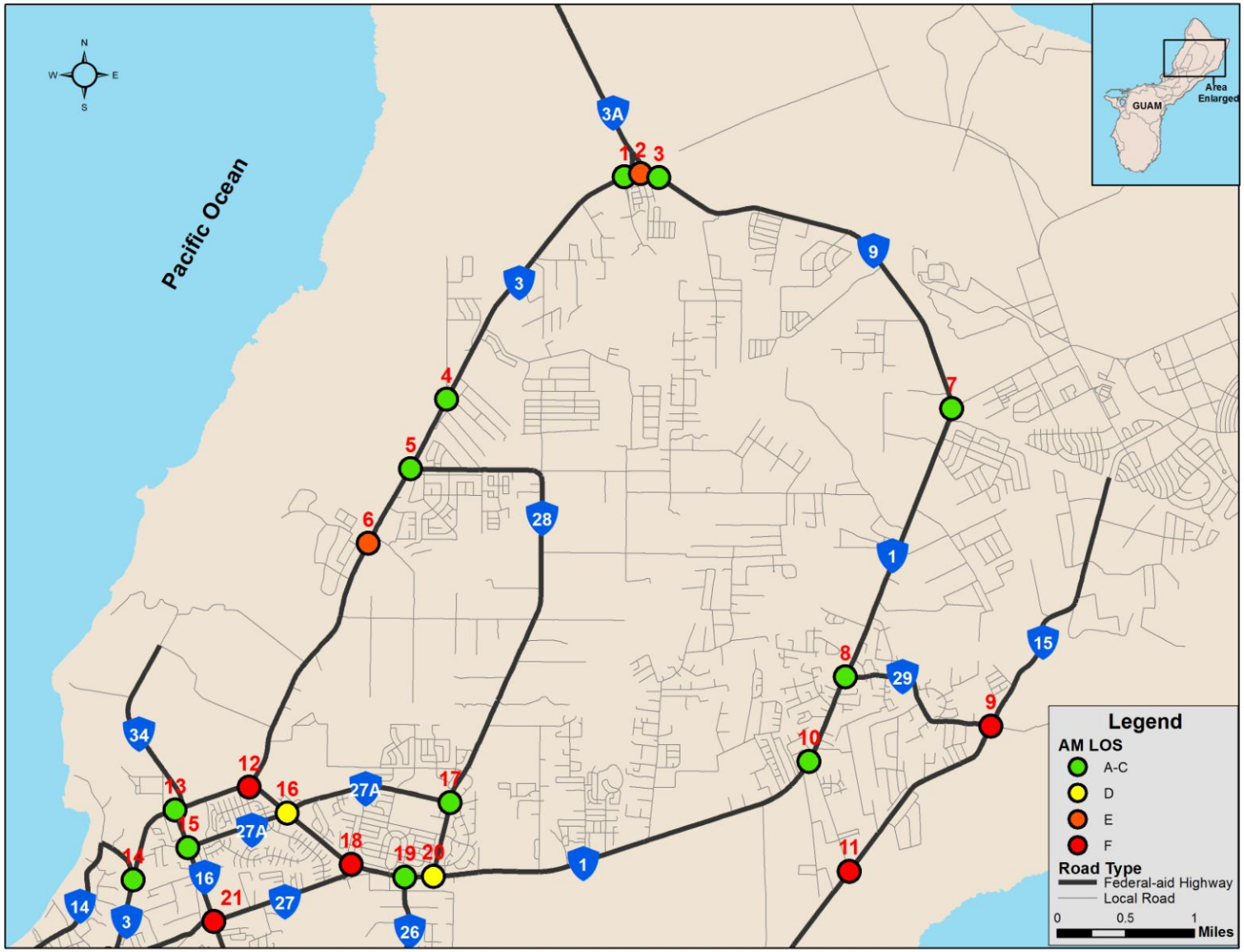


Exhibit 56: Intersection LOS for No Build Alternative, AM Peak Hour – North Region, 2030

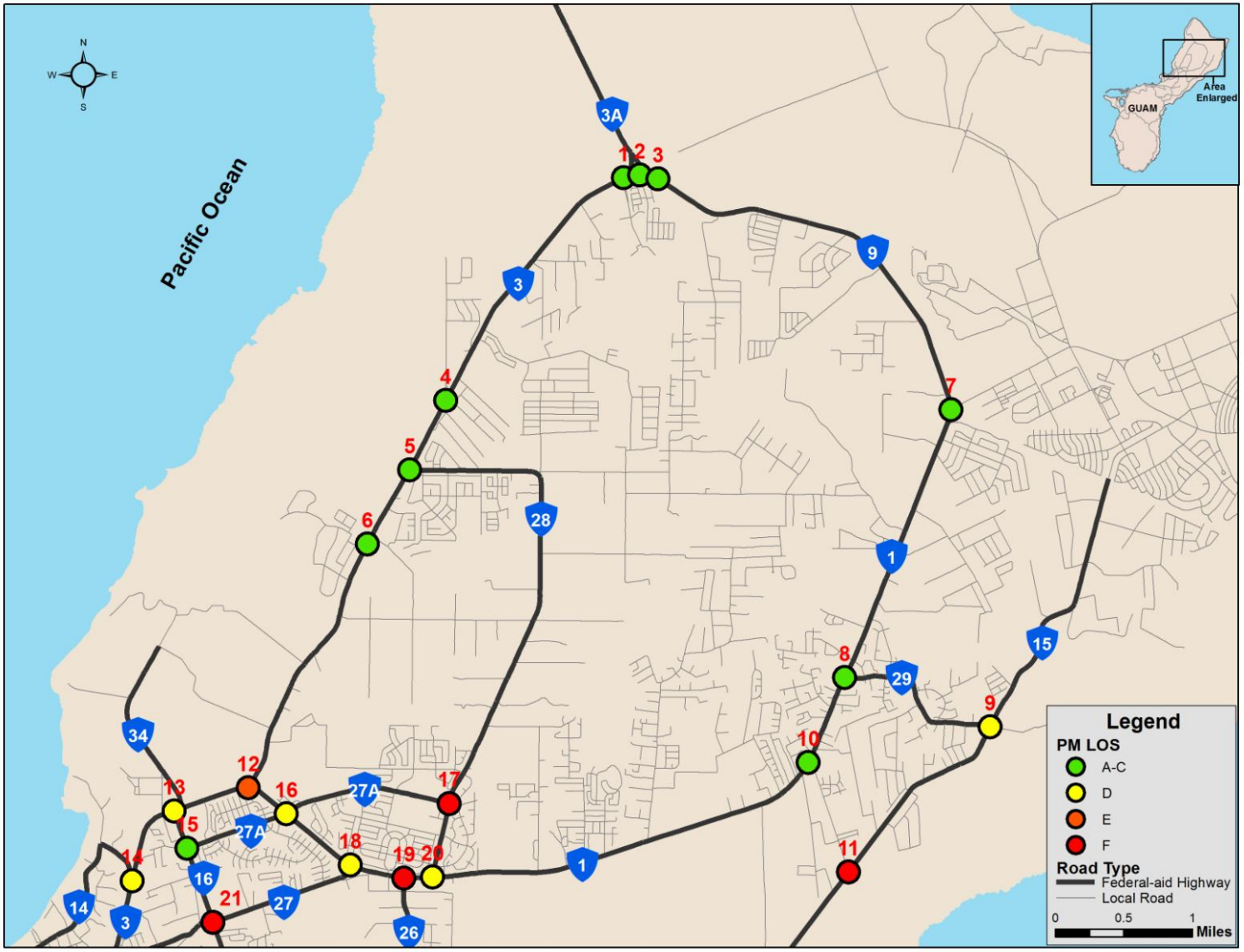


Exhibit 57: Intersection LOS for No Build Alternative, PM Peak Hour – North Region, 2030

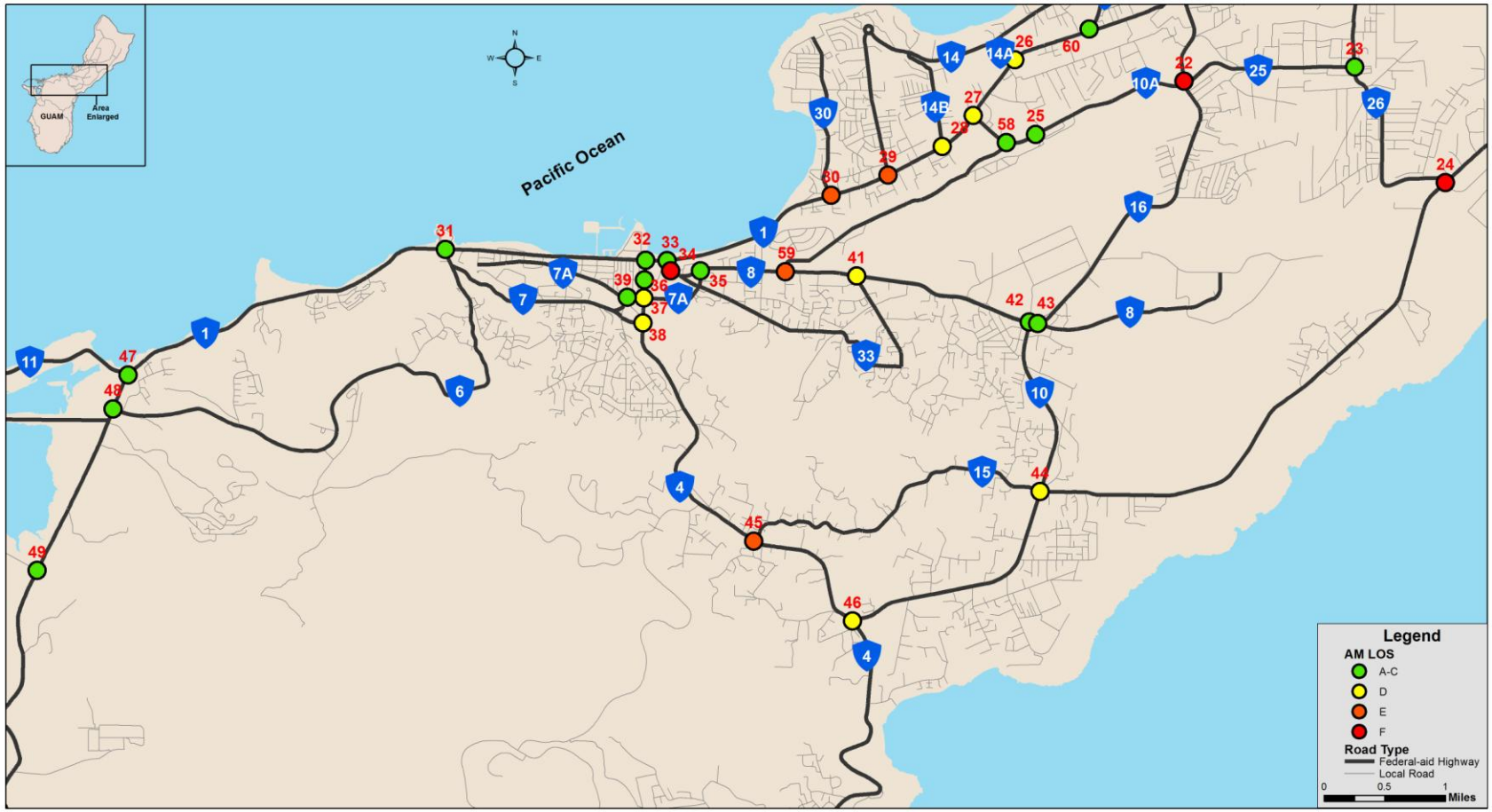


Exhibit 58: Intersection LOS for No Build Alternative, AM Peak Hour – Central Region, 2030

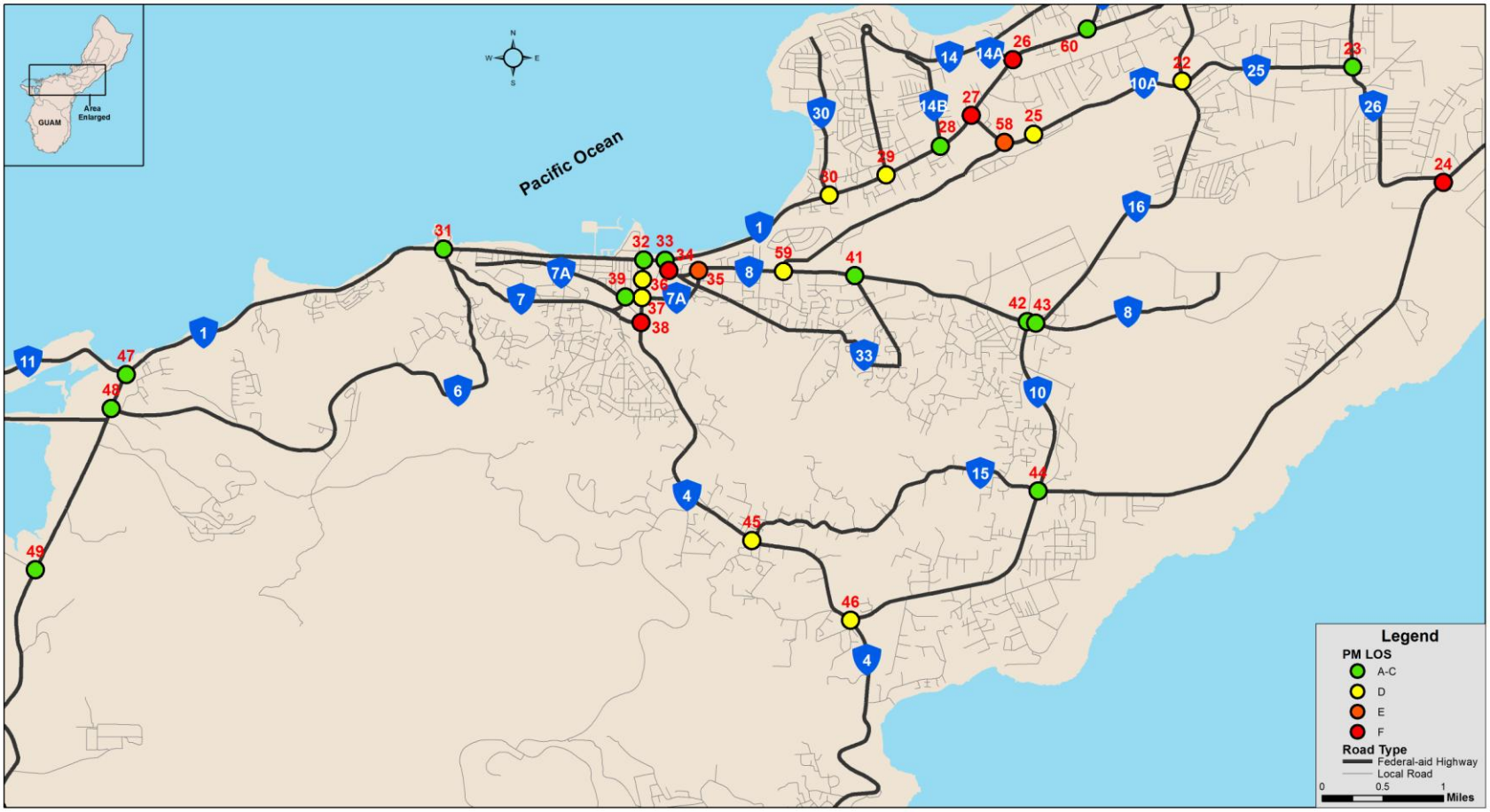


Exhibit 59: Intersection LOS for No Build Alternative, PM Peak Hour – Central Region, 2030

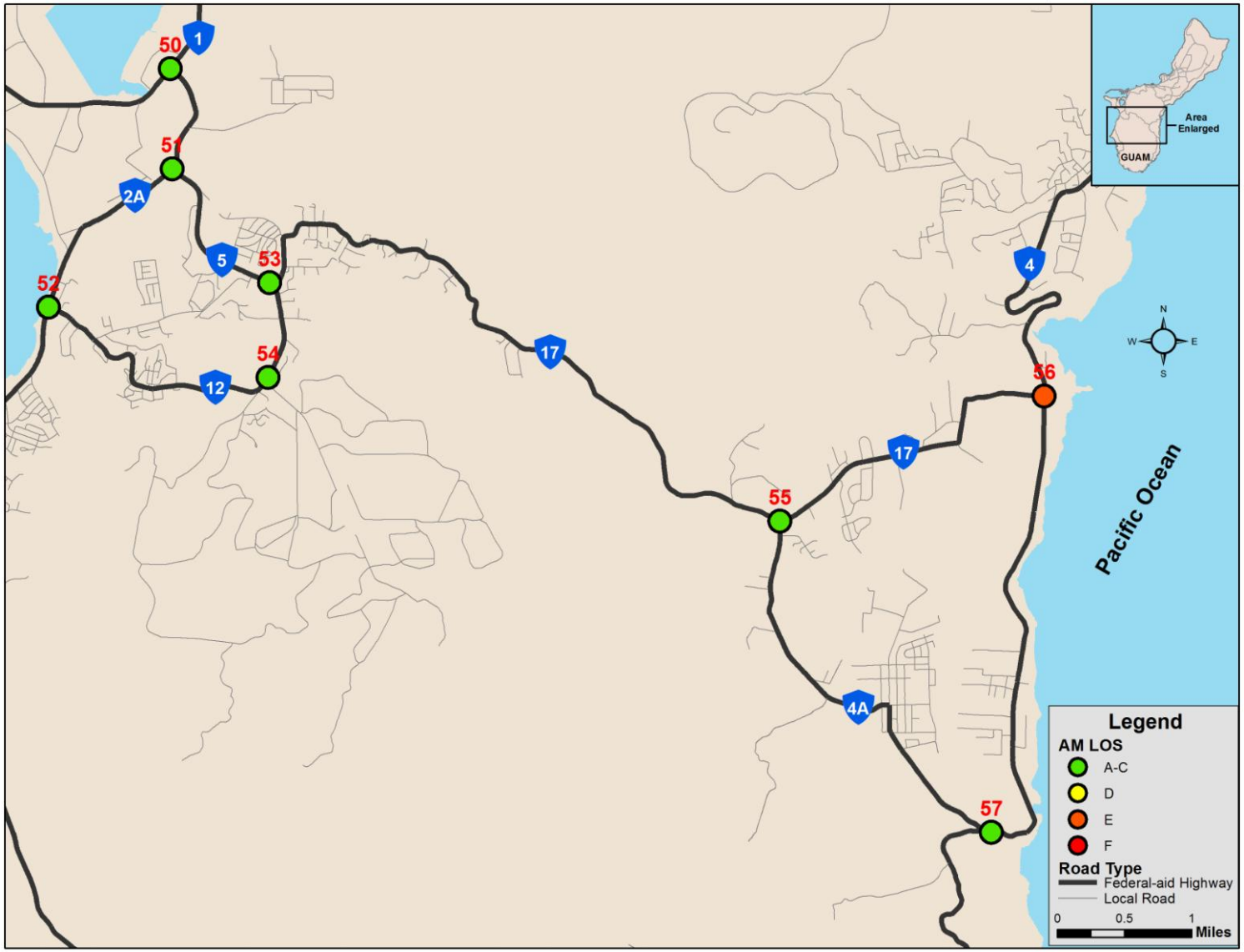


Exhibit 60: Intersection LOS for No Build Alternative, AM Peak Hour – South Region, 2030

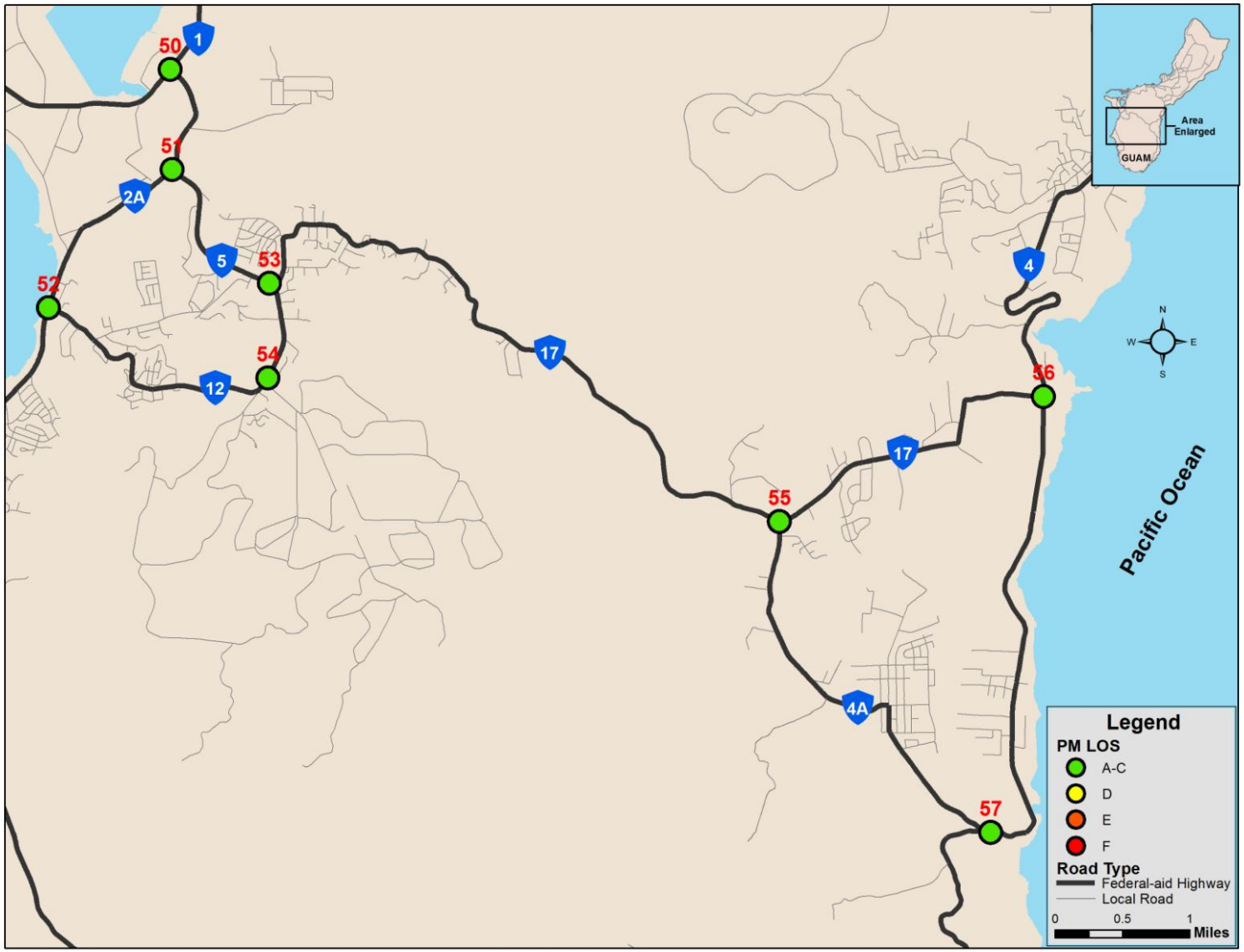


Exhibit 61: Intersection LOS for No Build Alternative, PM Peak Hour – South Region, 2030

Exhibit 62: Intersection LOS for No Build Alternative, North Region 2030

Intersection			Existing Conditions				No Build Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	12.9	B	10.2	B	16.1	C	11.5	B
2	Route 3/9 / Chalan Santa Anita	TWSC	21.9	C	12.8	B	37.7	E	15.0	B
3	Route 9 / Route 3A	TWSC	13.9	B	12.0	B	14.7	B	13.6	B
4	Route 3 / Bullard Avenue	TWSC	16.3	C	11.8	B	19.0	C	12.4	B
5	Route 3 / Route 28	Signalized	27.5	C	18.9	B	33.7	C	23.2	C
6	Route 3 / Royal Palm Drive	TWSC	25.0	C	13.3	B	36.4	E	14.8	B
7	Route 1/9 / AAFB Entrance	Signalized	9.3	A	9.7	A	10.4	B	11.6	B
8	Route 1 / Route 29	Signalized	43.2	D	21.0	C	34.2	C	23.3	C
9	Route 15 / Route 29	TWSC	**51.3**	**F**	21.7	C	**102.0**	**F**	31.2	D
10	Route 1 / Chalan Lajuna	Signalized	21.4	C	16.3	B	19.9	B	13.8	B
11	Route 15 / Chalan Lajuna	TWSC	30.7	D	23.9	C	**75.8**	**F**	**82.6**	**F**
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	70.8	E	**> 180.0**	**F**	63.4	E
13	Route 1 / Route 16	Signalized	27.4	C	**81.5**	**F**	21.9	C	45.3	D
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	36.0	D	39.2	D	32.4	C	43.2	D
15	Route 16 / Route 27A	Signalized	19.6	B	28.7	C	24.0	C	18.8	B
16	Route 1 / Route 27A	Signalized	68.4	E	52.9	D	37.3	D	46.4	D
17	Route 28 / Route 27A	AWSC	10.4	B	43.8	E	11.7	B	**65.0**	**F**
18	Route 1 / Route 27	Signalized	70.3	E	43.8	D	**118.3**	**F**	50.2	D
19	Route 1 / Route 26	Signalized	23.3	C	27.9	C	34.4	C	**87.6**	**F**
20	Route 1 / Route 28	Signalized	35.2	D	37.0	D	53.5	D	37.1	D
21	Route 16 / Route 27	Signalized	50.1	D	71.2	E	**> 180.0**	**F**	**154.7**	**F**

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

Exhibit 63: Intersection LOS for No Build Alternative, Central Region 2030

Intersection			Existing Conditions				No Build Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
22	Route 16 / Route 10A	Signalized	**143.3**	**F**	42.3	D	**> 180.0**	**F**	49.1	D
23	Route 26 / Route 25	Signalized	**> 180.0**	**F**	**> 180.0**	**F**	26.2	C	9.6	A
24	Route 15 / Route 26	TWSC	**62.1**	**F**	**147.3**	**F**	**145.2**	**F**	**> 180.0**	**F**
25	Route 10A / Sunset Blvd (Airport)	Signalized	37.1	D	54.9	D	27.6	C	54.4	D
26	Route 1 / Route 14A	Signalized	34.5	C	**156.1**	**F**	35.2	D	**> 180.0**	**F**
27	Route 1 / Route 10A	Signalized	35.0	C	62.6	E	53.0	D	**139.3**	**F**
28	Route 1 / Route 14B	Signalized	26.0	C	33.5	C	38.3	D	30.4	C
29	Route 1 / Route 14	Signalized	64.3	E	39.9	D	73.4	E	50.8	D
30	Route 1 / Route 30	Signalized	36.0	D	39.9	D	55.1	E	42.5	D
31	Route 1 / Route 6 (Adelup)	Signalized	20.8	C	23.9	C	18.3	B	25.6	C
32	Route 1 / Route 4	Signalized	19.1	B	17.6	B	10.1	B	16.7	B
33	Route 1 / Route 8	Signalized	16.0	B	18.3	B	14.9	B	19.6	B
34	Route 8 / Chalan Santo Papa	TWSC	**55.1**	**F**	**53.0**	**F**	**86.5**	**F**	**158.9**	**F**
35	Route 8 / Route 7A	Signalized	17.3	B	25.2	C	19.6	B	58.2	E
36	Route 4 / Chalan Santo Papa	Signalized	42.5	D	43.3	D	31.3	C	37.6	D
37	Route 4 / Route 7A	Signalized	43.2	D	54.2	D	50.1	D	53.4	D
38	Route 4 / Route 7B	TWSC	21.1	C	45.7	E	32.3	D	**161.3**	**F**
39	Route 7A / Route 7	Signalized	23.5	C	24.9	C	29.4	C	26.6	C
40	Route 8 / Sunset Blvd	TWSC	13.5	B	15.0	B	-[3]	-[3]	-[3]	-[3]
41	Route 8 / Route 33	Signalized	33.4	C	28.4	C	40.7	D	17.8	B
42	Route 8 / Route 10	Signalized	25.6	C	26.9	C	24.8	C	24.7	C
43	Route 16 / Route 8A	Signalized	32.9	C	9.6	A	17.2	B	6.7	A
44	Route 10 / Route 15	Signalized	38.2	D	33.9	C	43.7	D	33.4	C
45	Route 4 / Route 15	Signalized	62.9	E	31.7	C	73.4	E	36.4	D
46	Route 4 / Route 10	Signalized	46.3	D	36.8	D	50.5	D	42.2	D
47	Route 1 / Route 11	Signalized	10.1	B	15.8	B	10.8	B	14.2	B
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	11.5	B	11.7	B	10.0	A	12.8	B
49	Route 1 / Polaris Point	Signalized	10.5	B	10.3	B	11.2	B	5.7	A
58	Tiyan Parkway / Route 10A	Signalized	-[3]	-[3]	-[3]	-[3]	34.5	C	60.5	E
59	Tiyan Parkway / Route 8	Signalized	-[3]	-[3]	-[3]	-[3]	58.2	E	47.0	D
60	Route 1 / Route 27 Extension	Signalized	-[3]	-[3]	-[3]	-[3]	19.9	B	9.0	A

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in identified scenario.

Exhibit 64: Intersection LOS for No Build Alternative, South Region 2030

Intersection			Existing Conditions				No Build Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
50	Route 1 / Route 2A	Signalized	16.1	B	23.4	C	13.6	B	22.9	C
51	Route 2A / Route 5	Signalized	20.4	C	17.4	B	20.9	C	18.4	B
52	Route 2 / Route 12	Signalized	26.2	C	13.4	B	26.1	C	14.6	B
53	Route 17 / Route 5	TWSC	15.2	C	11.4	B	18.3	C	13.5	B
54	Route 12 / Naval Magazine Entrance	TWSC	9.5	A	8.7	A	9.7	A	8.9	A
55	Route 17 / Route 4A	TWSC	17.2	C	17.4	C	21.8	C	24.1	C
56	Route 4 / Route 17	Signalized	45.4	D	15.1	B	62.6	E	21.5	C
57	Route 4 / Route 4A	TWSC	18.3	C	11.3	B	22.8	C	12.3	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

4. NO ACTION ALTERNATIVE

The 2010 FEIS Preferred Alternative[14], hereinafter called the No Action Alternative, is an officially adopted plan at this time and may proceed if no action is taken to supersede it with a different plan. The No-Action Alternative is no longer considered a reasonable alternative as it would not meet the purpose and need of the proposed action as defined in this SEIS. Foremost, it would be inconsistent with the new force posture adopted by the DOD in accordance with the April 27, 2012 Roadmap Adjustments, which provide for a materially smaller relocated force on Guam. Furthermore, the No-Action Alternative would neither satisfy the training requirements for the relocated Marines as mandated in Section 5063 of Title 10 of the U.S. Code, nor satisfy the individual live-fire training requirements as described in the Final EIS and ROD.

This chapter updates the 2010 FEIS traffic study of the No Action Alternative in several ways:

- The 2010 FEIS assumed that Guam's 2010 civilian population would be approximately 188,000 people. However, when U.S. Census data later became available it was discovered that the 2010 population was actually less than 160,000. Using a lower growth rate along with the lower base population for 2010, DOD forecasters now believe that Guam's 2030 population will be approximately 181,000; 41,000 (18%) less than the FEIS assumption of 222,000.
- The list of assumed roadway improvements unrelated to the project has been revised (see Exhibit 27).

The impacts of the No Action Alternative were measured against the same significance thresholds as the Preferred Alternative (see Section 1.3) so that a direct apples-to-apples comparison can be made between the alternatives.

4.1 Description of the Alternative

This alternative featured the relocation of approximately 8,600 Marines and 9,000 dependents to Guam, with the Main Cantonment at the site of the existing NGBTS, and Family Housing at the NGBTS south Finegayan site. The two sites would be connected via an internal road running parallel to Route 3. There would be approximately 1,700 civilian workers at the Main Cantonment, not including USMC dependents working at the base. Marine training activities would take place at AAFB Andersen South (AAFB-AS), the NBG Munitions Site (NBGMS), and a new LFTRC on Route 15.

4.2 Traffic Impacts at Full Build-Out

System-Level Impacts

Exhibit 65 summarizes the system-level impact of the No Action Alternative at a system-wide level. The largest impacts would occur during the peak construction year, when VMT would rise by 18.5% and VHT by 29.6%. These are very large increases in a system-wide average and indicate severe worsening of conditions at many points in the system.

[14] See *2010 Final Environmental Impact Statement (EIS) for the Guam and Commonwealth of the Northern Mariana Islands (CNMI) Military Relocation*

Exhibit 65: System-Level Conditions for the No Action Alternative

System Indicator	No-Build Alternative	No Action Alternative	Change from No-Build
2030 Vehicle Miles Travelled	2,697,073	3,196,385	18.5%
2030 Vehicle Hours of Travel	105,960	137,358	29.6%
2030 Average Speed	25.5	23.3	-8.6%

Roadway-Level Impacts

Exhibit 66 through Exhibit 74 identify road segments where the No Action Alternative would have a significant traffic impact. Exhibit 72 through Exhibit 74 show the same information in tabular format. As can be seen in the exhibits, the No Action Alternative would have impacts along the entire length of Routes 3 and 9 and along much of Route 1 in the north region, all of Route 10 and much of Routes 1 and 16 in the central region, and some impacts on Routes 2A and 4 in the south region. These findings are largely consistent with the traffic study for the 2010 FEIS in that both found that there would be widespread traffic impacts if the project were implemented.

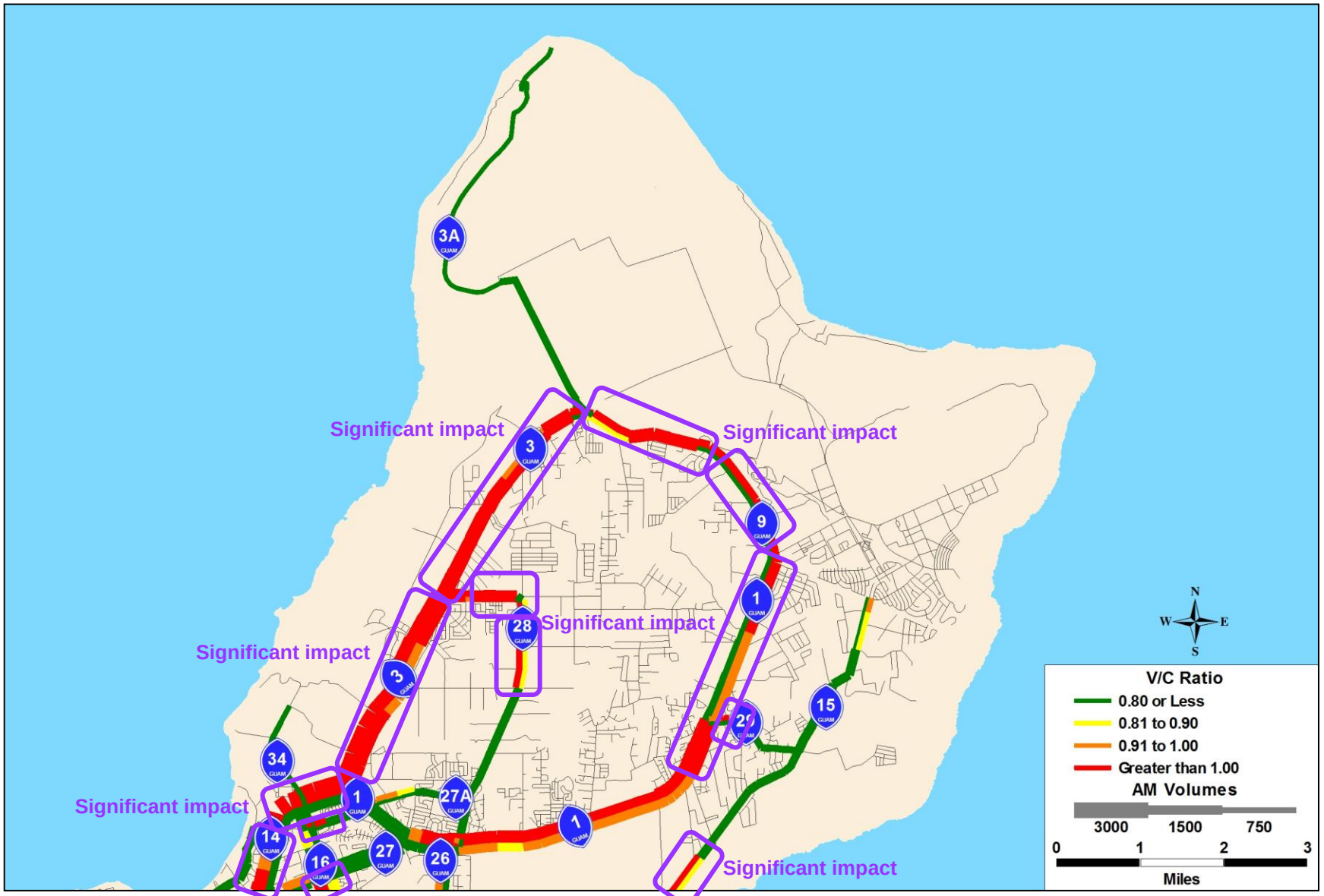


Exhibit 66: Roadway V/C for No Action Alternative, AM Peak Hour - North Region, 2030

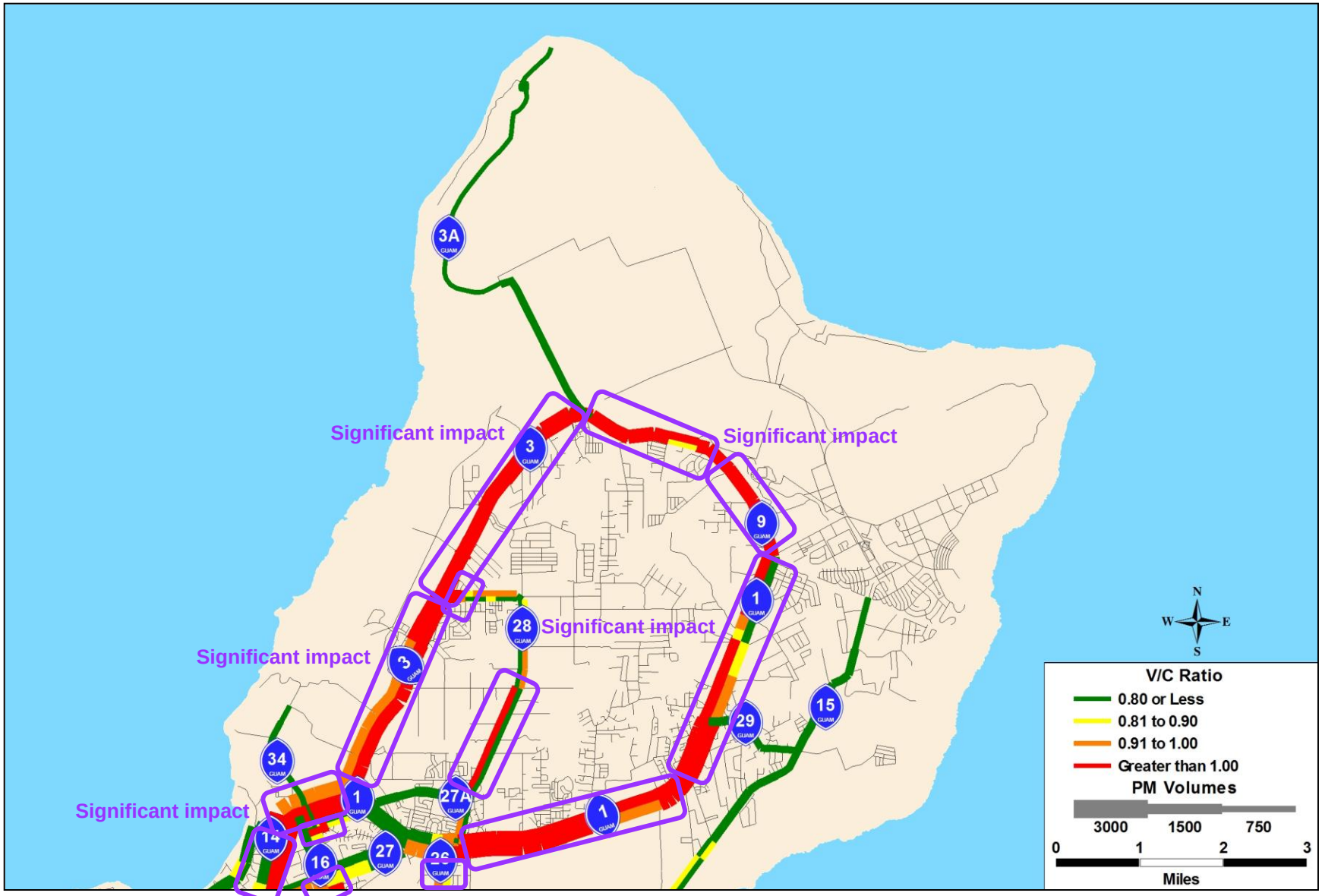


Exhibit 67: Roadway V/C for No Action Alternative, PM Peak Hour – North Region 2030

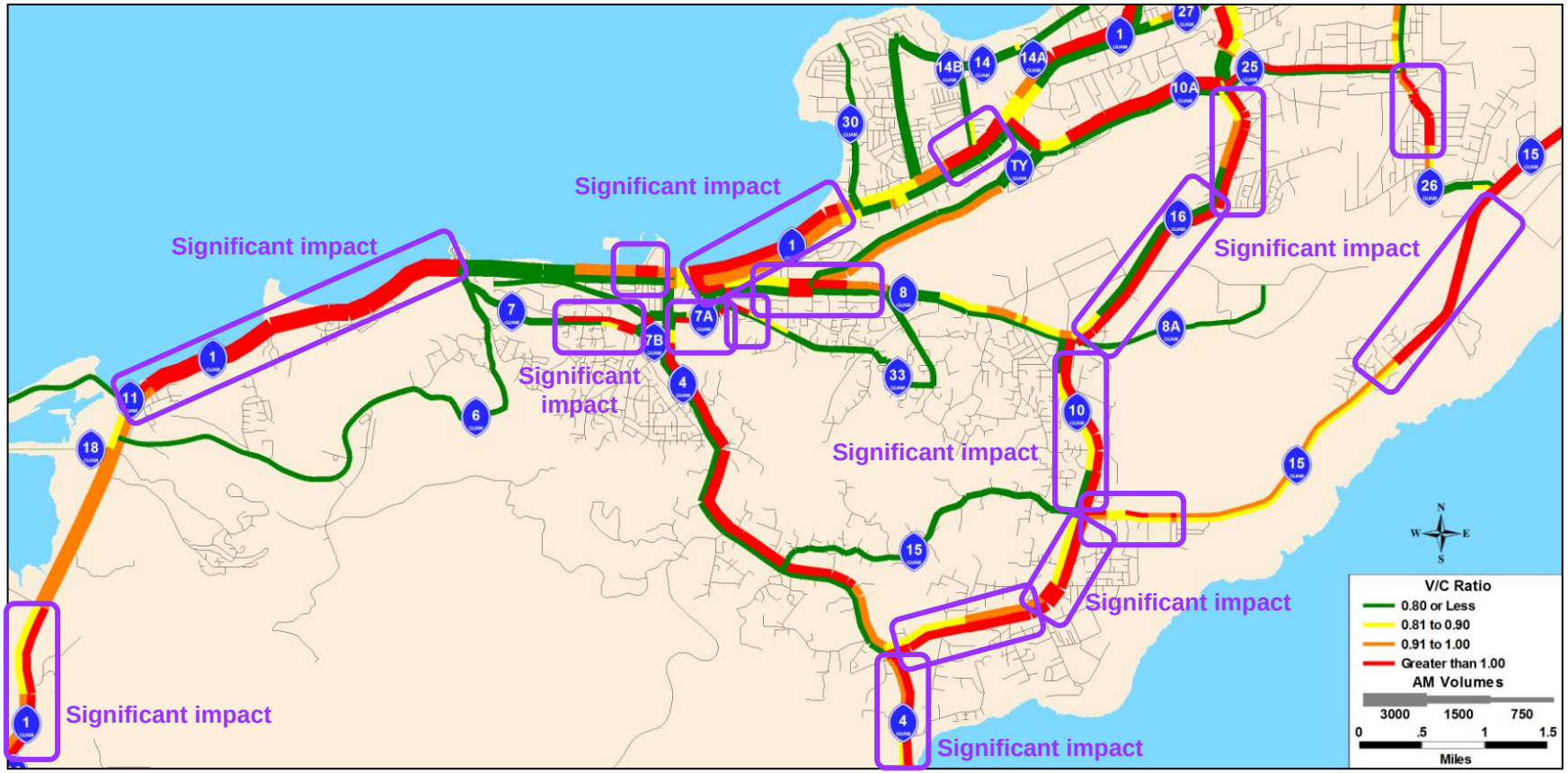


Exhibit 68: Roadway V/C for No Action Alternative, AM Peak Hour – Central Region 2030

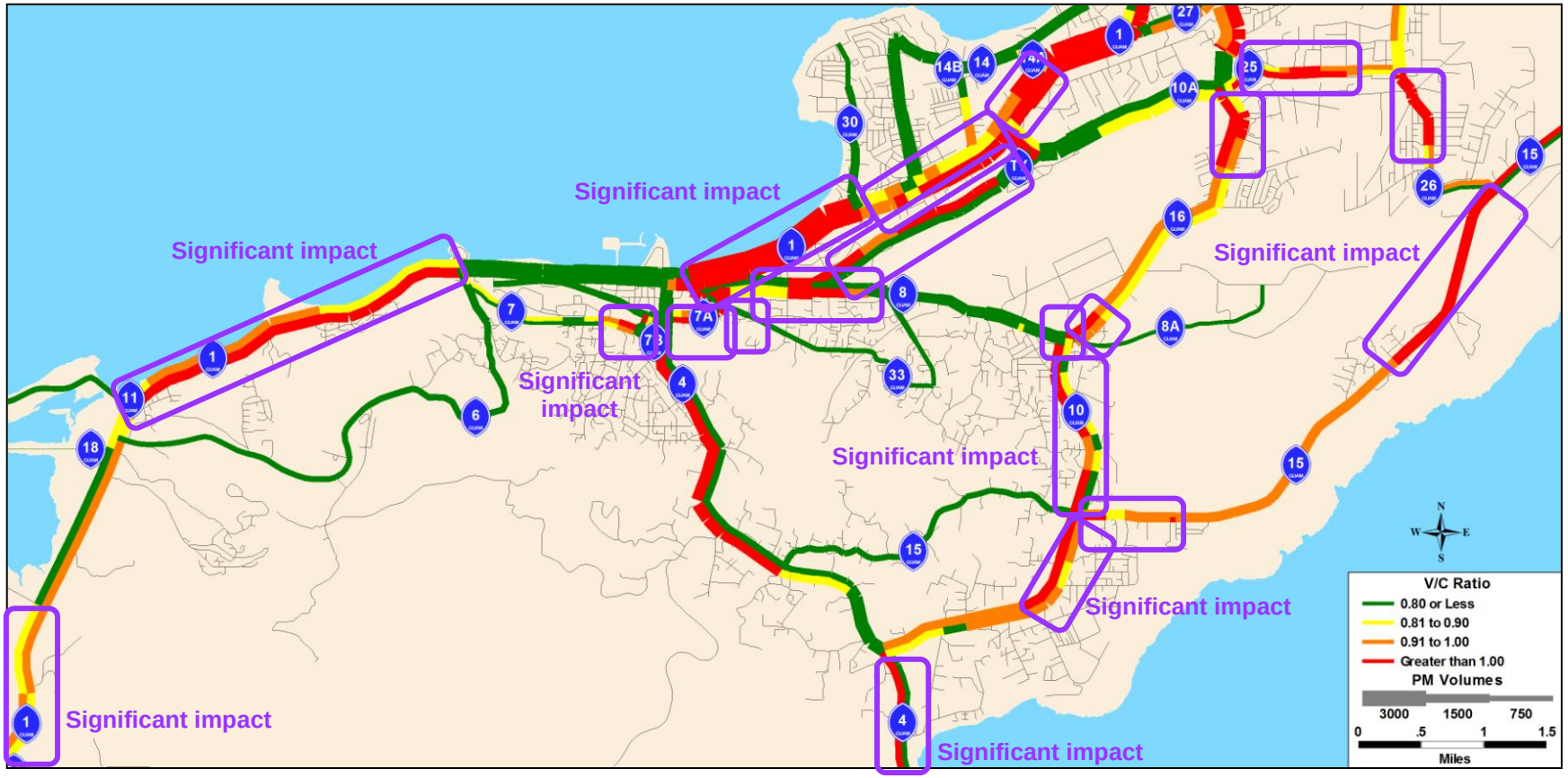


Exhibit 69: Roadway V/C for No Action Alternative, PM Peak Hour – Central Region, 2030

Exhibit 70: Roadway V/C for No Action Alternative, AM Peak Hour – South Region 2030

Exhibit 71: Roadway V/C for No Action Alternative, PM Peak Hour – South Region 2030

Exhibit 72: Roadway V/C for No Action Alternative, North Region, 2030

Roadway				2030 No Build				2030 No Action			
Route	Segment	Capacity		AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	1,600	1,600	0.49	0.68	0.67	0.71	**1.14**	0.78	1.00	**1.07**
Route 1	Route 29 to Chalan Lujuna	1,600	1,600	0.71	**1.10**	0.86	0.89	**1.18**	**1.20**	**1.19**	**1.26**
Route 1	Chalan Lujuna to Route 28	1,600	1,600	0.73	**1.38**	**1.29**	0.93	0.99	**1.40**	**1.32**	**1.18**
Route 1	Route 28 to Route 26	2,420	2,420	0.54	**1.04**	**1.05**	0.71	0.73	**1.06**	**1.09**	0.92
Route 1	Route 26 to Route 27	2,420	2,420	0.56	**1.10**	1.00	0.60	0.70	**1.12**	**1.02**	0.83
Route 1	Route 27 to Route 27A *	2,420	2,420	0.32	0.63	0.54	0.41	0.39	0.67	0.57	0.51
Route 1	Route 27A to Route 3 *	2,420	2,420	0.31	0.71	0.59	0.40	0.36	0.75	0.62	0.48
Route 1	Route 3 to Route 34	2,420	2,420	0.40	**1.53**	**1.01**	0.68	0.70	**1.71**	**1.26**	0.93
Route 1	Route 34 to Route 16	2,420	2,420	0.44	**1.35**	0.97	0.71	0.74	**1.52**	**1.22**	0.96
Route 1	Route 16 to Route 14 (N)	2,420	2,420	0.49	**1.26**	**1.20**	0.89	0.62	**1.38**	**1.37**	**1.01**
Route 1	Route 14 (N) to Route 14A	2,420	2,420	0.62	**1.12**	**1.32**	**1.08**	0.74	**1.22**	**1.47**	**1.19**
Route 3	Route 3A/9 to Fin. Main Gate	740	740	0.50	0.75	0.57	0.52	**1.43**	**1.77**	**1.50**	**1.98**
Route 3	Fin. Main Gate to Secondary Gate	740	740	0.49	**1.24**	0.68	0.56	**2.03**	**1.43**	**1.37**	**1.82**
Route 3	Fin. Secondary Gate to Route 28	740	740	0.70	**1.36**	0.91	0.74	**1.81**	**1.55**	**1.51**	**1.66**
Route 3	Route 28 to S. Fin. Main Gate	1,580	1,580	0.44	**1.25**	0.79	0.51	**1.19**	**1.59**	**1.30**	**1.11**
Route 3	S. Fin. Main Gate to Route 1	1,600	1,580	0.53	**1.35**	0.81	0.54	**1.02**	**1.69**	**1.31**	0.94
Route 3A	North of Route 3/9	740	740	0.11	0.03	0.02	0.13	0.77	0.22	0.05	0.75
Route 9	Route 3/3A to AAFB North Gate	740	740	0.48	0.56	0.42	0.40	**1.18**	**1.63**	**1.23**	**1.46**
Route 9	AAFB Main Gate to Route 1	740	740	0.52	0.38	0.30	0.47	0.79	**1.50**	**1.09**	**1.24**
Route 14	Route 1 to Gun Beach Rd.	1,600	1,600	0.26	0.64	0.64	0.63	0.28	0.67	0.68	0.66
Route 14	Gun Beach Rd. to Route 14A	1,600	1,600	0.51	0.36	0.36	0.76	0.56	0.38	0.40	0.82
Route 15	AAFB to Route 29	720	720	0.86	0.72	0.43	0.61	0.91	0.78	0.46	0.66
Route 15	Route 29 to Route 26	720	720	0.57	**1.08**	0.78	0.66	**1.24**	**1.13**	0.86	**1.20**
Route 16	Route 1 to Route 27A	2,420	2,420	0.35	0.50	0.53	0.48	0.52	0.56	0.61	0.61
Route 16	Route 27A to Route 27	2,420	2,420	0.36	0.74	0.73	0.52	0.53	0.81	0.81	0.64
Route 16	Route 27 to Route 10A	2,420	2,420	0.75	0.98	0.96	0.84	0.95	**1.04**	**1.03**	**1.01**
Route 26	Route 1 to Route 25 **	1,280	1,280	0.73	0.83	0.74	0.88	0.93	0.94	0.96	**1.02**
Route 27	Route 16 to Route 1	2,420	2,420	0.41	0.75	0.84	0.44	0.50	0.80	0.86	0.58
Route 27A	Route 16 to Route 1	756	756	0.72	**1.63**	**1.49**	0.96	0.80	**1.68**	**1.56**	**1.04**
Route 27A	Route 1 to Route 28	756	756	0.48	0.98	0.69	0.70	0.53	0.99	0.72	0.79
Route 28	Route 1 to Route 27A	720	720	0.51	0.90	0.99	0.79	0.72	0.92	**1.06**	0.95
Route 28	Route 27A to Chalan Balako	720	720	0.57	**1.16**	0.82	0.91	0.90	**1.23**	0.95	**1.19**
Route 28	Chalan Balako to Route 3	720	720	0.54	**1.48**	0.98	0.57	**1.14**	**1.62**	**1.19**	**1.10**
Route 29	Route 1 to Route 15	720	720	0.64	0.90	0.56	0.58	0.67	**1.06**	0.66	0.63
Route 34	North of Route 1	720	720	0.22	0.13	0.23	0.28	0.23	0.20	0.25	0.29

Notes:
* The widening of Route 27 will divert some traffic from Route 1.
** Route 26 will be widened so the volume-to-capacity ratio will decrease.
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 73: Roadway V/C for No Action Alternative, Central Region, 2030

Roadway				2030 No Build				2030 No Action			
Route	Segment	Capacity		AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 14A to Route 10A	2,420	2,420	0.76	0.84	**1.20**	**1.13**	0.87	0.92	**1.33**	**1.22**
Route 1	Route 10A to Route 14B	2,420	2,420	0.69	**1.13**	**1.26**	0.90	0.79	**1.22**	**1.38**	1.00
Route 1	Route 14B to Route 14 (S)	2,420	2,420	0.70	0.94	**1.11**	0.84	0.80	**1.02**	**1.23**	0.93
Route 1	Route 14 (S) to Route 30	2,420	2,420	0.90	0.83	0.90	0.83	0.99	0.90	**1.01**	0.91
Route 1	Route 30 to Route 8	2,420	2,420	0.98	1.00	**1.01**	1.00	**1.06**	**1.06**	**1.12**	**1.11**
Route 1	Route 8 to Route 4	2,420	2,420	0.78	0.85	0.91	0.68	0.93	0.92	**1.03**	0.79
Route 1	Route 4 to Route 6 (N)	2,420	2,420	0.58	0.96	0.66	0.69	0.72	**1.03**	0.78	0.78
Route 1	Route 6 (N) to Route 11	1,580	1,580	0.91	**1.05**	0.99	0.78	**1.11**	**1.14**	**1.16**	0.92
Route 1	Route 11 to Route 6 (S)	1,580	1,580	0.79	0.80	0.75	0.73	0.99	0.89	0.92	0.86
Route 1	Route 6 (S) to Route 18	1,580	1,580	0.79	0.80	0.76	0.71	0.99	0.89	0.93	0.84
Route 1	Route 18 to Route 2A	1,580	1,580	0.92	0.86	0.77	0.80	**1.11**	0.95	0.94	0.93
Route 2A	Route 1 to Route 5	1,580	1,580	0.75	0.40	0.38	0.72	0.92	0.41	0.39	0.81
Route 4	Route 1 to Route 33	2,420	2,420	0.49	0.27	0.41	0.46	0.53	0.28	0.46	0.53
Route 4	Route 33 to Route 7B	2,420	2,420	0.75	0.27	0.47	0.64	0.82	0.28	0.49	0.71
Route 4	Route 7B to Route 15	1,600	1,600	**1.39**	**1.39**	**1.29**	**1.29**	**1.43**	**1.43**	**1.34**	**1.34**
Route 4	Route 15 to Route 10	1,600	1,600	**1.11**	**1.12**	0.88	0.88	**1.11**	**1.12**	0.89	0.88
Route 4	Route 10 to Route 17	720	1,600	**1.63**	0.87	**1.21**	**1.42**	**2.02**	**1.09**	**1.48**	**1.71**
Route 6	Route 1 (N) to Route 7	777	777	0.71	0.61	0.87	0.59	0.73	0.62	0.88	0.60
Route 6	Route 7 to Murray Rd.	740	740	0.53	0.52	0.65	0.49	0.56	0.53	0.68	0.59
Route 6	Murray Rd. to Route 1 (S)	1,264	1,264	0.17	0.18	0.25	0.16	0.19	0.20	0.26	0.20
Route 7	Route 6 to Route 7B	756	756	**1.02**	**1.14**	0.92	**1.07**	**1.14**	**1.22**	0.98	**1.18**
Route 7	Route 7B to Route 7A	756	756	**1.16**	0.92	0.77	**1.13**	**1.21**	**1.01**	0.83	**1.19**
Route 7A	Route 8 to Route 33	720	1,280	**1.19**	0.56	**1.12**	0.93	**1.26**	0.62	**1.19**	**1.01**
Route 7A	Route 33 to Route 4	720	1,280	**1.14**	0.75	**1.20**	0.85	**1.23**	0.81	**1.27**	0.93
Route 7A	Route 4 to Route 7	1,600	1,600	0.41	0.65	0.38	0.48	0.44	0.71	0.41	0.51
Route 7A	West of Route 7	720	720	0.37	0.48	0.67	0.38	0.40	0.51	0.69	0.42
Route 7B	Route 7 to Route 4	720	720	0.59	0.94	0.92	0.71	0.63	0.96	0.93	0.77
Route 8	Bar. Main Gate To Route 16	720	720	0.48	0.35	0.15	0.18	0.48	0.36	0.17	0.18
Route 8	Route 16 to Route 10	1,600	1,600	**1.02**	0.89	0.88	0.90	**1.20**	0.96	0.97	**1.04**
Route 8	Route 10 to Route 33 (E)	1,600	1,600	0.55	0.95	0.81	0.61	0.61	0.97	0.82	0.66
Route 8	Route 33 (E) to Route 33 (W)	1,600	1,600	0.98	**1.16**	**1.29**	**1.03**	**1.17**	**1.24**	**1.35**	**1.13**
Route 8	Route 33 (W) to Route 1	1,600	1,600	0.52	0.91	0.98	0.59	0.67	**1.01**	**1.04**	0.63
Route 10	Route 8 to Route 15	1,600	1,600	**1.26**	0.80	0.77	1.00	**1.39**	0.86	0.85	**1.11**
Route 10	Route 15 to Route 32	1,600	1,600	**1.17**	0.95	0.90	0.96	**1.43**	**1.03**	0.98	**1.11**
Route 10	Route 32 to Route 4	1,600	1,600	**1.11**	0.86	0.83	0.89	**1.36**	0.96	0.93	**1.04**
Route 10A	Route 16 to Sunset Blvd.	2,420	2,420	0.34	**1.13**	0.86	0.65	0.46	**1.16**	0.90	0.74
Route 10A	Sunset Blvd. to Route 1	1,600	1,600	0.50	**1.27**	**1.10**	0.78	0.53	**1.30**	**1.15**	0.84
Route 11	West of Route 1	720	720	0.14	0.66	0.58	0.12	0.15	0.66	0.59	0.13
Route 14	Route 14A to Route 14B	1,600	1,600	0.27	0.80	0.84	0.52	0.39	0.86	0.89	0.61
Route 14	Route 14B to Route 1 (S)	2,420	1,600	0.45	0.58	0.70	0.60	0.49	0.65	0.77	0.64
Route 14A	Route 14 to Route 1	1,280	1,280	0.43	0.57	0.86	0.67	0.46	0.58	0.89	0.70
Route 14B	Route 14 to Route 1	720	720	0.83	0.78	0.87	0.95	0.89	0.82	0.94	**1.02**
Route 15	Route 26 to Bar. South Gate	720	720	0.75	**1.11**	**1.06**	0.84	**1.24**	**1.14**	**1.07**	**1.15**
Route 15	Bar. South Gate to Route 10	756	756	0.60	0.99	**1.02**	0.74	0.95	**1.05**	**1.06**	0.96
Route 15	Route 10 to Route 4	720	720	0.55	0.66	0.43	0.38	0.66	0.68	0.48	0.50
Route 16	Route 10A to Bar. Main Gate	1,600	1,600	**1.07**	0.89	**1.05**	**1.13**	**1.27**	0.95	**1.12**	**1.29**
Route 16	Bar. Main Gate to Route 8	1,600	1,600	0.76	0.94	0.89	0.85	0.83	**1.12**	**1.03**	0.93
Route 25	Route 16 to Route 26	720	720	0.38	**1.85**	**1.53**	0.96	0.54	**1.88**	**1.56**	**1.01**
Route 26	Route 25 to Route 15	720	720	**1.41**	0.89	**1.01**	**1.31**	**1.48**	**1.08**	**1.26**	**1.38**
Route 30	North of Route 1	1,600	720	0.39	0.58	0.56	0.54	0.41	0.60	0.57	0.56
Route 33	Route 8 (E) to Route 7A	720	720	0.71	1.00	0.59	0.31	0.74	**1.06**	0.63	0.34
Route 33	Route 7A to Route 8 (W)	720	720	0.27	0.49	0.16	0.04	0.27	0.50	0.16	0.05
Tiyan Pkwy	Route 1 to Route 8	1,600	1,600	0.82	0.67	0.73	0.90	0.98	0.71	0.79	**1.01**

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 74: Roadway V/C for No Action Alternative, South Region, 2030

Roadway				2030 No Build				2030 No Action			
Route	Segment	Capacity		AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 2	Route 2A to Route 12	740	740	**1.38**	0.44	0.57	**1.09**	**1.65**	0.46	0.60	**1.23**
Route 2	Route 12 to Nimitz Beach	740	740	**1.25**	0.84	0.64	0.98	**1.49**	1.00	0.67	**1.10**
Route 2	Nimitz Beach to Route 4	740	740	0.47	0.47	0.40	0.40	0.58	0.58	0.46	0.46
Route 2A	Route 5 to Route 2	740	740	**1.02**	0.51	0.49	0.85	**1.28**	0.52	0.52	0.99
Route 4	Route 17 to Route 4A	720	720	0.99	0.99	0.56	0.57	**1.20**	**1.20**	0.67	0.68
Route 4	Route 4A to Inarajan	720	720	0.44	0.55	0.37	0.28	0.56	0.70	0.46	0.36
Route 4	Inarajan to Route 2	740	740	0.26	0.26	0.20	0.15	0.33	0.33	0.22	0.16
Route 4A	Route 17 to Route 4	720	720	0.54	0.32	0.29	0.42	0.64	0.34	0.31	0.45
Route 5	Route 2A to Route 17	720	720	0.36	0.93	0.62	0.29	0.36	**1.07**	0.70	0.30
Route 5	Route 17 to Route 12	720	720	0.21	0.19	0.14	0.15	0.33	0.20	0.15	0.18
Route 12	Route 5 to Route 2	720	720	0.50	0.90	0.54	0.37	0.51	0.92	0.57	0.37
Route 17	Route 5 to Route 4A	720	720	0.23	0.82	0.55	0.26	0.24	0.89	0.61	0.27
Route 17	Route 4A to Route 4	720	720	0.71	0.39	0.36	0.48	0.89	0.47	0.43	0.57

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Intersection-Level Impacts

Exhibit 75 through Exhibit 80 identify intersections where the No Action Alternative would have a significant traffic impact. Exhibit 81 through Exhibit 83 show the same information in tabular format. As can be seen in the exhibits, the No Action Alternative would have significant impacts on 28 intersections. These findings are consistent with the traffic study for the 2010 FEIS, which found widespread traffic impacts if the project were implemented.

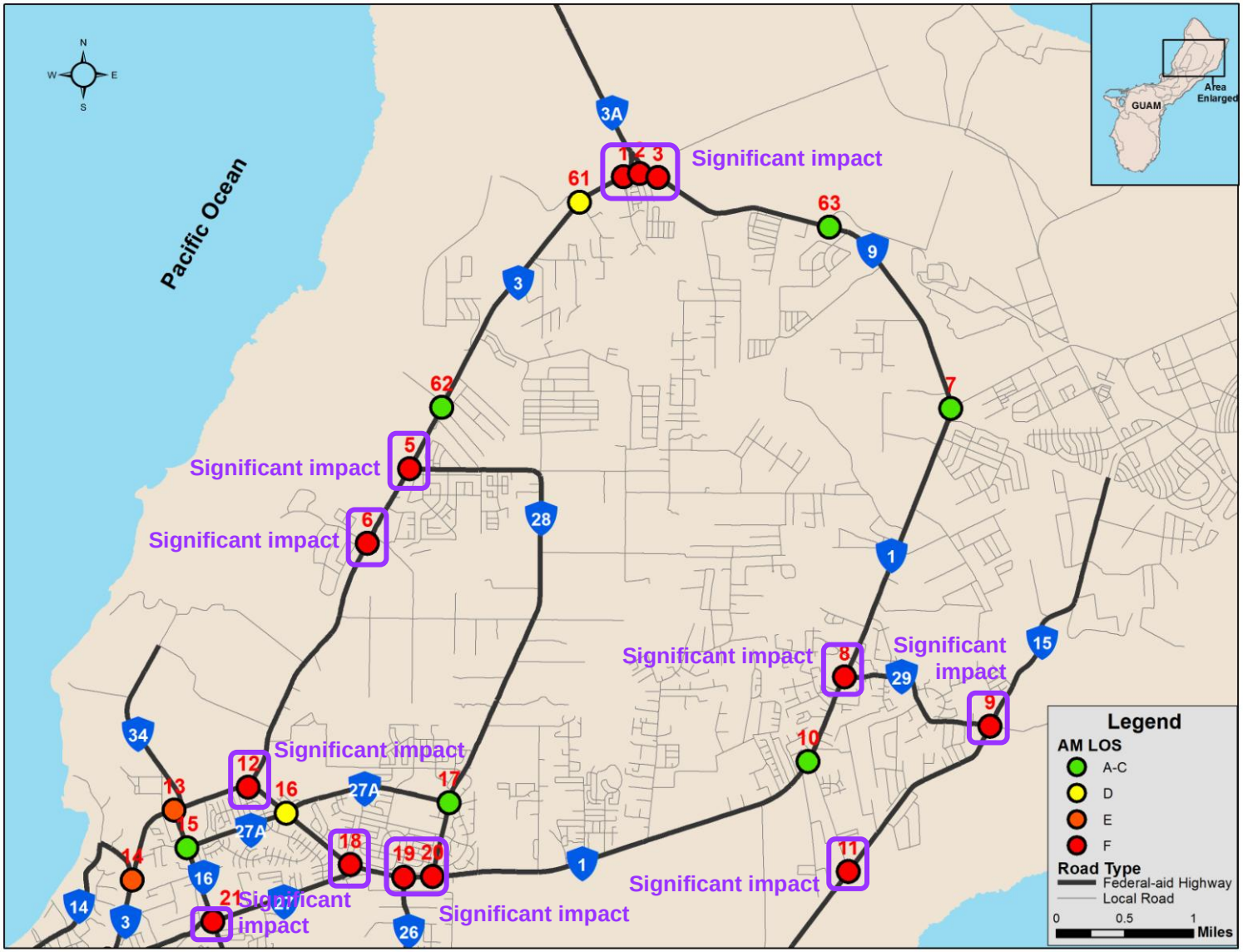


Exhibit 75: Intersection LOS for No Action Alternative, AM Peak Hour – North Region, 2030

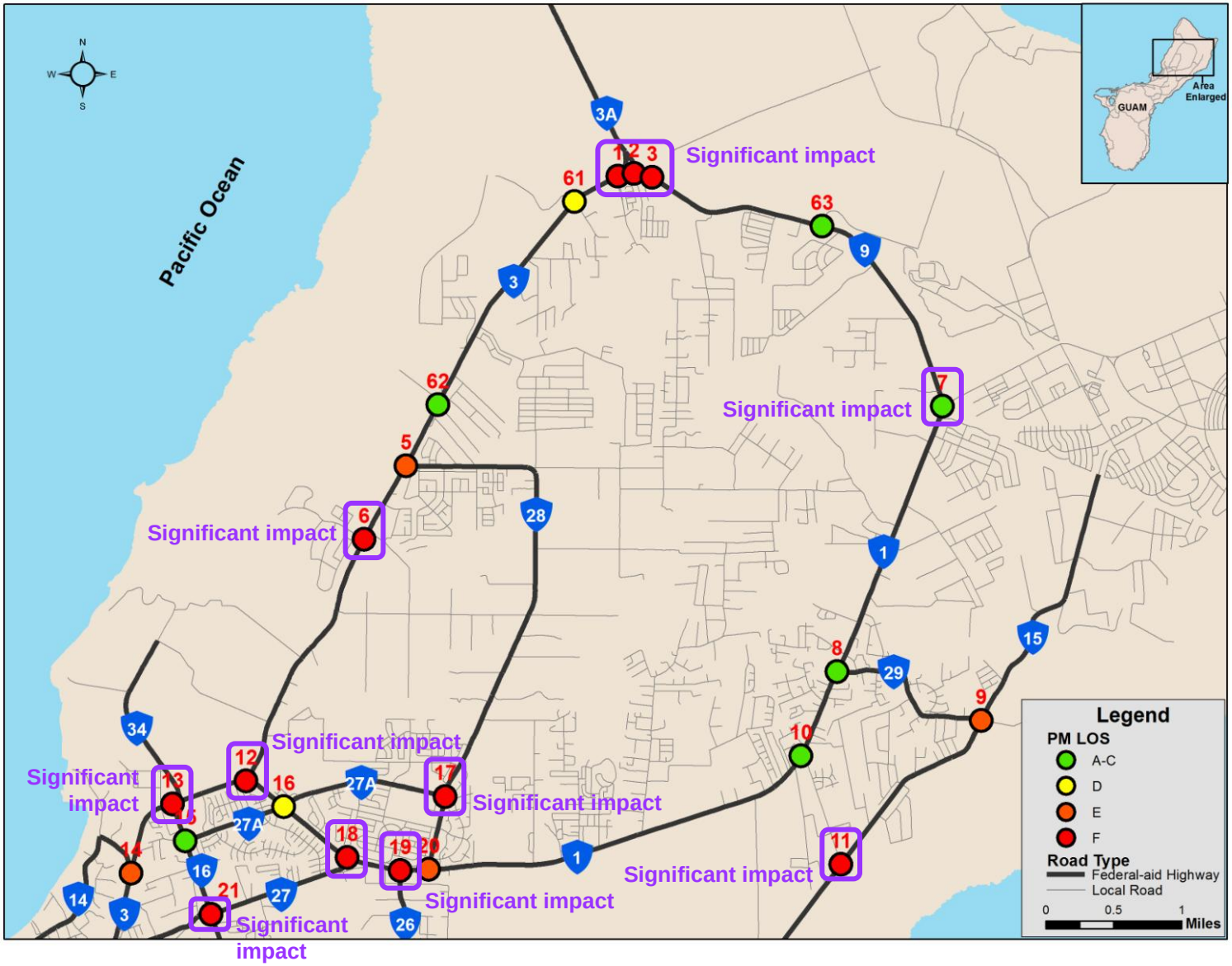


Exhibit 76: Intersection LOS for No Action Alternative, PM Peak Hour – North Region 2030

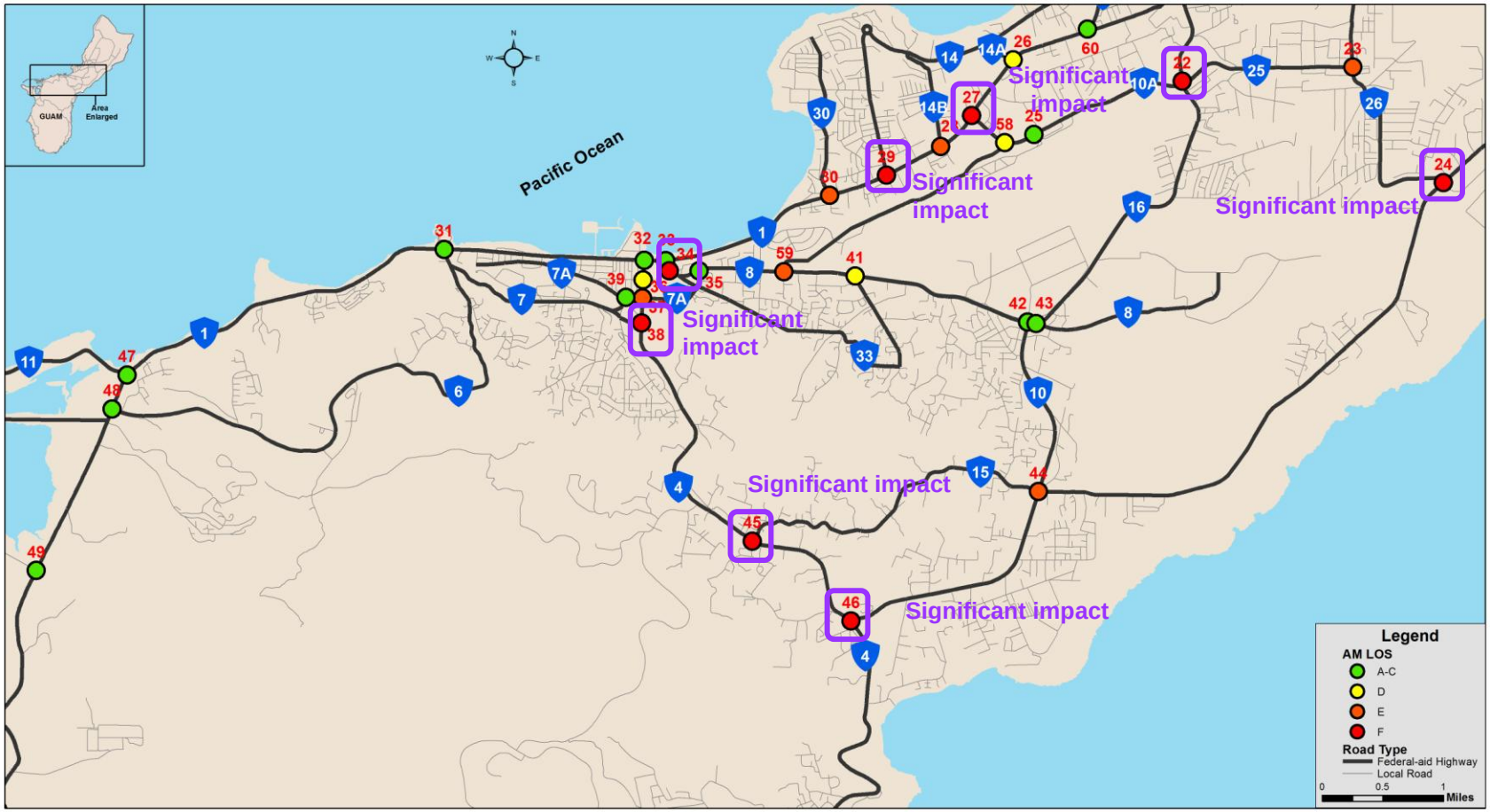


Exhibit 77: Intersection LOS for No Action Alternative, AM Peak Hour – Central Region 2030

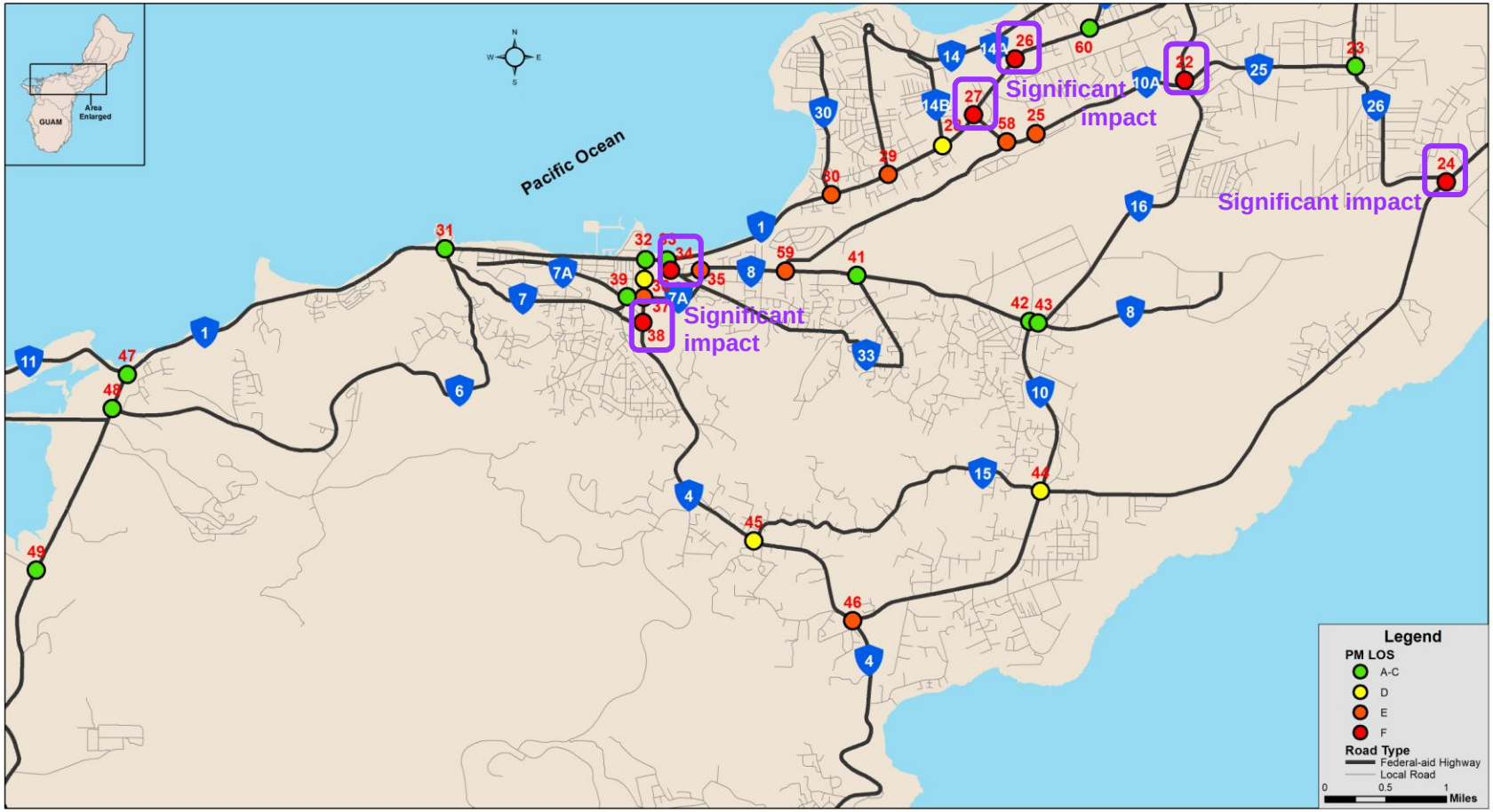


Exhibit 78: Intersection LOS for No Action Alternative, PM Peak Hour – Central Region 2030

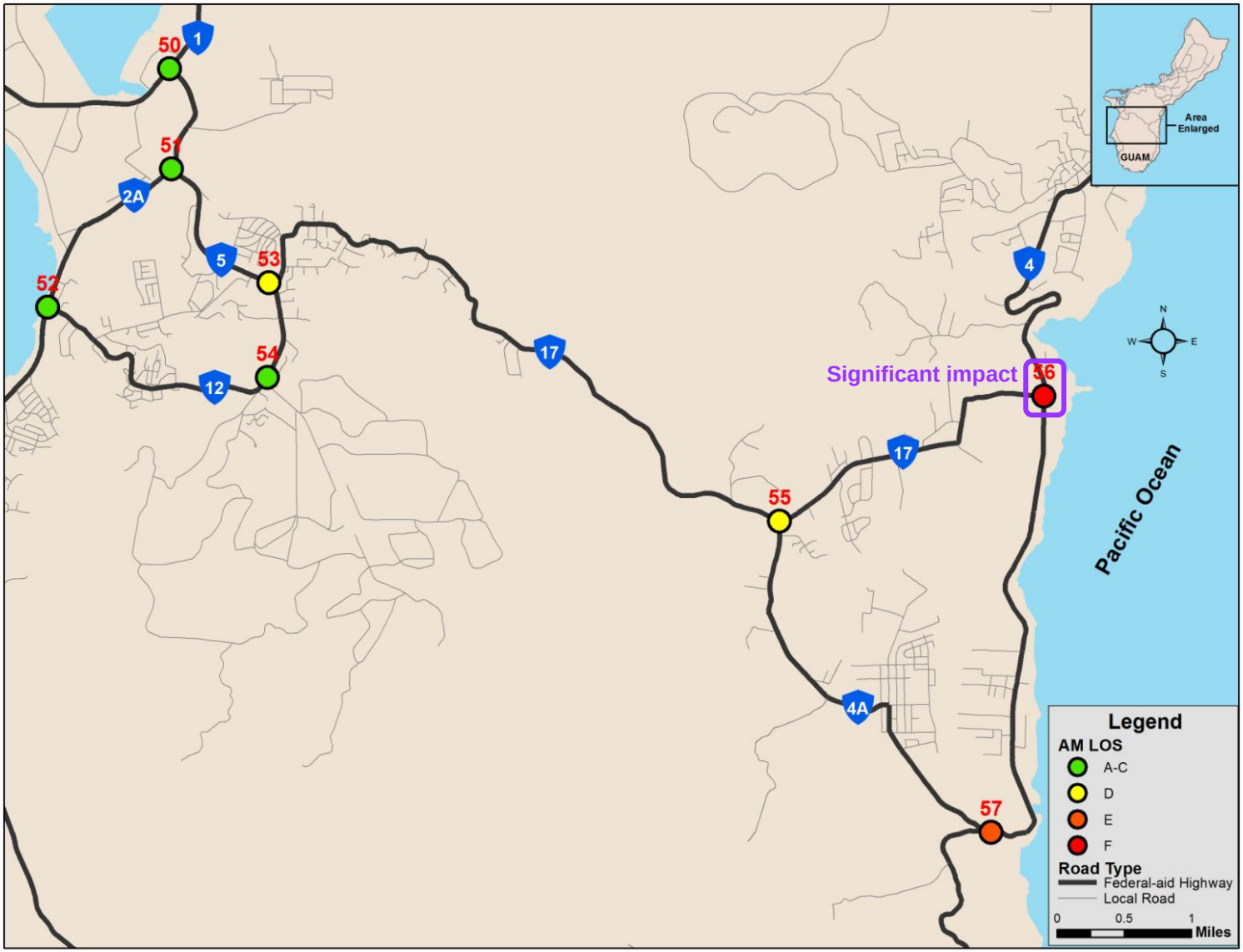


Exhibit 79: Intersection LOS for No Action Alternative, AM Peak Hour – South Region 2030

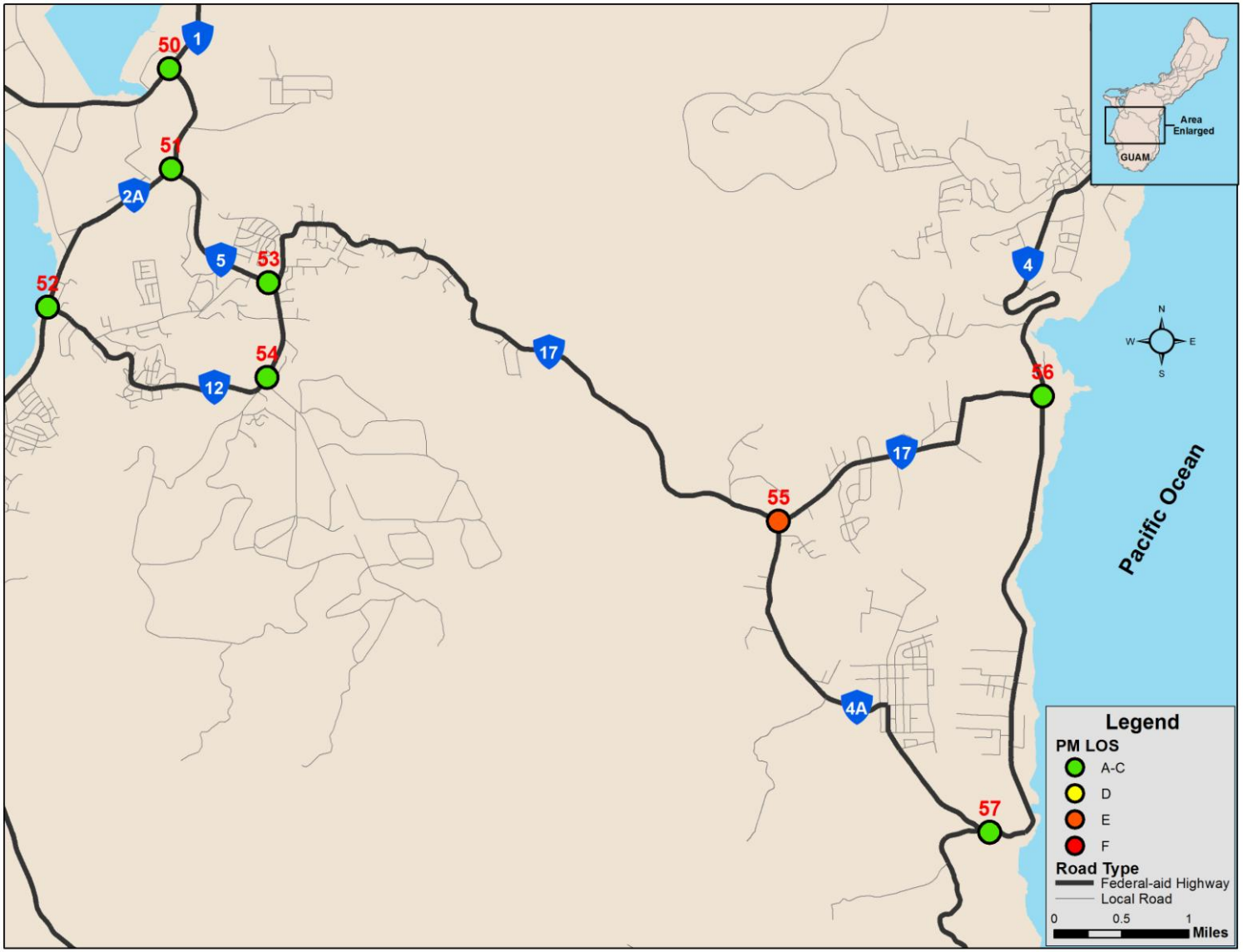


Exhibit 80: Intersection LOS for No Action Alternative, PM Peak Hour – South Region, 2030

Exhibit 81: Intersection LOS for No Action Alternative, North Region, 2030

Intersection			No Build Alternative				No Action Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	16.1	C	11.5	B	**> 180.0**	**F**	**> 180.0**	**F**
2	Route 3/9 / Chalan Santa Anita	TWSC	37.7	E	15.0	B	**> 180.0**	**F**	**> 180.0**	**F**
3	Route 9 / Route 3A	TWSC	14.7	B	13.6	B	**62.6**	**F**	**> 180.0**	**F**
4	Route 3 / Bullard Avenue	TWSC	19.0	C	12.4	B	-[3]	-[3]	-[3]	-[3]
5	Route 3 / Route 28	Signalized	33.7	C	23.2	C	**137.4**	**F**	65.6	E
6	Route 3 / Royal Palm Drive	TWSC	36.4	E	14.8	B	**> 180.0**	**F**	**> 180.0**	**F**
7	Route 1/9 / AAFB Entrance	Signalized	10.4	B	11.6	B	27.2	C	34.6	C
8	Route 1 / Route 29	Signalized	34.2	C	23.3	C	**110.8**	**F**	30.9	C
9	Route 15 / Route 29	TWSC	**102.0**	**F**	31.2	D	**> 180.0**	**F**	44.0	E
10	Route 1 / Chalan Lajuna	Signalized	19.9	B	13.8	B	28.4	C	19.0	B
11	Route 15 / Chalan Lajuna	TWSC	**75.8**	**F**	**82.6**	**F**	**> 180.0**	**F**	**> 180.0**	**F**
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	63.4	E	**> 180.0**	**F**	**177.3**	**F**
13	Route 1 / Route 16	Signalized	21.9	C	45.3	D	75.8	E	**128.0**	**F**
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	32.4	C	43.2	D	55.2	E	63.2	E
15	Route 16 / Route 27A	Signalized	24.0	C	18.8	B	32.4	C	21.5	C
16	Route 1 / Route 27A	Signalized	37.3	D	46.4	D	39.2	D	47.3	D
17	Route 28 / Route 27A	AWSC	11.7	B	**65.0**	**F**	18.2	C	**102.7**	**F**
18	Route 1 / Route 27	Signalized	**118.3**	**F**	50.2	D	**132.3**	**F**	**88.3**	**F**
19	Route 1 / Route 26	Signalized	34.4	C	**87.6**	**F**	**80.1**	**F**	**145.7**	**F**
20	Route 1 / Route 28	Signalized	53.5	D	37.1	D	**81.4**	**F**	63.6	E
21	Route 16 / Route 27	Signalized	**> 180.0**	**F**	**154.7**	**F**	**> 180.0**	**F**	**> 180.0**	**F**
61	Route 3 / USMC Main Gate	Signalized	-[4]	-[4]	-[4]	-[4]	48.3	D	53.7	D
62	Route 3 / USMC Secondary Gate	Signalized	-[4]	-[4]	-[4]	-[4]	10.9	B	7.9	A
63	Route 9 / ACE Gate	TWSC	-[5]	-[5]	-[5]	-[5]	26.3	C	16.5	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in Year 2030 No Build conditions.
[5] ACE Gate assumed to remain closed in Year 2030 No Build conditions.

Exhibit 82: Intersection LOS for No Action Alternative, Central Region, 2030

Intersection			No Build Alternative				No Action Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
22	Route 16 / Route 10A	Signalized	**> 180.0**	**F**	49.1	D	**> 180.0**	**F**	**91.0**	**F**
23	Route 26 / Route 25	Signalized	26.2	C	9.6	A	62.4	E	12.1	B
24	Route 15 / Route 26	TWSC	**145.2**	**F**	**> 180.0**	**F**	**> 180.0**	**F**	**> 180.0**	**F**
25	Route 10A / Sunset Blvd (Airport)	Signalized	27.6	C	54.4	D	32.1	C	70.6	E
26	Route 1 / Route 14A	Signalized	35.2	D	**> 180.0**	**F**	46.5	D	**> 180.0**	**F**
27	Route 1 / Route 10A	Signalized	53.0	D	**139.3**	**F**	**82.2**	**F**	**174.7**	**F**
28	Route 1 / Route 14B	Signalized	38.3	D	30.4	C	59.2	E	50.7	D
29	Route 1 / Route 14	Signalized	73.4	E	50.8	D	**105.9**	**F**	70.1	E
30	Route 1 / Route 30	Signalized	55.1	E	42.5	D	73.7	E	75.3	E
31	Route 1 / Route 6 (Adelup)	Signalized	18.3	B	25.6	C	19.3	B	27.1	C
32	Route 1 / Route 4	Signalized	10.1	B	16.7	B	11.5	B	18.0	B
33	Route 1 / Route 8	Signalized	14.9	B	19.6	B	14.8	B	18.8	B
34	Route 8 / Chalan Santo Papa	TWSC	**86.5**	**F**	**158.9**	**F**	**> 180.0**	**F**	**> 180.0**	**F**
35	Route 8 / Route 7A	Signalized	19.6	B	58.2	E	26.6	C	75.5	E
36	Route 4 / Chalan Santo Papa	Signalized	31.3	C	37.6	D	38.9	D	40.6	D
37	Route 4 / Route 7A	Signalized	50.1	D	53.4	D	61.6	E	62.9	E
38	Route 4 / Route 7B	TWSC	32.3	D	**161.3**	**F**	**> 180.0**	**F**	**> 180.0**	**F**
39	Route 7A / Route 7	Signalized	29.4	C	26.6	C	34.2	C	27.4	C
40	Route 8 / Sunset Blvd	TWSC	-[4]	-[4]	-[4]	-[4]	-[3]	-[3]	-[3]	-[3]
41	Route 8 / Route 33	Signalized	40.7	D	17.8	B	46.9	D	19.5	B
42	Route 8 / Route 10	Signalized	24.8	C	24.7	C	26.9	C	34.7	C
43	Route 16 / Route 8A	Signalized	17.2	B	6.7	A	25.3	C	7.4	A
44	Route 10 / Route 15	Signalized	43.7	D	33.4	C	64.3	E	47.6	D
45	Route 4 / Route 15	Signalized	73.4	E	36.4	D	**92.7**	**F**	46.2	D
46	Route 4 / Route 10	Signalized	50.5	D	42.2	D	**85.3**	**F**	71.4	E
47	Route 1 / Route 11	Signalized	10.8	B	14.2	B	12.4	B	13.5	B
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	10.0	A	12.8	B	10.9	B	12.6	B
49	Route 1 / Polaris Point	Signalized	11.2	B	5.7	A	10.9	B	5.6	A
58	Tiyan Parkway / Route 10A	Signalized	34.5	C	60.5	E	36.2	D	71.2	E
59	Tiyan Parkway / Route 8	Signalized	58.2	E	47.0	D	71.8	E	66.3	E
60	Route 1 / Route 27 Extension	Signalized	19.9	B	9.0	A	20.4	C	29.4	C

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in Year 2030 No Build conditions.

Exhibit 83: Intersection LOS for No Action Alternative, South Region, 2030

Intersection			No Build Alternative				No Action Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
50	Route 1 / Route 2A	Signalized	13.6	B	22.9	C	17.3	B	27.4	C
51	Route 2A / Route 5	Signalized	20.9	C	18.4	B	23.0	C	18.8	B
52	Route 2 / Route 12	Signalized	26.1	C	14.6	B	29.4	C	14.8	B
53	Route 17 / Route 5	TWSC	18.3	C	13.5	B	31.0	D	15.1	C
54	Route 12 / Naval Magazine Entrance	TWSC	9.7	A	8.9	A	10.5	B	9.0	A
55	Route 17 / Route 4A	TWSC	21.8	C	24.1	C	34.8	D	37.6	E
56	Route 4 / Route 17	Signalized	62.6	E	21.5	C	**150.8**	**F**	33.0	C
57	Route 4 / Route 4A	TWSC	22.8	C	12.3	B	40.0	E	13.5	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

4.3 Mitigation Measures

As with the current study, the 2010 FEIS traffic study found that the No Action Alternative would have significant impacts on roads and intersections throughout the island. The study team concluded that it would not be feasible to mitigate every impact through roadway capacity improvement measures. So in an effort to reduce both the impacts and the scope of mitigation measures, the 2010 FEIS proposed two demand management strategies:

- USMC traffic was to be channel onto certain routes (the "haul road network") that connected the major military facilities on the island but bypassed, where possible, areas with heavily-congested civilian traffic. This was particularly important for heavy loads such as construction materials and trucks moving heavy items from Apra Port to the construction areas which might cause pavement and bridge damage if given unrestricted choice of routes.

- A plan was also developed that would have replaced the existing civilian bus system with five new fixed routes, purchasing 50 new buses for fleet replacement and expansion, development of formal bus stops, revised scheduling and maintenance policies, and other upgrades. It was hoped that this ambitious plan would increase annual bus ridership 12-fold from 111,367 (2006-2007) to 1.32 million trips in 2030, thus reducing the need for road improvements. The routes were design to enable construction workers and USMC civilian workers to reach their worksite without the need to use personal vehicles.

Without demand management efforts such as those described above, the No Action Alternative would require widening of 54 roadway segments (see Exhibit 84)and improvements to 28 intersections (see Exhibit 85).

Roadway		2030 No Build				2030 No Action				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	V/C After Feasible Mitigations are Implemented			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak				AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB			NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.49	0.68	0.67	0.71	**1.14**	0.78	1.00	**1.07**	Add additional lane in both directions.	Yes	0.75	**0.52**	0.66	0.71
Route 1	Route 29 to Chalan Lujuna	0.71	**1.10**	0.86	0.89	**1.18**	**1.20**	**1.19**	**1.26**	Add additional lane in both directions.	Yes	0.78	0.79	0.79	0.83
Route 1	Chalan Lujuna to Route 28	0.73	**1.38**	**1.29**	0.93	0.99	**1.40**	**1.32**	**1.18**	Add additional lane in the westbound direction.	No	0.99	**1.40**	**1.32**	**1.18**
Route 1	Route 3 to Route 34	0.40	**1.53**	**1.01**	0.68	0.70	**1.71**	**1.26**	0.93	Add additional lane in both directions.	Yes	0.53	**1.29**	0.95	0.70
Route 1	Route 34 to Route 16	0.44	**1.35**	0.97	0.71	0.74	**1.52**	**1.22**	0.96	Add additional lane in both directions.	Yes	0.56	**1.15**	0.92	0.73
Route 1	Route 16 to Route 14 (N)	0.49	**1.26**	**1.20**	0.89	0.62	**1.38**	**1.37**	**1.01**	Add additional lane in both directions.	Yes	0.47	**1.04**	**1.04**	0.76
Route 1	Route 14 (N) to Route 14A	0.62	**1.12**	**1.32**	**1.08**	0.74	**1.22**	**1.47**	**1.19**	Add additional lane in both directions.	No	0.74	**1.22**	**1.47**	**1.19**
Route 3	Route 3A/9 to Fin. Main Gate	0.50	0.75	0.57	0.52	**1.43**	**1.77**	**1.50**	**1.98**	Add additional lane and make roadway divided with left-turn lanes.	Yes	0.67	0.83	0.70	0.93
Route 3	Fin. Main Gate to Secondary Gate	0.49	**1.24**	0.68	0.56	**2.03**	**1.43**	**1.37**	**1.82**	Add additional lane and make roadway divided with left-turn lanes.	Yes	0.95	0.67	0.64	0.85
Route 3	Fin. Secondary Gate to Route 28	0.70	**1.36**	0.91	0.74	**1.81**	**1.55**	**1.51**	**1.66**	Add additional lane and make roadway divided with left-turn lanes.	Yes	0.85	0.73	0.71	0.78
Route 3	Route 28 to S. Fin. Main Gate	0.44	**1.25**	0.79	0.51	**1.19**	**1.59**	**1.30**	**1.11**	Add additional lane in both directions.	Yes	0.78	**1.05**	0.86	0.73
Route 3	S. Fin. Main Gate to Route 1	0.53	**1.35**	0.81	0.54	**1.02**	**1.69**	**1.31**	0.94	Add additional lane in both directions.	Yes	0.67	**1.11**	0.87	0.62
Route 9	Route 3/3A to AAFB North Gate	0.48	0.56	0.42	0.40	**1.18**	**1.63**	**1.23**	**1.46**	Add additional lane in both directions.	Yes	0.69	0.95	0.72	0.85
Route 9	AAFB Main Gate to Route 1	0.52	0.38	0.30	0.47	0.79	**1.50**	**1.09**	**1.24**	Add additional lane in both directions.	Yes	0.46	0.88	0.64	0.73
Route 15	Route 29 to Route 26	0.57	**1.08**	0.78	0.66	**1.24**	**1.13**	0.86	**1.20**	Add additional lane in both directions.	Yes	0.70	0.64	0.48	0.68
Route 16	Route 27 to Route 10A	0.75	0.98	0.96	0.84	0.95	**1.04**	**1.03**	**1.01**	Add additional lane in both directions.	No	0.95	**1.04**	**1.03**	**1.01**
Route 26	Route 1 to Route 25	0.73	0.83	0.74	0.88	0.93	0.94	0.96	**1.02**	Add additional lane in both directions.	No	0.93	0.94	0.96	**1.02**
Route 27A	Route 16 to Route 1	0.72	**1.63**	**1.49**	0.96	0.80	**1.68**	**1.56**	**1.04**	Add additional lane in both directions.	Yes	0.47	0.99	0.92	0.61
Route 28	Route 1 to Route 27A	0.51	0.90	0.99	0.79	0.72	0.92	**1.06**	0.95	Add additional lane in the northbound direction.	No	0.72	0.92	**1.06**	0.95
Route 28	Route 27A to Chalan Balako	0.57	**1.16**	0.82	0.91	0.90	**1.23**	0.95	**1.19**	Add additional lane in the southbound direction.	No	0.90	**1.23**	0.95	**1.19**
Route 28	Chalan Balako to Route 3	0.54	**1.48**	0.98	0.57	**1.14**	**1.62**	**1.19**	**1.10**	Add additional lane in both directions.	Yes	0.64	0.91	0.67	0.62
Route 29	Route 1 to Route 15	0.64	0.90	0.56	0.58	0.67	**1.06**	0.66	0.63	Add additional lane in the westbound direction.	No	0.67	**1.06**	0.66	0.63
Route 1	Route 14A to Route 10A	0.76	0.84	**1.20**	**1.13**	0.87	0.92	**1.33**	**1.22**	Add additional lane in both directions.	No	0.87	0.92	**1.33**	**1.22**
Route 1	Route 10A to Route 14B	0.69	**1.13**	**1.26**	0.90	0.79	**1.22**	**1.38**	1.00	Add additional lane in both directions.	No	0.79	**1.22**	**1.38**	1.00
Route 1	Route 14B to Route 14 (S)	0.70	0.94	**1.11**	0.84	0.80	**1.02**	**1.23**	0.93	Add additional lane in both directions.	No	0.80	**1.02**	**1.23**	0.93
Route 1	Route 14 (S) to Route 30	0.90	0.83	0.90	0.83	0.99	0.90	**1.01**	0.91	Add additional lane in the eastbound direction.	No	0.99	0.90	**1.01**	0.91
Route 1	Route 30 to Route 8	0.98	1.00	**1.01**	1.00	**1.06**	**1.06**	**1.12**	**1.11**	Add additional lane in both directions.	No	**1.06**	**1.06**	**1.12**	**1.11**

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 84: Roadway-Level Mitigation Measures for No Action Scenario, 2030

Roadway		2030 No Build				2030 No Action				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	V/C After Feasible Mitigations are Implemented			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak				AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB			NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 8 to Route 4	0.78	0.85	0.91	0.68	0.93	0.92	1.03	0.79	Add additional lane in the eastbound direction.	No	0.93	0.92	1.03	0.79
Route 1	Route 4 to Route 6 (N)	0.58	0.96	0.66	0.69	0.72	1.03	0.78	0.78	Add additional lane in the westbound direction.	No	0.72	1.03	0.78	0.78
Route 1	Route 6 (N) to Route 11	0.91	1.05	0.99	0.78	1.11	1.14	1.16	0.92	Add additional lane in both directions.	No	1.11	1.14	1.16	0.92
Route 1	Route 18 to Route 2A	0.92	0.86	0.77	0.80	1.11	0.95	0.94	0.93	Add additional lane in the eastbound direction.	No	1.11	0.95	0.94	0.93
Route 4	Route 10 to Route 17	1.63	0.87	1.21	1.42	2.02	1.09	1.48	1.71	Add additional lane in both directions.	No	2.02	1.09	1.48	1.71
Route 7	Route 6 to Route 7B	1.02	1.14	0.92	1.07	1.14	1.22	0.98	1.18	Add additional lane in both directions.	Yes	0.67	0.72	0.58	0.70
Route 7	Route 7B to Route 7A	1.16	0.92	0.77	1.13	1.21	1.01	0.83	1.19	Add additional lane in the southbound direction.	Yes	1.21	0.60	0.83	0.70
Route 7A	Route 8 to Route 33	1.19	0.56	1.12	0.93	1.26	0.62	1.19	1.01	Add additional lane in both directions.	No	1.26	0.62	1.19	1.01
Route 7A	Route 33 to Route 4	1.14	0.75	1.20	0.85	1.23	0.81	1.27	0.93	Add additional lane in the eastbound direction.	No	1.23	0.81	1.27	0.93
Route 8	Route 16 to Route 10	1.02	0.89	0.88	0.90	1.20	0.96	0.97	1.04	Add additional lane in both directions.	Yes	0.79	0.63	0.64	0.69
Route 8	Route 33 (E) to Route 33 (W)	0.98	1.16	1.29	1.03	1.17	1.24	1.35	1.13	Add additional lane in both directions.	No	1.17	1.24	1.35	1.13
Route 8	Route 33 (W) to Route 1	0.52	0.91	0.98	0.59	0.67	1.01	1.04	0.63	Add additional lane in both directions.	No	0.67	1.01	1.04	0.63
Route 10	Route 8 to Route 15	1.26	0.80	0.77	1.00	1.39	0.86	0.85	1.11	Add additional lane in both directions.	No	1.39	0.86	0.85	1.11
Route 10	Route 15 to Route 32	1.17	0.95	0.90	0.96	1.43	1.03	0.98	1.11	Add additional lane in both directions.	No	1.43	1.03	0.98	1.11
Route 10	Route 32 to Route 4	1.11	0.86	0.83	0.89	1.36	0.96	0.93	1.04	Add additional lane in both directions.	No	1.36	0.96	0.93	1.04
Route 14B	Route 14 to Route 1	0.83	0.78	0.87	0.95	0.89	0.82	0.94	1.02	Add additional lane in the southbound direction.	No	0.89	0.82	0.94	1.02
Route 15	Route 26 to Bar. South Gate	0.75	1.11	1.06	0.84	1.24	1.14	1.07	1.15	Add additional lane in both directions.	Yes	0.70	0.64	0.60	0.65
Route 15	Bar. South Gate to Route 10	0.60	0.99	1.02	0.74	0.95	1.05	1.06	0.96	Add additional lane in the eastbound direction.	No	0.95	1.05	1.06	0.96
Route 16	Route 10A to Bar. Main Gate	1.07	0.89	1.05	1.13	1.27	0.95	1.12	1.29	Add additional lane in both directions.	No	1.27	0.95	1.12	1.29
Route 16	Bar. Main Gate to Route 8	0.76	0.94	0.89	0.85	0.83	1.12	1.03	0.93	Add additional lane in both directions.	Yes	0.55	0.74	0.68	0.61
Route 25	Route 16 to Route 26	0.38	1.85	1.53	0.96	0.54	1.88	1.56	1.01	Add additional lane in the westbound direction.	No	0.54	1.88	1.56	1.01
Route 26	Route 25 to Route 15	1.41	0.89	1.01	1.31	1.48	1.08	1.26	1.38	Add additional lane in both directions.	No	1.48	1.08	1.26	1.38
Route 33	Route 8 (E) to Route 7A	0.71	1.00	0.59	0.31	0.74	1.06	0.63	0.34	Add additional lane in the southbound direction.	No	0.74	1.06	0.63	0.34
Tiyan Pkwy	Route 1 to Route 8	0.82	0.67	0.73	0.90	0.98	0.71	0.79	1.01	Add additional lane in the southbound direction.	Yes	0.98	0.47	0.79	0.67
Route 2	Route 2A to Route 12	1.38	0.44	0.57	1.09	1.65	0.46	0.60	1.23	Add additional lane in both directions.	No	1.65	0.46	0.60	1.23
Route 2	Route 12 to Nimitz Beach	1.25	0.84	0.64	0.98	1.49	1.00	0.67	1.10	Add additional lane in both directions.	No	1.49	1.00	0.67	1.10
Route 2A	Route 5 to Route 2	1.02	0.51	0.49	0.85	1.28	0.52	0.52	0.99	Add additional lane in the northbound direction.	Yes	0.75	0.52	0.30	0.99
Route 4	Route 17 to Route 4A	0.99	0.99	0.56	0.57	1.20	1.20	0.67	0.68	Add additional lane in both directions.	No	1.20	1.20	0.67	0.68
Route 5	Route 2A to Route 17	0.36	0.93	0.62	0.29	0.36	1.07	0.70	0.30	Add additional lane in the westbound direction.	Yes	0.36	0.60	0.70	0.17

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 84: Roadway-Level Mitigation Measures for No Action Scenario, 2030 (continued)

Intersection			2030 No Build Conditions				2030 No Action Conditions				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	LOS After Feasible Mitigations are			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS			Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	16.1	C	11.5	B	**> 180.0**	**F**	**> 180.0**	**F**	Combine Route 3, 3A, and 9 into one signalized intersection with the following lane configuration: Northbound (Chalan Santa Anita): one shared left/through/right-turn lane. Southbound (Route 3A): one right-turn lane (150 feet storage), one shared through/left-turn lane. Eastbound (Route 3) and Westbound (Route 9): one left-turn lane (150 feet storage), one through lane, one shared through/right turn lane.	Yes				
2	Route 3/9 / Chalan Santa Anita	TWSC	37.7	E	15.0	B	**> 180.0**	**F**	**> 180.0**	**F**			46.3	D	15.1	B
3	Route 9 / Route 3A	TWSC	14.7	B	13.6	B	**62.6**	**F**	**> 180.0**	**F**						
5	Route 3 / Route 28	Signalized	33.7	C	23.2	C	**137.4**	**F**	65.6	E	Westbound (Route 28): Convert shared left/right-turn lane to left-turn lane and add one right-turn lane. Northbound (Route 3): Add exclusive right-turn lane (150 feet storage) and provide right-turn overlap phase.	Yes	33.9	C	23.4	C
6	Route 3 / Royal Palm Drive	TWSC	36.4	E	14.8	B	**> 180.0**	**F**	**> 180.0**	**F**	Signalize intersection. Eastbound (Royal Palm Drive: Add exclusive right-turn lane (200 feet storage) Southbound (Route 3): Add exclusive right-turn lane (150 feet storage)	Yes	64.7	E	26.1	C
8	Route 1 / Route 29	Signalized	34.2	C	23.3	C	**110.8**	**F**	30.9	C	Westbound (Route 29): Convert shared left/through/right-turn lane to left-turn lane and add shared through/right turn lane. Northbound (Route 1): Add exclusive right-turn lane and provide right-turn overlap phase.	Yes	34.4	C	22.3	C
9	Route 15 / Route 29	TWSC	**102.0**	**F**	31.2	D	**> 180.0**	**F**	44.0	E	Signalize intersection.	Yes	9.9	A	8.1	A
11	Route 15 / Chalan Lajuna	TWSC	**75.8**	**F**	**82.6**	**F**	**> 180.0**	**F**	**> 180.0**	**F**	Signalize intersection. Northbound (Route 15): Add left-turn lane (200 feet storage).	Yes	22.9	C	15.0	B
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	63.4	E	**> 180.0**	**F**	**177.3**	**F**	Eastbound (Route 1): Add second left-turn lane. Westbound (Route 1): Add exclusive right-turn lane (250 feet storage)	Yes	**159.8**	**F**	23.6	C
13	Route 1 / Route 16	Signalized	21.9	C	45.3	D	75.8	E	**128.0**	**F**	Eastbound (Route 1): Add one free right-turn lane (150 feet storage)	Yes	35.5	D	55.0	D
17	Route 28 / Route 27A	AWSC	11.7	B	**65.0**	**F**	18.2	C	**102.7**	**F**	Signalize intersection.	Yes	5.7	A	7.8	A
18	Route 1 / Route 27	Signalized	**118.3**	**F**	50.2	D	**132.3**	**F**	**88.3**	**F**	Southbound (Salisbury Street): Restripe to one left-turn lane (80 feet storage), one through lane and one right-turn lane (50 feet storage). Northbound (Route 27): Provide right-turn overlap phase.	Yes	**89.8**	**F**	73.5	E
19	Route 1 / Route 26	Signalized	34.4	C	**87.6**	**F**	**80.1**	**F**	**145.7**	**F**	Eastbound (Route 1): Add exclusive right-turn lane (150 feet storage). Northbound (Route 26): Provide right-turn overlap phase.	Yes	27.0	C	58.9	E
20	Route 1 / Route 28	Signalized	53.5	D	37.1	D	**81.4**	**F**	63.6	E	Northbound (Mobil Gas Station): Restripe to one left-turn lane and one shared through/right turn lane. Westbound (Route 1): Add exclusive right-turn lane (150 feet storage).	Yes	49.9	D	44.9	D
21	Route 16 / Route 27	Signalized	**> 180.0**	**F**	**154.7**	**F**	**> 180.0**	**F**	**> 180.0**	**F**	Westbound (Route 27): Convert right-turn lane to through lane and provide exclusive right-turn lane (150 feet storage). Eastbound (Route 27): Provide exclusive right-turn lane (150 feet storage).	Yes	**130.0**	**F**	**111.8**	**F**

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in Year 2030 No Build conditions.
[4] ACE Gate assumed to remain closed in Year 2030 No Build conditions.

Exhibit 85: Intersection-Level Mitigation Measures for No Action Scenario, 2030

Intersection			2030 No Build Conditions				2030 No Action Conditions				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	LOS After Feasible Mitigations are			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS			Delay[1,2]	LOS	Delay[1,2]	LOS
22	Route 16 / Route 10A	Signalized	> 180.0	F	49.1	D	> 180.0	F	91.0	F	Southbound (Route 16): Provide free right-turn.	Yes	77.8	E	35.2	D
24	Route 15 / Route 26	TWSC	145.2	F	> 180.0	F	> 180.0	F	> 180.0	F	Signalize intersection.	Yes	27.7	C	43.4	D
26	Route 1 / Route 14A	Signalized	35.2	D	> 180.0	F	46.5	D	> 180.0	F	Northbound and Southbound (Route 14A/K-Mart Entrance): Convert shared left/through to left-turn lane and add one through lane.	Yes	34.1	C	121.6	F
27	Route 1 / Route 10A	Signalized	53.0	D	139.3	F	82.2	F	174.7	F	Northbound (Route 1): Provide free right-turn lane (150 feet storage).	Yes	45.0	D	63.6	E
29	Route 1 / Route 14	Signalized	73.4	E	50.8	D	105.9	F	70.1	E	Westbound (Route 1): Add free right turn lane (200 feet storage) with acceleration lane on Route 14.	Yes	68.9	E	47.0	D
34	Route 8 / Chalan Santo Papa	TWSC	86.5	F	158.9	F	> 180.0	F	> 180.0	F	Signalize intersection	Yes	26.6	C	31.7	C
38	Route 4 / Route 7B	TWSC	32.3	D	161.3	F	> 180.0	F	> 180.0	F	Signalize intersection. Eastbound (Route 7B): Add exclusive right-turn lane (100 feet storage)	Yes	12.1	B	16.7	B
45	Route 4 / Route 15	Signalized	73.4	E	36.4	D	92.7	F	46.2	D	Southbound (Route 15): Add exclusive right-turn lane (100 ft).	Yes	51.5	D	36.9	D
46	Route 4 / Route 10	Signalized	50.5	D	42.2	D	85.3	F	71.4	E	Provide acceleration lane on Route 10 to allow free northbound right-turn.	Yes	47.2	D	66.4	E
56	Route 4 / Route 17	Signalized	62.6	E	21.5	C	150.8	F	33.0	C	Eastbound (Route 17): Restripe to one left-turn and one shared left/right-turn lane.	Yes	48.7	D	15.1	B
61	Route 3 / USMC Main Gate	Signalized	-[3]	-[3]	-[3]	-[3]	48.3	D	53.7	D	New intersection to be signalized with the following lane configuration: Northound (Route 3): Provide two left-turn lanes (150 feet storage), one shared through/right turn lane. Southbound (Route 3): Provide one right-turn lane, one through lane and one left-turn lane (100 feet storage). Eastbound: Provide two left-turn lanes (150 feet storage), one shared through/right turn lane. Westbound: Provide one left-turn lane (100 feet storage) and one shared through/right-turn lane.	Yes	48.3	D	53.7	D
62	Route 3 / USMC Secondary Gate	Signalized	-[3]	-[3]	-[3]	-[3]	10.9	B	7.9	A	New "T" intersection to be signalized with the following lane configuration: Northbound (Route 3): Provide one left-turn lane (100 feet storage) and one through lane. Southbound (Route 3): Provide one shared through/right-turn lane Eastbound (USMC Secondary Gate): Provide one left-turn lane (100 feet storage) and one right-turn lane.	Yes	10.9	B	7.9	A
63	Route 9 / AAFB North Gate	Signalized	-[4]	-[4]	-[4]	-[4]	26.3	C	16.5	B	New "T" intersection to be side-street stop controlled with the following lane configuration: Southbound (AAFB North Gate): Provide one left-turn lane and one right-turn lane (100 feet storage). Eastbound (Route 9): Provide one left-turn lane (100 feet storage) and one through lane. Westbound (Route 9): Provide one shared through/right-turn lane.	Yes	26.3	C	16.5	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in Year 2030 No Build conditions.
[4] ACE Gate assumed to remain closed in Year 2030 No Build conditions.

Exhibit 85: Intersection-Level Mitigation Measures for No Action Scenario, 2030 (continued)

5. PREFERRED ALTERNATIVE

5.1 Description of the Alternative

This alternative features the relocation of approximately 5,000 Marines and 1,300 dependents to Guam[15], with the Main Cantonment and Family Housing at the site of the existing NGBTS. There would be approximately 338 civilian workers at the Main Cantonment, not including USMC dependents working at the base. Most Marine training activities would take place at the proposed LFTRC which would be located at AAFB-NWF with a smaller amount taking place at AAFB-AS. The staff of the USMC Air Combat Element (ACE) would live at the USMC main Cantonment or Family Housing but work at AAFB.

5.2 Traffic Patterns Associated with the Preferred Alternative

The Preferred Alternative would be a largely self-contained community connected to one of the least-busy portions of the public road network in northern Guam. As a result, there would be fewer traffic impacts from this project than might normally be expected for a development involving 6,500 new residents.

The number and distribution of trips to and from the project site in the AM peak hour are shown in Exhibit 86. Most of the inbound trips would be commute trips by civilian workers to the Main Cantonment. The traffic model, which is based on existing residential and commuting patterns, forecasts that about half (49%) of these workers would likely reside in Dededo and west Yigo villages. This figure could potentially be higher if new civilian housing is constructed locally as a market reaction to the USMC Roadmap Adjustments Project. Commute trips from these areas would be relatively short and make use of the uncongested roads in the loop formed by Routes 1, 3, and 9.

Another 30% of the inbound trips would approach the project site from central Guam using Route 3. Route 3 is congested southbound in the morning, but workers going to the Project site would travel in the northbound direction which would be uncongested except in the immediate vicinity of the project. The remaining 21%, from eastern Yigo and Mangilao, would approach the project site via Route 9 and the Yigo portion of Route 1, which would also be uncongested in their direction of travel.

The main outbound flow in the AM peak hour (39% of the total) would be to the ACE compound in AAFB. The other outbound trips would include a combination of trips to other DOD facilities (NBG sites, AAFB, Guam High School, Navy Hospital, etc.), personal trips to civilian destinations, and a few commute trips by civilian workers working early hours. Outbound trips of this sort were forecast to be 38% of all traffic at the USMC gates in the AM peak hour. This figure is somewhat higher than the outbound direction's share of gate traffic at existing DOD facilities on Guam[16]. The reason is that all USMC personnel will be required to live within the gates of the Main Cantonment/Family Housing complex, which is not true of USN personnel stationed at NBG or USAF personnel station at AAFB. The inbound flow of commute trips by personnel living outside the gates increases the share of inbound trips relative to outbound trips at these other facilities.

Traffic in the PM peak hour is typically higher than in the AM peak hour because work trips must share the road with shopping, dining, and recreational trips. The number and distribution of trips to and from the project in the PM peak hour are shown in Exhibit 87. The inbound trips are mainly the return trips from the

[15] These numbers are subject to change. The analysis assumed 1,650 Permanent Change of Station (PCS) Marines, 3,350 Marines in the Unit Deployment Program (UDP) and 200 transient visitors (TDY). A different set of projects show 1,797 PCS, 2,903 UDP, and zero TDY Marines, in which case there would be approximately 2% fewer project-related trips in the peak periods than is shown in this analysis.

[16] Outbound traffic comprises 29% of all traffic AM peak-hour gate traffic at NBG Apra Harbor, 21% at AAFB, 27% at NBG Munitions Site, and 25% at NBG Telecommunications Site.

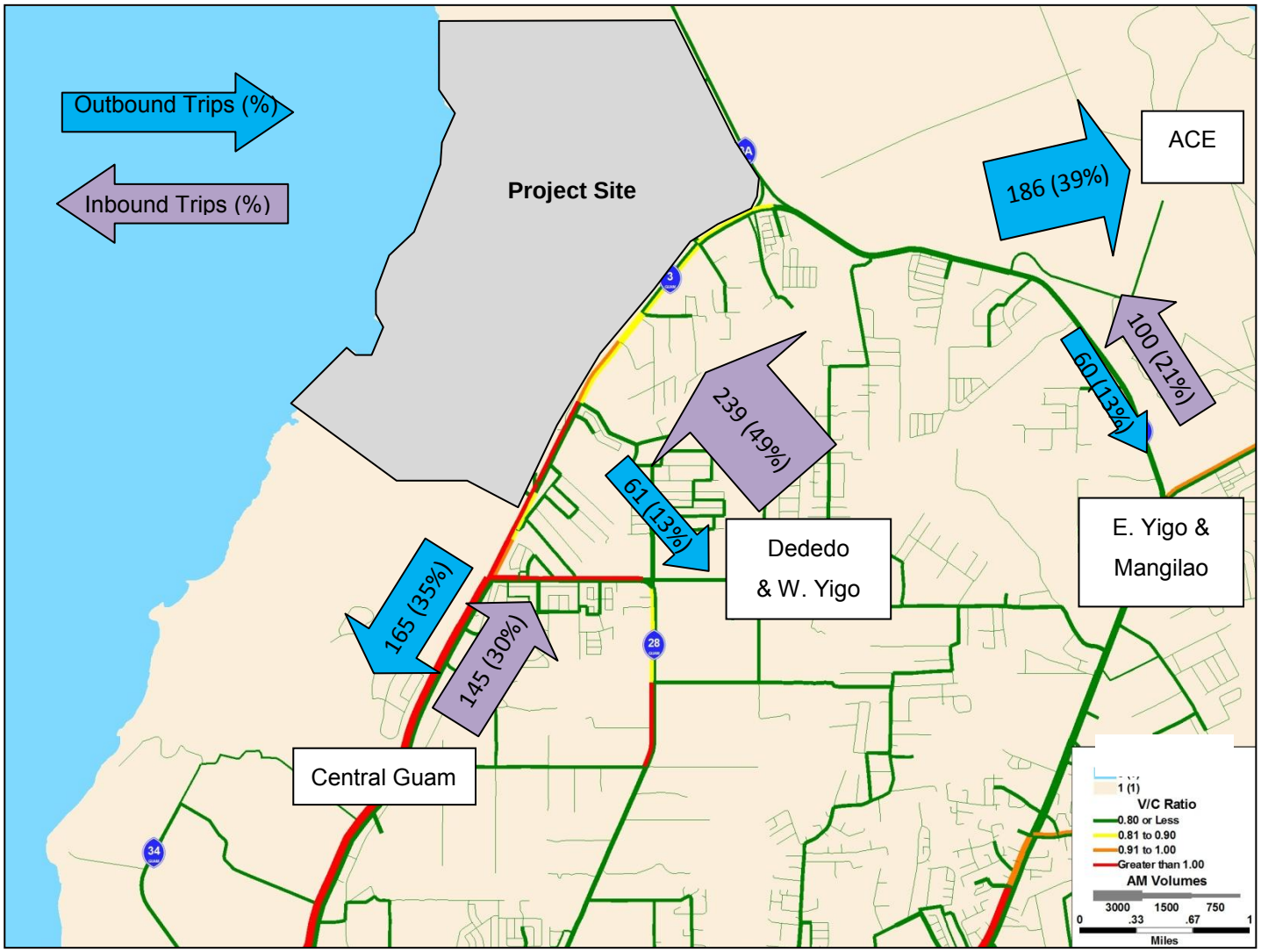


Exhibit 86: Preferred Alternative – Trip Distribution in AM Peak Hour, 2030

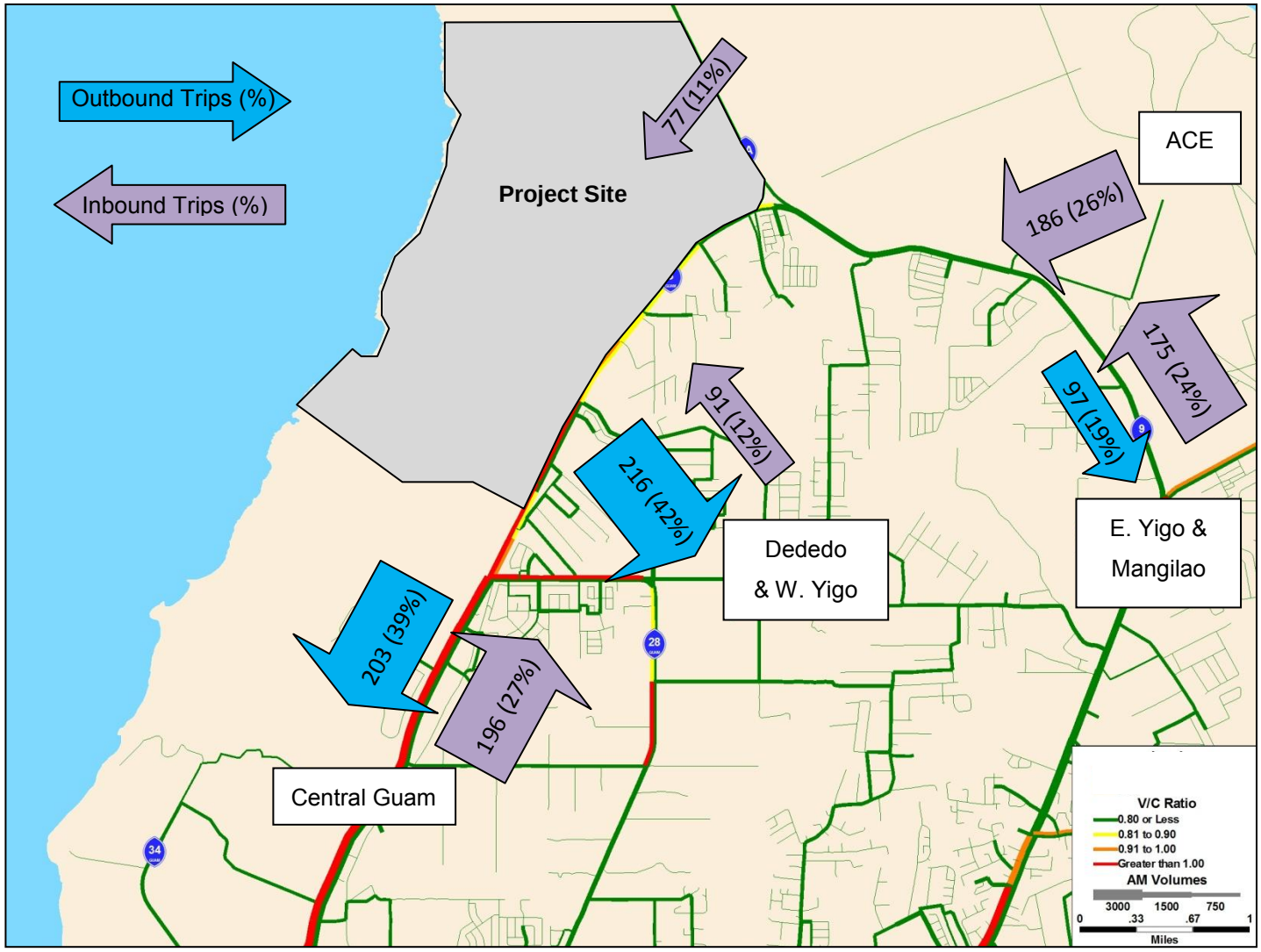


Exhibit 87: Preferred Alternative – Trip Distribution in PM Peak Hour, 2030

outbound AM period traffic plus return trips from training exercises at the LFTRC at NWF[17] and from the non-live-fire training facilities at AAFB-AS. The outbound trips include personal trips for shopping and entertainment.

5.3 Traffic Impacts During Construction

The year 2021 was selected for analysis of the USMC 2012 Roadmap Adjustments project because it is expected to be the worst case in terms of traffic impacts. This is due to a combination of a high population of construction workers from off-island and heavy volumes of trucks delivering construction materials, along with Marines and their dependents who will arrive prior to completion of construction. These sources of project-related traffic are summarized in Exhibit 88 and Exhibit 89. The construction-related sites used in the analysis of 2021 conditions are shown in Exhibit 90. Seventy-five percent of the off-island construction workers shown in Exhibit 88 were assumed to live in worker housing and to be transported to work in 15-passenger mini-buses. The remainder was assumed to live in rental housing and go to work by car (company-provided cars, rental cars or taxis).

Exhibit 88: Project-Related Population Increase

	Group	2021	2030
USMC Direct Population	Active-Duty Marines	3,319	5,000
	Marine Corps Dependents	1,008	1,300
	Civilian Military Workers	188	338
	Civilian Military Worker Dependents	179	320
	Off-Island Construction Workers	3,175	0
	Dependents of Off-Island Construction Workers	635	0
USMC Indirect Population	Off-Island Workers for Indirect/Induced Jobs	548	227
	Dependents of Off-Island Workers for Indirect/Induced Jobs	533	227
	Total Project-Related Additional Population on Guam	9,585	7,412

Exhibit 89: Construction-Related Truck Trips Planned for 2021

	From Port	From Quarries
Main Cantonment	81,972	347,154
Family Housing	14,894	59,942
Training Area	11,954	58,314
Navy/Apra	9,732	39,170
Total	118,552	504,580

[17] Training trips from NWF would use a gate directly onto Route 3 that would be closed at all other times. USMC personnel would leave for training in off-peak hours but return during the PM peak hour.

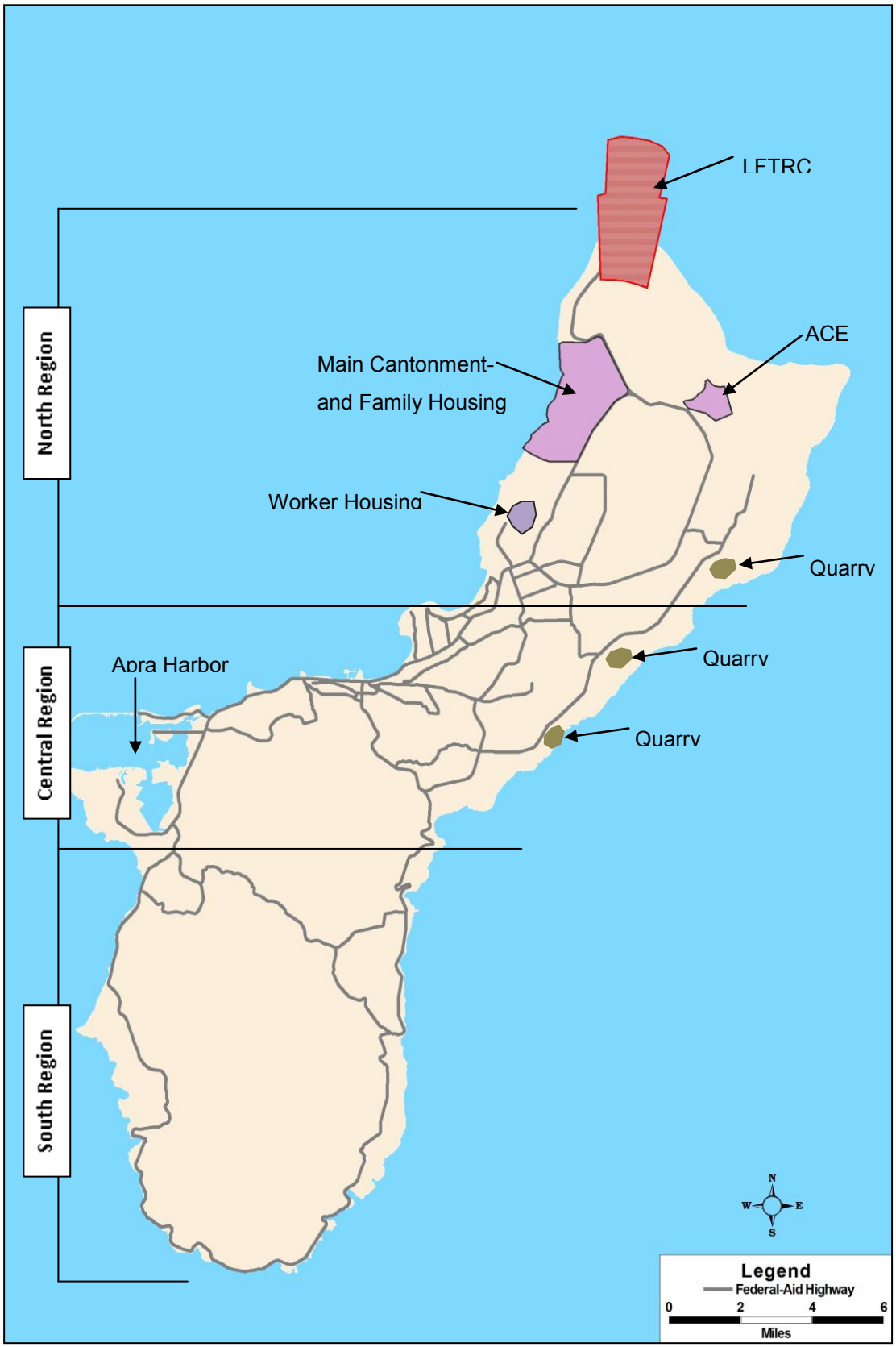


Exhibit 90: Construction-Related Sites Used in the 2021 Analysis

The 2021 scenario includes construction workers and construction-related trucks with different trip origins and destinations than the Marines and their dependents will have once the project is completed. Consequently, temporary traffic impacts may occur during construction in places that would not have traffic impacts once the project is complete and fully operational.

System-Level Impacts

Exhibit 91 summarizes the system-level impact of the Preferred Alternative at a system-wide level. The largest impacts would occur during the peak construction year, when VMT would rise by 5.6% and VHT by 6.8%.

Exhibit 91: System-Level Conditions for the Preferred Alternative

	No-Build Alternative	Preferred Alternative	Change from No-Build
Vehicle-Miles Traveled (VMT)			
Existing	2,323,962		
2021	2,530,847	2,672,332	5.6%
2030	2,697,073	2,783,084	3.2%
Vehicle-Hours Traveled (VHT)			
Existing	89,704		
2021	99,588	106,376	6.8%
2030	105,960	109,624	3.5%
Average Speed			
Existing	25.9		
2021	25.4	25.1	-1.2%
2030	25.5	25.4	-0.4%

Note that the conditions reported in Exhibit 91 do not include the effects of mitigation measures, which would reduce VHT and increase average speed.

Roadway-Level Impacts

The roadway-level impacts of the Preferred Alternative during construction are summarized in Exhibit 92 through Exhibit 100. The project would impose significant impacts on nine sections of Route 1, all sections of Route 3, and nine other road segments in the north and central region.

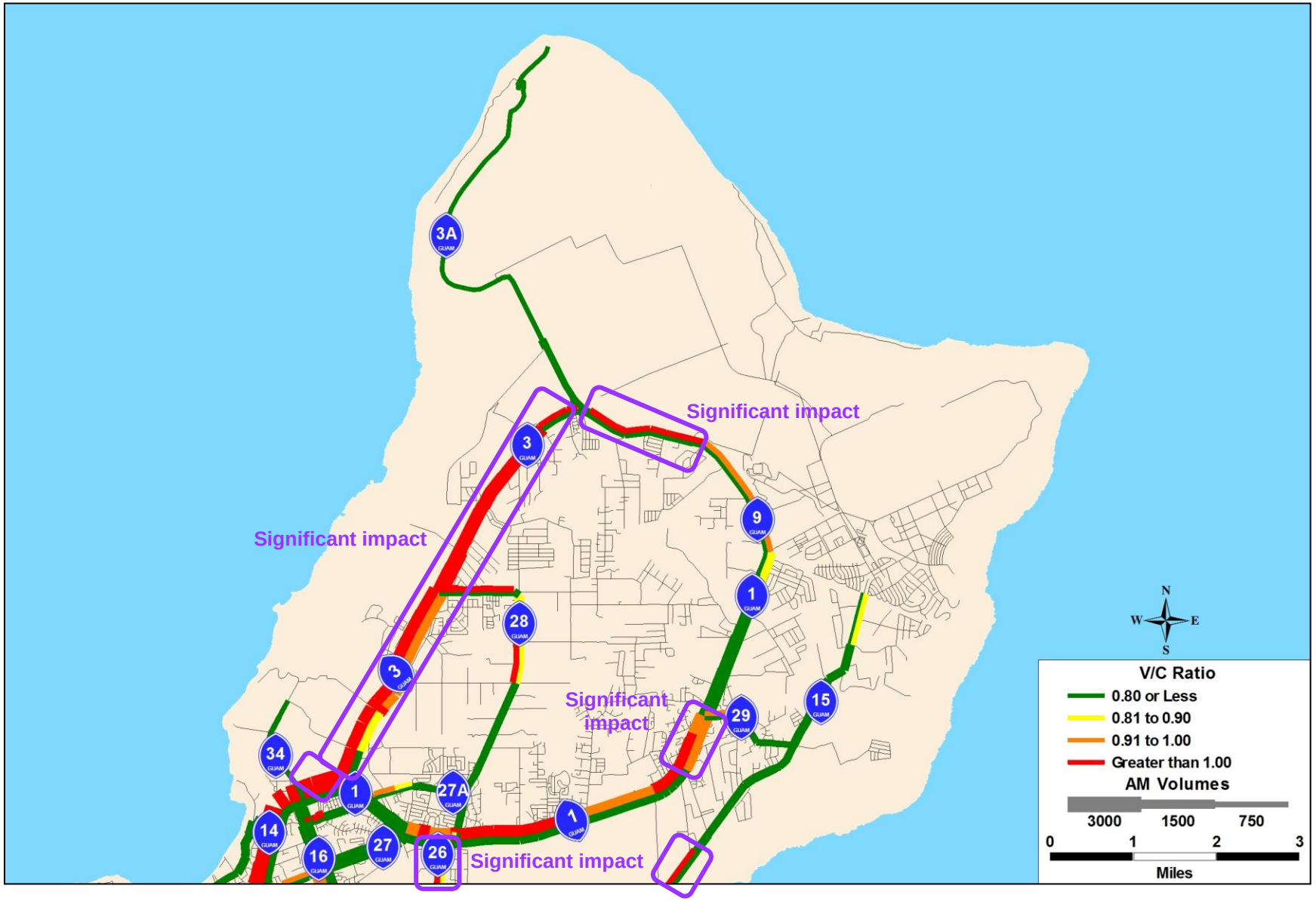


Exhibit 92: Roadway V/C for Preferred Alternative, AM Peak Hour - North Region, 2021

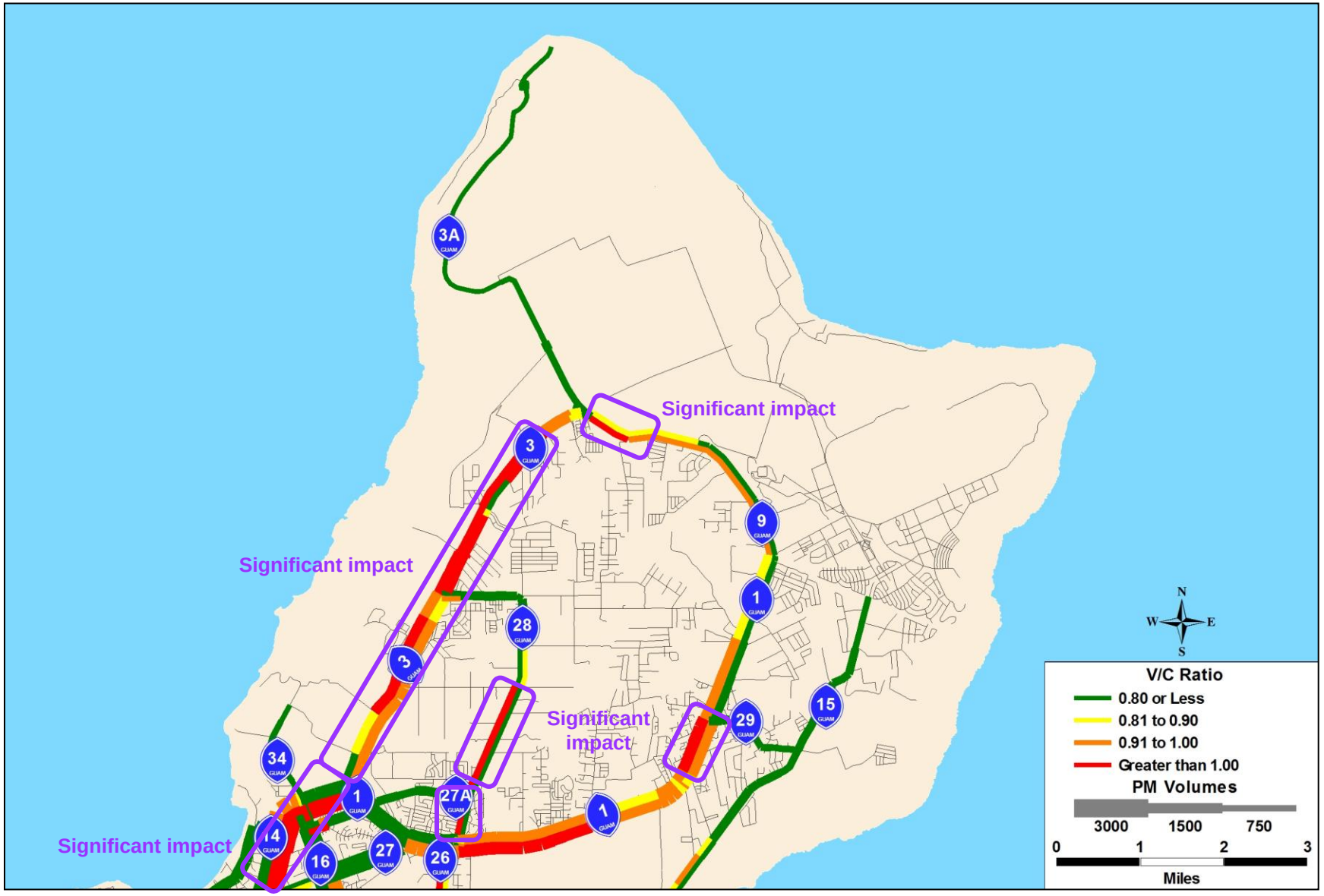


Exhibit 93: Roadway V/C for Preferred Alternative, PM Peak Hour - North Region, 2021

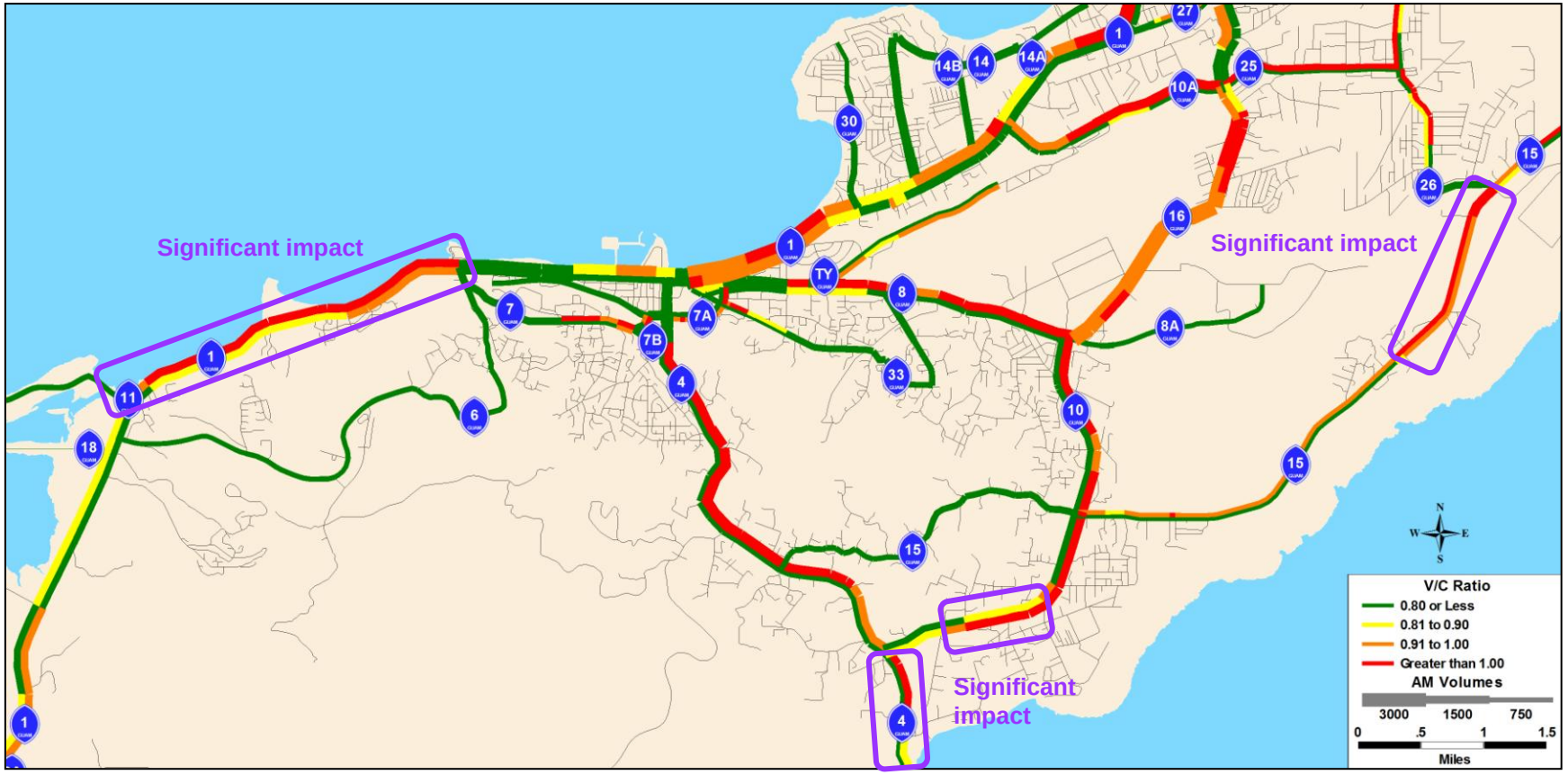


Exhibit 94: Roadway V/C for Preferred Alternative, AM Peak Hour - Central Region, 2021

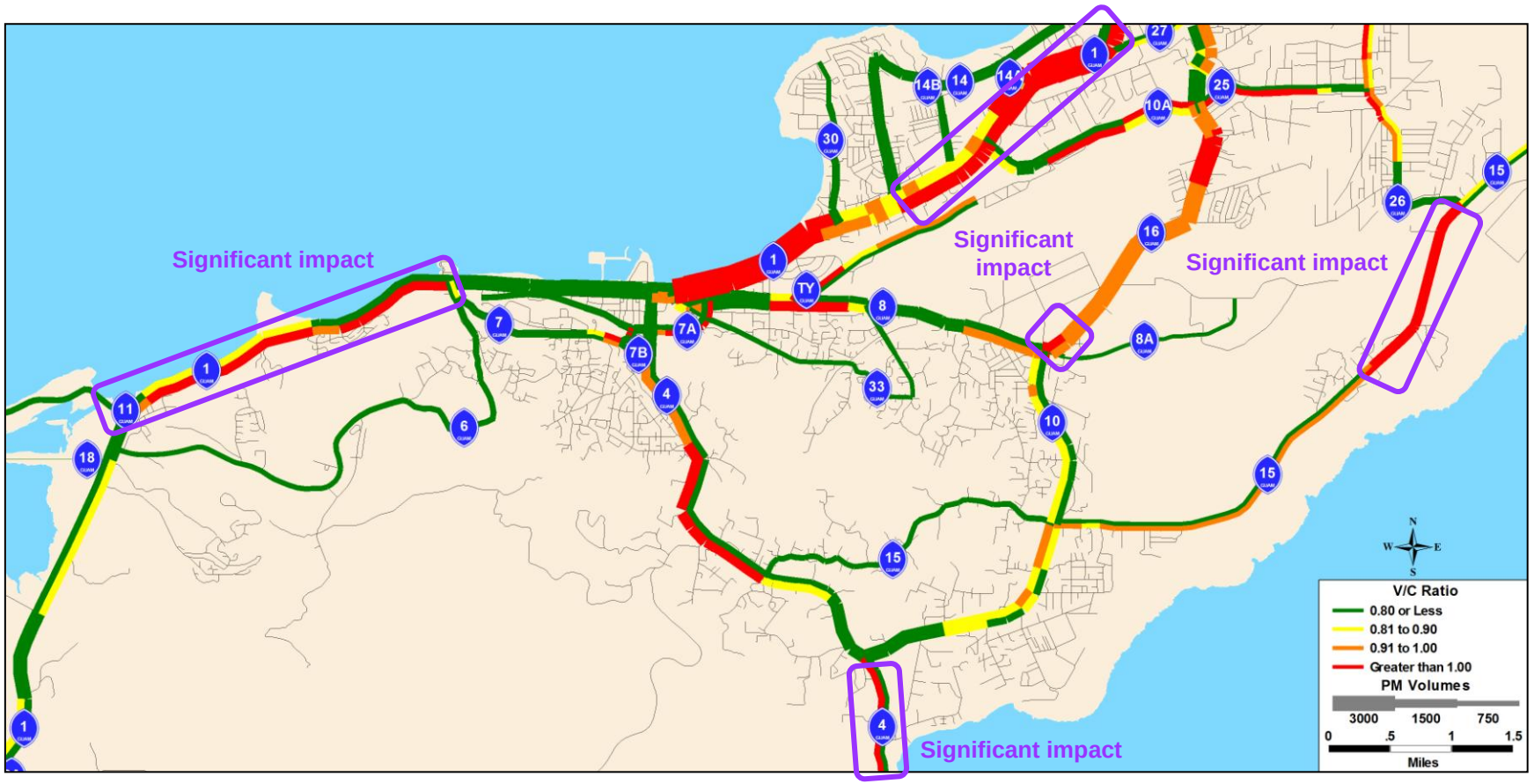


Exhibit 95: Roadway V/C for Preferred Alternative, PM Peak Hour - Central Region, 2021

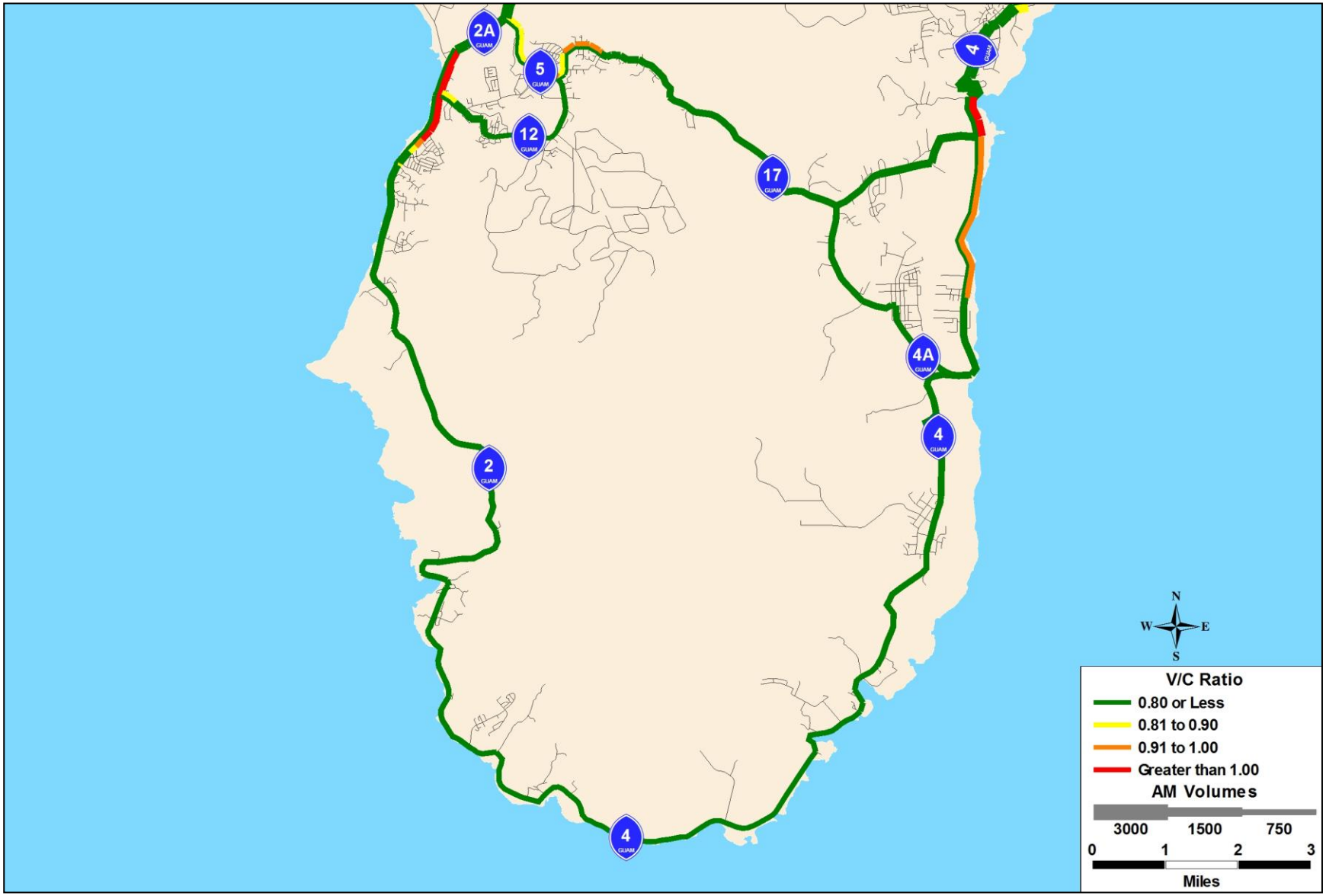


Exhibit 96: Roadway V/C for Preferred Alternative, AM Peak Hour - South Region, 2021

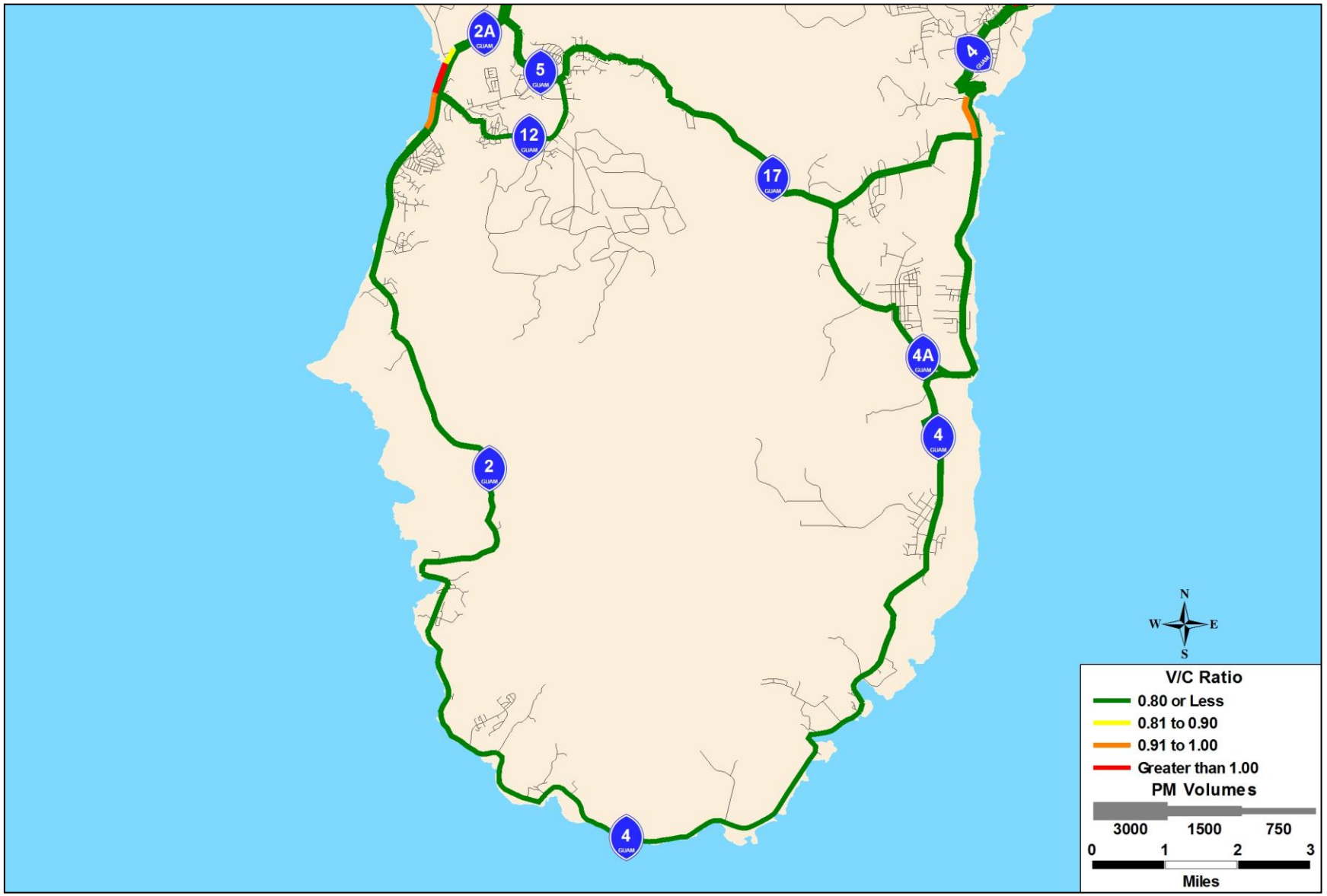


Exhibit 97: Roadway V/C for Preferred Alternative, PM Peak Hour - South Region, 2021

Exhibit 98: Roadway V/C for Preferred Alternative, North Region, 2021

Roadway		No Build Alternative				Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.50	0.64	0.63	0.70	0.82	0.70	0.79	0.98
Route 1	Route 29 to Chalan Lujuna	0.70	**1.06**	0.83	0.88	0.97	**1.14**	0.99	**1.14**
Route 1	Chalan Lujuna to Route 28	0.72	**1.33**	**1.23**	0.90	0.80	**1.34**	**1.23**	0.99
Route 1	Route 28 to Route 26	0.51	1.00	0.99	0.68	0.61	**1.01**	0.99	0.80
Route 1	Route 26 to Route 27	0.53	**1.08**	0.95	0.62	0.59	**1.08**	0.95	0.71
Route 1	Route 27 to Route 27A [1]	0.33	0.70	0.62	0.46	0.34	0.71	0.63	0.48
Route 1	Route 27A to Route 3 [1]	0.34	0.75	0.65	0.45	0.35	0.76	0.65	0.46
Route 1	Route 3 to Route 34	0.41	**1.53**	**1.03**	0.70	0.50	**1.62**	**1.15**	0.80
Route 1	Route 34 to Route 16	0.45	**1.34**	**1.04**	0.72	0.53	**1.43**	**1.16**	0.82
Route 1	Route 16 to Route 14 (N)	0.50	**1.42**	**1.36**	0.92	0.57	**1.49**	**1.46**	0.98
Route 1	Route 14 (N) to Route 14A	0.58	**1.22**	**1.27**	**1.11**	0.63	**1.27**	**1.34**	**1.17**
Route 3	Route 3A/9 to Fin. Main Gate	0.47	0.71	0.54	0.48	0.77	**1.16**	1.00	0.98
Route 3	Fin. Main Gate to Secondary Gate	0.48	**1.18**	0.64	0.55	**1.65**	**1.55**	**1.10**	**1.61**
Route 3	Fin. Secondary Gate to Route 28	0.69	**1.31**	0.86	0.71	**1.89**	**1.69**	**1.39**	**1.86**
Route 3	Route 28 to S. Fin. Main Gate	0.43	**1.21**	0.76	0.49	0.98	**1.36**	0.97	**1.04**
Route 3	S. Fin. Main Gate to Route 1	0.52	**1.30**	0.77	0.50	**1.05**	**1.44**	0.97	**1.04**
Route 3A	North of Route 3/9	0.11	0.03	0.02	0.13	0.67	0.60	0.46	0.67
Route 9	Route 3/3A to AAFB North Gate	0.45	0.54	0.39	0.37	0.76	**1.23**	**1.10**	0.85
Route 9	AAFB Main Gate to Route 1	0.48	0.36	0.28	0.43	0.62	0.99	0.95	0.75
Route 14	Route 1 to Gun Beach Rd.	0.25	0.62	0.61	0.57	0.26	0.63	0.63	0.59
Route 14	Gun Beach Rd. to Route 14A	0.48	0.39	0.43	0.71	0.48	0.40	0.45	0.72
Route 15	AAFB to Route 29	0.87	0.70	0.41	0.60	0.88	0.72	0.42	0.61
Route 15	Route 29 to Route 26	0.59	**1.03**	0.71	0.64	0.85	**1.08**	0.74	0.93
Route 16	Route 1 to Route 27A	0.45	0.43	0.47	0.51	0.47	0.44	0.49	0.53
Route 16	Route 27A to Route 27	0.45	0.60	0.62	0.56	0.48	0.62	0.64	0.58
Route 16	Route 27 to Route 10A	0.76	0.95	0.91	0.84	0.80	0.97	0.93	0.89
Route 26	Route 1 to Route 25 [2]	**1.07**	**1.20**	**1.05**	**1.14**	**1.14**	**1.21**	**1.08**	**1.19**
Route 27	Route 16 to Route 1	0.35	0.65	0.70	0.42	0.40	0.66	0.70	0.49
Route 27A	Route 16 to Route 1	0.73	**1.61**	**1.48**	0.94	0.76	**1.61**	**1.49**	0.96
Route 27A	Route 1 to Route 28	0.49	0.94	0.64	0.69	0.52	0.94	0.64	0.75
Route 28	Route 1 to Route 27A	0.46	0.82	0.93	0.77	0.64	0.84	0.98	**1.03**
Route 28	Route 27A to Chalan Balako	0.56	**1.10**	0.76	0.89	0.86	**1.14**	0.81	**1.24**
Route 28	Chalan Balako to Route 3	0.53	**1.45**	0.93	0.53	0.69	**1.47**	0.95	0.68
Route 29	Route 1 to Route 15	0.59	0.88	0.54	0.53	0.59	0.98	0.61	0.54
Route 34	North of Route 1	0.19	0.14	0.23	0.24	0.19	0.16	0.24	0.24
Chln Lujuna [3]	Route 1 to Route 15	0.37	0.45	0.35	0.39	0.72	0.62	0.57	0.72

Notes:

[1] The widening of Route 27 will divert some traffic from Route 1.

[2] Route 26 will be widened so the volume-to-capacity ratio will decrease.

[3] Chalan Lujuna is not a numbered route but was included in the analysis because it will be used during construction as a main route to the quarries.

Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.

Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 99: Roadway V/C for Preferred Alternative, Central Region, 2021

Roadway		No Build Alternative				Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 14A to Route 10A	0.70	0.85	**1.18**	**1.11**	0.74	0.90	**1.24**	**1.16**
Route 1	Route 10A to Route 14B	0.71	**1.05**	**1.19**	0.94	0.75	**1.10**	**1.25**	0.98
Route 1	Route 14B to Route 14 (S)	0.75	0.92	**1.10**	0.88	0.79	0.97	**1.16**	0.92
Route 1	Route 14 (S) to Route 30	0.96	0.84	0.92	0.89	0.99	0.88	0.97	0.93
Route 1	Route 30 to Route 8	0.97	0.97	1.00	**1.07**	**1.01**	**1.01**	**1.05**	**1.10**
Route 1	Route 8 to Route 4	0.77	0.80	0.90	0.66	0.80	0.83	0.95	0.69
Route 1	Route 4 to Route 6 (N)	0.54	0.91	0.62	0.65	0.58	0.95	0.66	0.69
Route 1	Route 6 (N) to Route 11	0.87	**1.04**	0.99	0.76	0.93	**1.09**	**1.04**	0.82
Route 1	Route 11 to Route 6 (S)	0.77	0.79	0.75	0.71	0.80	0.83	0.80	0.74
Route 1	Route 6 (S) to Route 18	0.77	0.79	0.76	0.68	0.80	0.83	0.80	0.71
Route 1	Route 18 to Route 2A	0.94	0.82	0.77	0.81	0.97	0.87	0.81	0.84
Route 2A	Route 1 to Route 5	0.75	0.37	0.36	0.72	0.78	0.37	0.36	0.75
Route 4	Route 1 to Route 33	0.54	0.28	0.41	0.51	0.54	0.28	0.42	0.51
Route 4	Route 33 to Route 7B	0.73	0.26	0.45	0.60	0.73	0.26	0.45	0.61
Route 4	Route 7B to Route 15	**1.39**	**1.39**	**1.26**	**1.26**	**1.39**	**1.39**	**1.26**	**1.26**
Route 4	Route 15 to Route 10	**1.11**	**1.12**	0.89	0.88	**1.11**	**1.12**	0.89	0.88
Route 4	Route 10 to Route 17	**1.56**	0.83	**1.18**	**1.37**	**1.64**	0.88	**1.25**	**1.46**
Route 6	Route 1 (N) to Route 7	0.70	0.58	0.85	0.57	0.71	0.58	0.85	0.57
Route 6	Route 7 to Murray Rd.	0.48	0.47	0.61	0.44	0.49	0.48	0.62	0.45
Route 6	Murray Rd. to Route 1 (S)	0.16	0.18	0.24	0.14	0.16	0.18	0.24	0.15
Route 7	Route 6 to Route 7B	0.98	**1.13**	0.89	**1.03**	0.98	**1.16**	0.92	**1.06**
Route 7	Route 7B to Route 7A	**1.13**	0.87	0.72	**1.12**	**1.14**	0.91	0.75	**1.14**
Route 7A	Route 8 to Route 33	**1.07**	0.51	**1.09**	0.75	**1.09**	0.52	**1.09**	0.79
Route 7A	Route 33 to Route 4	0.99	0.69	**1.15**	0.67	**1.02**	0.71	**1.16**	0.71
Route 7A	Route 4 to Route 7	0.40	0.61	0.39	0.47	0.41	0.62	0.40	0.48
Route 7A	West of Route 7	0.37	0.42	0.63	0.36	0.37	0.43	0.63	0.37
Route 7B	Route 7 to Route 4	0.54	0.95	0.92	0.66	0.55	0.95	0.92	0.66
Route 8	Bar. Main Gate To Route 16	0.48	0.33	0.16	0.15	0.48	0.33	0.16	0.15
Route 8	Route 16 to Route 10	**1.07**	**1.12**	**1.05**	0.97	**1.11**	**1.13**	**1.07**	**1.02**
Route 8	Route 10 to Route 33 (E)	0.64	**1.17**	1.00	0.73	0.66	**1.18**	1.00	0.76
Route 8	Route 33 (E) to Route 33 (W)	0.84	**1.26**	**1.18**	0.80	0.86	**1.26**	**1.18**	0.84
Route 8	Route 33 (W) to Route 1	0.45	0.86	0.88	0.53	0.47	0.86	0.88	0.54
Route 10	Route 8 to Route 15	**1.17**	0.76	0.73	0.93	**1.18**	0.77	0.75	0.94
Route 10	Route 15 to Route 32	**1.10**	0.93	0.86	0.90	**1.15**	0.93	0.86	0.95
Route 10	Route 32 to Route 4	**1.07**	0.86	0.80	0.86	**1.13**	0.87	0.81	0.90
Route 10A	Route 16 to Sunset Blvd.	0.75	**2.42**	**1.76**	**1.20**	0.81	**2.43**	**1.77**	**1.25**
Route 10A	Sunset Blvd. to Route 1	0.51	0.99	0.84	0.67	0.51	0.99	0.84	0.68
Route 11	West of Route 1	0.15	0.66	0.59	0.13	0.22	0.73	0.66	0.20
Route 14	Route 14A to Route 14B	0.25	0.74	0.78	0.49	0.27	0.75	0.80	0.51
Route 14	Route 14B to Route 1 (S)	0.42	0.53	0.66	0.55	0.42	0.53	0.66	0.56
Route 14A	Route 14 to Route 1	0.42	0.49	0.80	0.67	0.44	0.50	0.81	0.68
Route 14B	Route 14 to Route 1	0.71	0.73	0.78	0.85	0.71	0.74	0.79	0.85
Route 15	Route 26 to Bar. South Gate	0.74	**1.13**	**1.05**	0.86	**1.01**	**1.16**	**1.09**	**1.06**
Route 15	Bar. South Gate to Route 10	0.56	1.00	1.00	0.71	0.69	1.00	1.00	0.80
Route 15	Route 10 to Route 4	0.52	0.61	0.41	0.36	0.54	0.62	0.41	0.37
Route 16	Route 10A to Bar. Main Gate	**1.09**	**1.10**	**1.15**	**1.18**	**1.14**	**1.12**	**1.17**	**1.24**
Route 16	Bar. Main Gate to Route 8	0.93	0.97	0.95	0.97	0.95	**1.01**	**1.01**	0.99
Route 25	Route 16 to Route 26	0.40	**1.74**	**1.46**	0.70	0.41	**1.74**	**1.46**	0.72
Route 26	Route 25 to Route 15	**1.26**	0.85	0.89	**1.19**	**1.28**	0.88	0.92	**1.22**
Route 30	North of Route 1	0.36	0.55	0.52	0.51	0.36	0.55	0.52	0.51
Route 33	Route 8 (E) to Route 7A	0.62	**1.03**	0.58	0.26	0.64	**1.03**	0.58	0.26
Route 33	Route 7A to Route 8 (W)	0.26	0.49	0.15	0.04	0.26	0.49	0.15	0.04
Tiyan Pkwy	Route 1 to Route 8	0.95	0.47	0.66	0.98	0.97	0.47	0.68	**1.01**

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 100: Roadway V/C for Preferred Alternative, South Region, 2021

Roadway		No Build Alternative				Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 2	Route 2A to Route 12	**1.33**	0.43	0.55	**1.04**	**1.38**	0.43	0.56	**1.08**
Route 2	Route 12 to Nimitz Beach	**1.19**	0.80	0.61	0.92	**1.23**	0.83	0.61	0.96
Route 2	Nimitz Beach to Route 4	0.44	0.44	0.37	0.37	0.46	0.46	0.39	0.39
Route 2A	Route 5 to Route 2	0.97	0.50	0.48	0.80	**1.02**	0.50	0.48	0.84
Route 4	Route 17 to Route 4A	0.95	0.95	0.52	0.52	0.99	0.99	0.55	0.56
Route 4	Route 4A to Inarajan	0.40	0.51	0.34	0.26	0.43	0.54	0.37	0.28
Route 4	Inarajan to Route 2	0.25	0.25	0.18	0.13	0.26	0.26	0.19	0.14
Route 4A	Route 17 to Route 4	0.51	0.31	0.27	0.40	0.53	0.31	0.27	0.41
Route 5	Route 2A to Route 17	0.32	0.98	0.67	0.28	0.32	0.98	0.68	0.28
Route 5	Route 17 to Route 12	0.20	0.19	0.13	0.13	0.20	0.19	0.13	0.14
Route 12	Route 5 to Route 2	0.48	0.88	0.51	0.35	0.49	0.89	0.52	0.35
Route 17	Route 5 to Route 4A	0.22	0.91	0.60	0.25	0.22	0.92	0.61	0.25
Route 17	Route 4A to Route 4	0.68	0.41	0.32	0.45	0.71	0.41	0.32	0.47

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Intersection-Level Impacts

The intersection-level impacts of the Preferred Alternative during construction are shown in Exhibit 101 through Exhibit 107. The project would have significant impacts on 7 intersections in the north region and 4 in the central region.

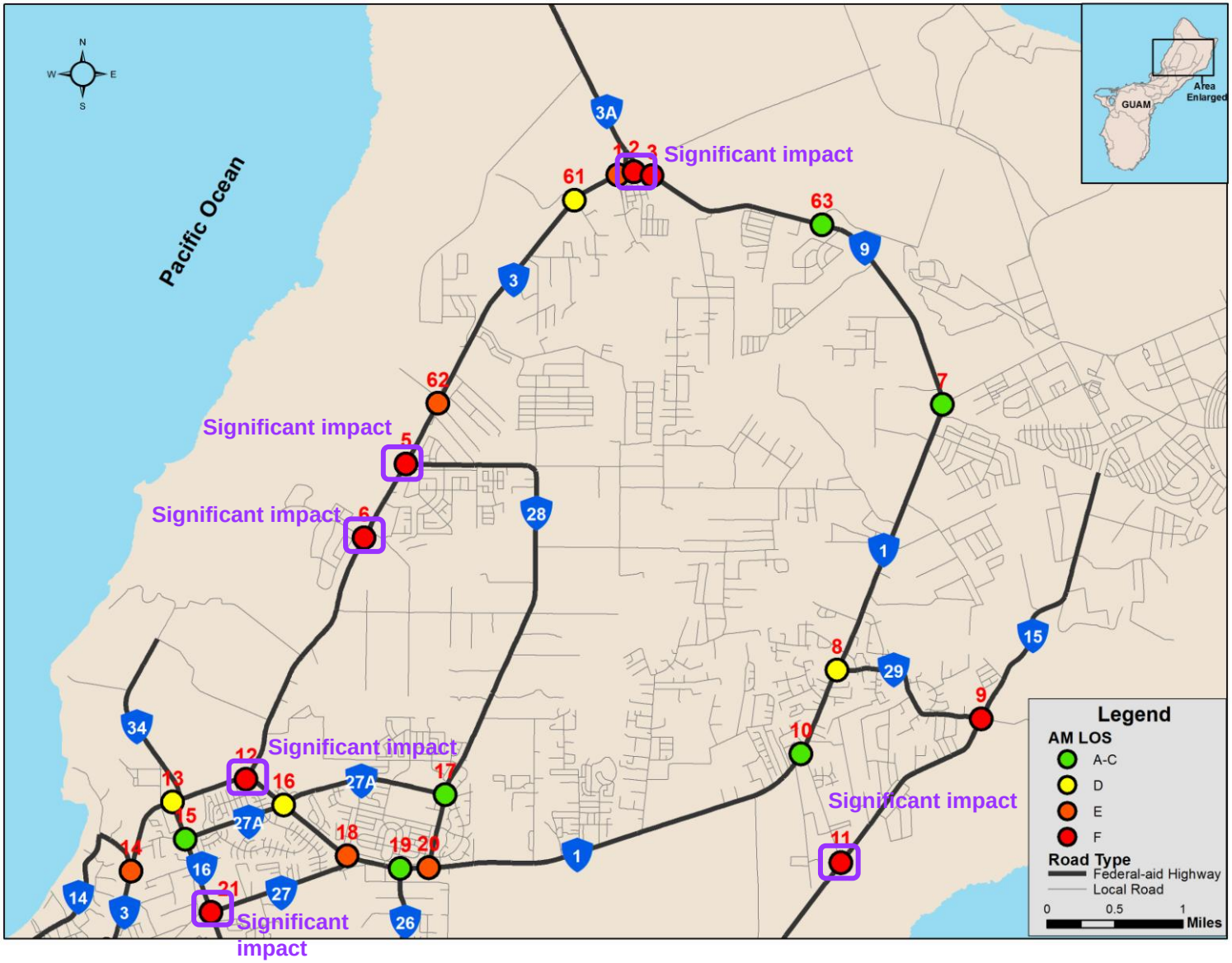


Exhibit 101: Intersection LOS for Preferred Alternative, AM Peak Hour – North Region, 2021

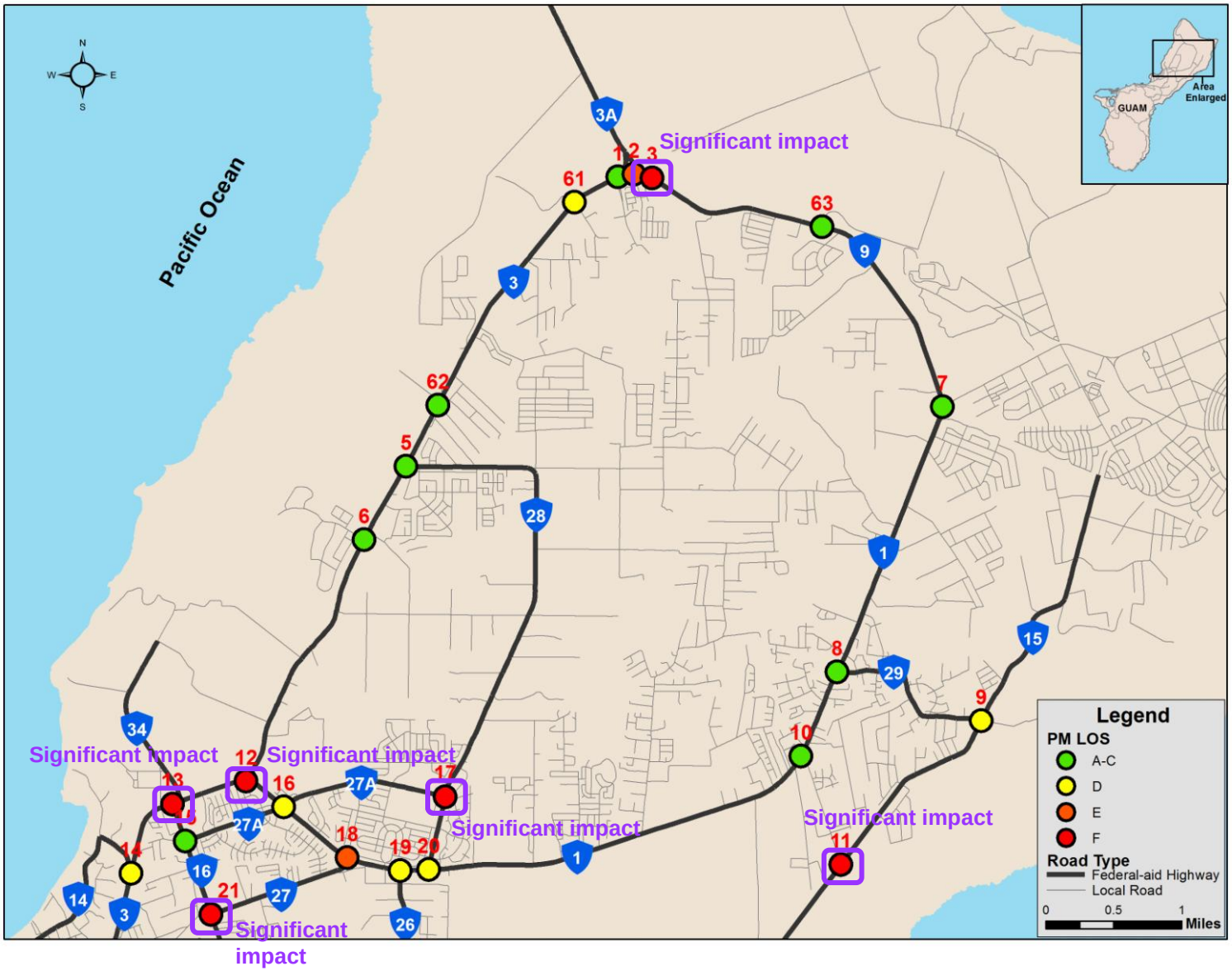


Exhibit 102: Intersection LOS for Preferred Alternative, PM Peak Hour – North Region, 2021

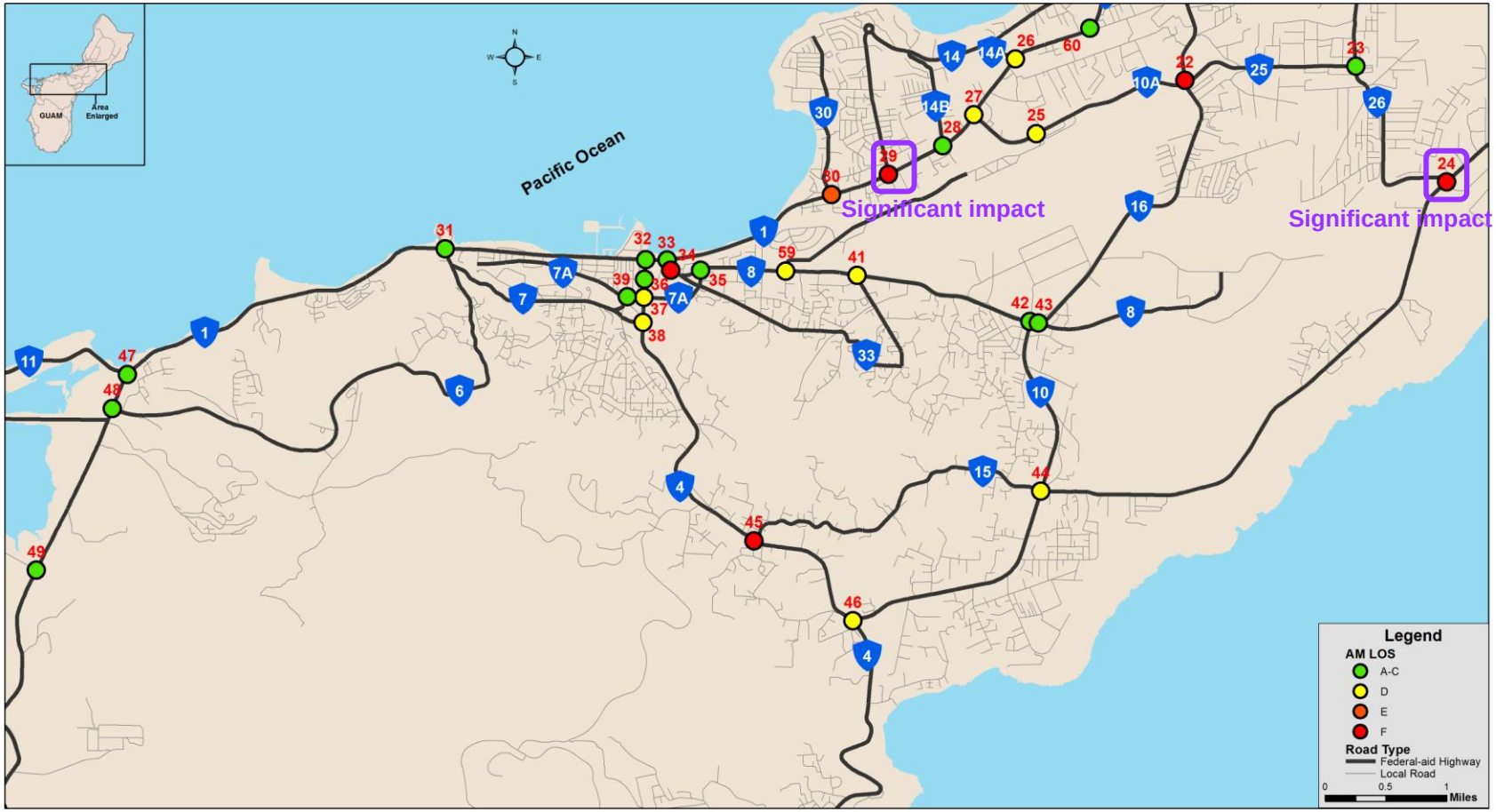


Exhibit 103: Intersection LOS for Preferred Alternative, AM Peak Hour – Central Region, 2021

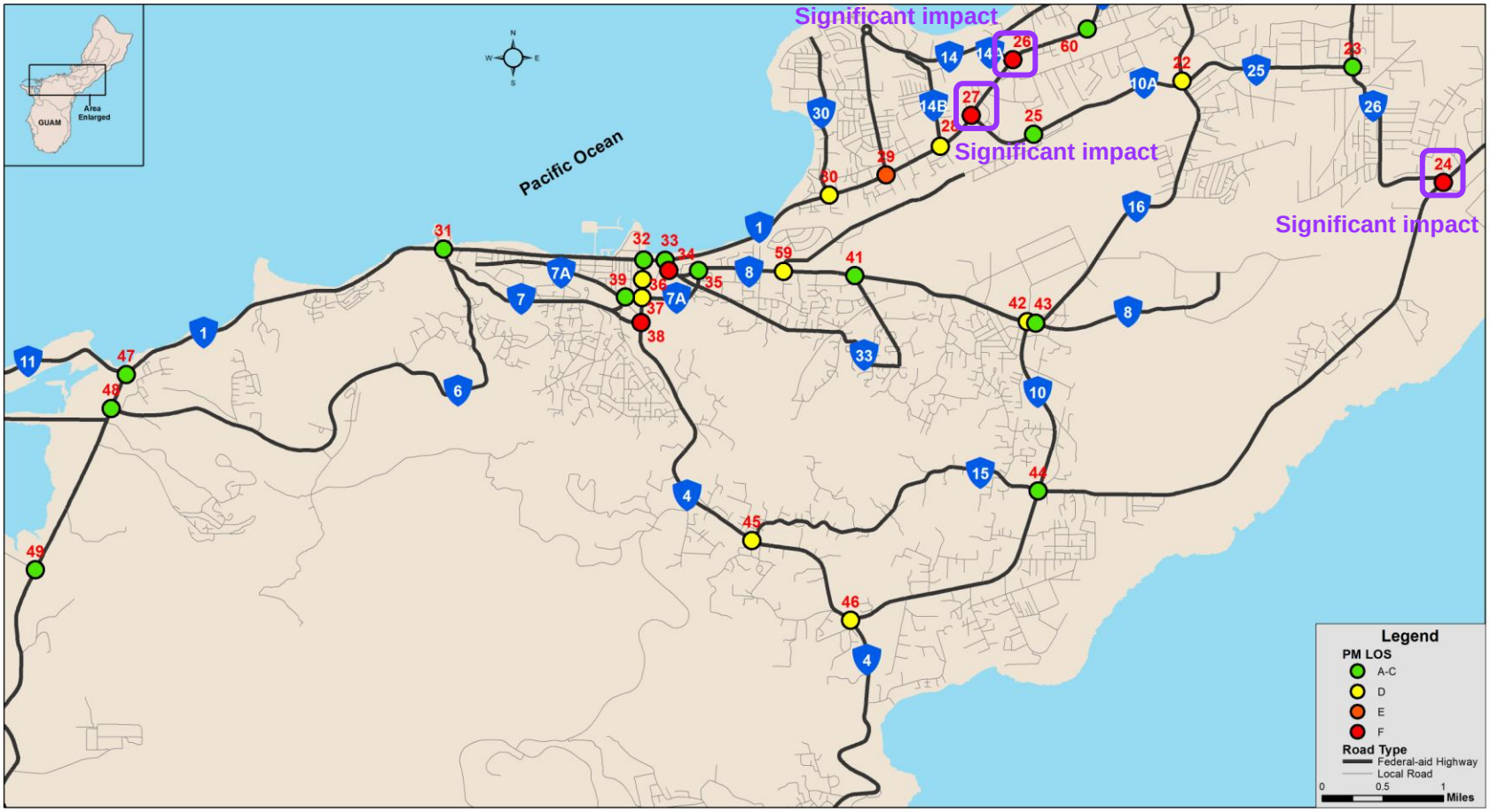


Exhibit 104: Intersection LOS for Preferred Alternative, PM Peak Hour – Central Region, 2021

Exhibit 105: Intersection LOS for Preferred Alternative, North Region, 2021

Intersection			No Build Alternative				Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	15.6	C	11.1	B	38.7	E	18.8	C
2	Route 3/9 / Chalan Santa Anita	TWSC	26.8	D	13.8	B	**> 180.0**	**F**	37.2	E
3	Route 9 / Route 3A	TWSC	14.1	B	13.1	B	**88.4**	**F**	**> 180.0**	**F**
4	Route 3 / Bullard Avenue	TWSC	18.1	C	12.2	B	- [3]	- [3]	- [3]	- [3]
5	Route 3 / Route 28	Signalized	32.6	C	22.3	C	**144.7**	**F**	26.8	C
6	Route 3 / Royal Palm Drive	TWSC	33.8	D	14.4	B	**58.1**	**F**	22.6	C
7	Route 1/9 / AAFB Entrance	Signalized	10.2	B	10.4	B	12.0	B	17.4	B
8	Route 1 / Route 29	Signalized	33.1	C	22.1	C	42.5	D	24.4	C
9	Route 15 / Route 29	TWSC	**80.8**	**F**	26.6	D	**109.2**	**F**	28.5	D
10	Route 1 / Chalan Lajuna	Signalized	19.3	B	12.9	B	23.9	C	18.8	B
11	Route 15 / Chalan Lajuna	TWSC	**59.1**	**F**	45.9	E	**> 180.0**	**F**	**> 180.0**	**F**
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	49.8	D	**> 180.0**	**F**	**102.3**	**F**
13	Route 1 / Route 16	Signalized	33.3	C	67.5	E	51.2	D	**92.4**	**F**
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	56.7	E	40.9	D	77.1	E	53.1	D
15	Route 16 / Route 27A	Signalized	16.9	B	16.6	B	17.1	B	16.6	B
16	Route 1 / Route 27A	Signalized	39.5	D	45.6	D	40.2	D	46.3	D
17	Route 28 / Route 27A	AWSC	10.9	B	**56.7**	**F**	14.5	B	**113.5**	**F**
18	Route 1 / Route 27	Signalized	65.4	E	49.1	D	70.9	E	69.1	E
19	Route 1 / Route 26	Signalized	22.5	C	43.3	D	33.9	C	42.5	D
20	Route 1 / Route 28	Signalized	44.6	D	35.3	D	59.5	E	38.8	D
21	Route 16 / Route 27	Signalized	**82.4**	**F**	**117.4**	**F**	**84.6**	**F**	**132.8**	**F**
61	Route 3 / USMC Main Gate	Signalized	- [4]	- [4]	- [4]	- [4]	54.5	D	48.1	D
62	Route 3 / USMC Secondary Gate	Signalized	- [4]	- [4]	- [4]	- [4]	59.8	E	28.8	C
63	Route 9 / ACE Gate	TWSC	- [5]	- [5]	- [5]	- [5]	23.6	C	13.1	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in Year 2030 No Build conditions.
[5] ACE Gate assumed to remain closed in Year 2030 No Build conditions.

Exhibit 106: Intersection LOS for Preferred Alternative, Central Region, 2021

Intersection			No Build Alternative				Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
22	Route 16 / Route 10A	Signalized	**169.7**	**F**	41.0	D	**169.4**	**F**	42.1	D
23	Route 26 / Route 25	Signalized	21.9	C	7.5	A	22.7	C	7.7	A
24	Route 15 / Route 26	TWSC	**117.8**	**F**	**> 180.0**	**F**	**> 180.0**	**F**	**> 180.0**	**F**
25	Route 10A / Sunset Blvd (Airport)	Signalized	50.8	D	28.0	C	52.7	D	28.0	C
26	Route 1 / Route 14A	Signalized	32.1	C	**> 180.0**	**F**	36.5	D	**> 180.0**	**F**
27	Route 1 / Route 10A	Signalized	37.7	D	**92.2**	**F**	48.3	D	**108.0**	**F**
28	Route 1 / Route 14B	Signalized	28.1	C	25.5	C	32.8	C	35.4	D
29	Route 1 / Route 14	Signalized	68.2	E	50.9	D	**80.3**	**F**	60.6	E
30	Route 1 / Route 30	Signalized	45.0	D	45.5	D	57.5	E	53.7	D
31	Route 1 / Route 6 (Adelup)	Signalized	17.8	B	24.5	C	18.1	B	25.2	C
32	Route 1 / Route 4	Signalized	10.2	B	17.2	B	10.5	B	17.5	B
33	Route 1 / Route 8	Signalized	14.5	B	30.4	C	14.3	B	30.1	C
34	Route 8 / Chalan Santo Papa	TWSC	**170.0**	**F**	**114.2**	**F**	**169.4**	**F**	**114.2**	**F**
35	Route 8 / Route 7A	Signalized	18.4	B	31.9	C	18.9	B	34.7	C
36	Route 4 / Chalan Santo Papa	Signalized	30.9	C	38.5	D	31.9	C	38.6	D
37	Route 4 / Route 7A	Signalized	46.3	D	48.3	D	47.2	D	49.1	D
38	Route 4 / Route 7B	TWSC	26.7	D	**82.9**	**F**	26.7	D	**88.6**	**F**
39	Route 7A / Route 7	Signalized	27.4	C	26.8	C	28.0	C	27.1	C
40	Route 8 / Sunset Blvd	TWSC	-[4]	-[4]	-[4]	-[4]	-[3]	-[3]	-[3]	-[3]
41	Route 8 / Route 33	Signalized	46.7	D	24.5	C	54.0	D	24.1	C
42	Route 8 / Route 10	Signalized	24.1	C	38.3	D	24.4	C	38.3	D
43	Route 16 / Route 8A	Signalized	18.0	B	7.0	A	19.0	B	7.1	A
44	Route 10 / Route 15	Signalized	41.0	D	31.5	C	42.8	D	34.9	C
45	Route 4 / Route 15	Signalized	77.6	E	35.9	D	**81.9**	**F**	36.8	D
46	Route 4 / Route 10	Signalized	51.7	D	40.1	D	52.9	D	45.5	D
47	Route 1 / Route 11	Signalized	10.7	B	14.1	B	12.2	B	14.9	B
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	10.0	B	11.9	B	9.9	A	12.1	B
49	Route 1 / Polaris Point	Signalized	12.8	B	13.4	B	13.5	B	11.8	B
59	Tiyan Parkway / Route 8	Signalized	47.3	D	40.9	D	51.3	D	41.8	D
60	Route 1 / Route 27 Extension	Signalized	14.2	B	3.7	A	12.0	B	4.8	A

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in Year 2030 No Build conditions.

Exhibit 107: Intersection LOS for Preferred Alternative, South Region, 2021

Intersection			No Build Alternative				Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
50	Route 1 / Route 2A	Signalized	13.0	B	22.2	C	13.1	B	23.0	C
51	Route 2A / Route 5	Signalized	20.5	C	19.6	B	20.6	C	19.3	B
52	Route 2 / Route 12	Signalized	26.3	C	14.0	B	26.4	C	13.9	B
53	Route 17 / Route 5	TWSC	19.8	C	14.6	B	19.8	C	14.6	B
54	Route 12 / Naval Magazine Entrance	TWSC	9.7	A	8.9	A	9.7	A	9.0	A
55	Route 17 / Route 4A	TWSC	21.9	C	19.8	C	22.3	C	21.2	C
56	Route 4 / Route 17	Signalized	55.5	E	19.5	B	66.3	E	21.4	C
57	Route 4 / Route 4A	TWSC	20.3	C	12.0	B	22.2	C	12.3	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

5.4 Recommended Mitigation Measures for 2021 Impacts

Mitigations for Roadway-Level Impacts

The measures needed to mitigate the USMC 2012 Roadmap Adjustment project's roadway-level impacts during construction are shown in Exhibit 108. In 8 of 23 cases the measures needed to mitigation construction impacts would also be needed when the USMC 2012 Roadmap Adjustment project is fully operational, in the other 15 cases the mitigations would only be needed during construction. There are nine sections of Route 1 that would require widening to accommodate construction-period traffic but widening appears to be infeasible in five of those locations. In such cases some other form of mitigation, such as restricted hours of construction traffic, should be investigated.

Mitigations for Intersection-Level Impacts

The measures needed to mitigate the USMC 2012 Roadmap Adjustment project's roadway-level construction impacts are summarized in Exhibit 109. Mitigation to a less-than-significant level appears to be feasible at all 12 intersections where significant impacts were identified. In 6 cases the mitigation measures would be needed in the long term; in the other 6 cases the measures would only be needed during construction. Exhibit 109 also shows the two new intersections that would constructed at the gates of the Main Cantonment and Family Housing.

Exhibit 108: Roadway-Level Mitigation Measures for Preferred Alternative, 2021

Roadway		No Build Alternative				Preferred Alternative				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	Are These Mitigation Measures Needed in 2030?	V/C After Feasible Mitigations are Implemented			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak					AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB				NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 29 to Chalan Lujuna	0.70	**1.06**	0.83	0.88	0.97	**1.14**	0.99	**1.14**	Add additional lane.	Yes		0.64	0.75	0.65	0.75
Route 1	Route 3 to Route 34	0.41	**1.53**	**1.03**	0.70	0.50	**1.62**	**1.15**	0.80	Add additional lane.	Yes	Yes	0.38	**1.23**	0.87	0.61
Route 1	Route 34 to Route 16	0.45	**1.34**	**1.04**	0.72	0.53	**1.43**	**1.16**	0.82	Add additional lane.	Yes	Yes	0.40	**1.08**	0.88	0.62
Route 1	Route 16 to Route 14 (N)	0.50	**1.42**	**1.36**	0.92	0.57	**1.49**	**1.46**	0.98	Add additional lane.	**No**		0.43	**1.13**	**1.10**	0.74
Route 1	Route 14 (N) to Route 14A	0.58	**1.22**	**1.27**	**1.11**	0.63	**1.27**	**1.34**	**1.17**	Add additional lane.	**No**		0.48	0.96	**1.01**	0.88
Route 3	Route 3A/9 to Fin. Main Gate	0.47	0.71	0.54	0.48	0.77	**1.16**	1.00	0.98	Add additional lane.	Yes	Yes	0.45	0.68	0.59	0.57
Route 3	Fin. Main Gate to Secondary Gate	0.48	**1.18**	0.64	0.55	**1.65**	**1.55**	**1.10**	**1.61**	Add additional lane.	Yes	Yes	0.97	0.91	0.64	0.94
Route 3	Fin. Secondary Gate to Route 28	0.69	**1.31**	0.86	0.71	**1.89**	**1.69**	**1.39**	**1.86**	Add additional lane.	Yes	Yes	**1.11**	0.99	0.81	**1.09**
Route 3	Route 28 to S. Fin. Main Gate	0.43	**1.21**	0.76	0.49	0.98	**1.36**	0.97	**1.04**	Add additional lane.	Yes	Yes	0.65	0.90	0.64	0.68
Route 3	S. Fin. Main Gate to Route 1	0.52	**1.30**	0.77	0.50	**1.05**	**1.44**	0.97	**1.04**	Add additional lane.	Yes	Yes	0.69	0.95	0.64	0.68
Route 9	Route 3/3A to AAFB North Gate	0.45	0.54	0.39	0.37	0.76	**1.23**	**1.10**	0.85	Add additional lane.	Yes		0.44	0.72	0.64	0.50
Route 15	Route 29 to Route 26	0.59	**1.03**	0.71	0.64	0.85	**1.08**	0.74	0.93	Add additional lane.	Yes		0.48	0.61	0.42	0.52
Route 26	Route 1 to Route 25	**1.07**	**1.20**	**1.05**	**1.14**	**1.14**	**1.21**	**1.08**	**1.19**	Add additional lane.	Yes		0.64	0.68	0.61	0.67
Route 28	Route 1 to Route 27A	0.46	0.82	0.93	0.77	0.64	0.84	0.98	**1.03**	Construct divided road with left-turn lanes.	Yes		0.61	0.80	0.93	0.98
Route 28	Route 27A to Chalan Balako	0.56	**1.10**	0.76	0.89	0.86	**1.14**	0.81	**1.24**	Add additional lane.	Yes	Yes	0.48	0.64	0.46	0.70
Route 1	Route 14A to Route 10A	0.70	0.85	**1.18**	**1.11**	0.74	0.90	**1.24**	**1.16**	Add additional lane.	**No**		0.56	0.68	0.94	0.88
Route 1	Route 10A to Route 14B	0.71	**1.05**	**1.19**	0.94	0.75	**1.10**	**1.25**	0.98	Add additional lane.	**No**		0.57	0.83	0.95	0.74
Route 1	Route 14B to Route 14 (S)	0.75	0.92	**1.10**	0.88	0.79	0.97	**1.16**	0.92	Add additional lane.	**No**		0.60	0.73	0.88	0.70
Route 1	Route 6 (N) to Route 11	0.87	**1.04**	0.99	0.76	0.93	**1.09**	**1.04**	0.82	Add additional lane.	Yes		0.61	0.72	0.68	0.54
Route 4	Route 10 to Route 17	**1.56**	0.83	**1.18**	**1.37**	**1.64**	0.88	**1.25**	**1.46**	Add additional lane.	Yes		0.92	0.58	0.70	0.97
Route 10	Route 32 to Route 4	**1.07**	0.86	0.80	0.86	**1.13**	0.87	0.81	0.90	Add additional lane.	Yes		0.75	0.58	0.54	0.60
Route 15	Route 26 to Bar. South Gate	0.74	**1.13**	**1.05**	0.86	**1.01**	**1.16**	**1.09**	**1.06**	Add additional lane.	Yes		0.57	0.65	0.61	0.60
Route 16	Bar. Main Gate to Route 8	0.93	0.97	0.95	0.97	0.95	**1.01**	**1.01**	0.99	Add additional lane.	Yes		0.63	0.67	0.67	0.65

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 109: Intersection-Level Mitigation Measures and Improvements for Preferred Alternative, 2021

Intersection			No Build Alternative				Preferred Alternative				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	Are These Mitigation Measures Needed in 2030?	LOS After Feasible Mitigations are Implemented			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS				Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3/9 / Route 3A	TWSC	26.8	D	13.8	B	> 180.0	F	37.2	E	Combine Route 3, 3A, and 9 into one signalized intersection with the following lane configuration: Northbound (Chalan Santa Anita): one shared left/through/right-turn lane. Southbound (Route 3A): one right-turn lane (150 feet storage), one shared through/left-turn lane. Eastbound (Route 3) and Westbound (Route 9): one left-turn lane (150 feet storage), one through lane, one shared through/right turn lane.	Yes	Yes	10.4	B	16.5	B
5	Route 3 / Route 28	Signalized	32.6	C	22.3	C	144.7	F	26.8	C	Northbound (Route 3): Restripe right turn lane to through lane and add exclusive right turn lane (150 feet storage) Westbound (Route 28): Provide excluse right-turn lane (150 feet storage).	Yes		35.0	C	18.9	B
6	Route 3 / Royal Palm Drive	TWSC	33.8	D	14.4	B	58.1	F	22.6	C	Eastbound (Royal Palm Drive): Provide exclusive right-turn lane (100 feet storage).	Yes	Yes	48.3	E	21.8	C
11	Route 15 / Chalan Lajuna	TWSC	59.1	F	45.9	E	> 180.0	F	> 180.0	F	Signalize intersection. Northbound (Route 15): Provide exclusive left-turn lane (150 feet storage).	Yes		55.6	E	25.4	C
12	Route 1 / Route 3	Signalized	> 180.0	F	49.8	D	> 180.0	F	102.3	F	Eastbound (Route 1): Add second left-turn lane. Southbound (Route 3): Provide overlap phase.	Yes	Yes	163.7	F	17.9	B
13	Route 1 / Route 16	Signalized	33.3	C	67.5	E	51.2	D	92.4	F	Eastbound (Route 1): Add one right turn lane (100 feet storage)	Yes		23.4	C	25.6	C
17	Route 28 / Route 27A	AWSC	10.9	B	56.7	F	14.5	B	113.5	F	Eastbound (Route 27A): Reconfigure approach to one shared left/through lane and one free right-turn lane. Southtbound (Route 28): Convert right-turn lane to free right-turn.	Yes		11.0	A	48.2	E
21	Route 16 / Route 27	Signalized	82.4	F	117.4	F	84.6	F	132.8	F	Westbound (Route 27): Provide exclusive right-turn lane (150 feet storage).	Yes	Yes	62.5	E	94.9	F
24	Route 15 / Route 26	TWSC	117.8	F	> 180.0	F	> 180.0	F	> 180.0	F	Signalize intersection.	Yes		11.9	B	30.9	C
26	Route 1 / Route 14A	Signalized	32.1	C	> 180.0	F	36.5	D	> 180.0	F	Eastbound (Route 1): Provide exclusive right-turn lane (150 feet storage).	Yes	Yes	34.2	C	158.1	F
27	Route 1 / Route 10A	Signalized	37.7	D	92.2	F	48.3	D	108.0	F	Northbound (Route 1): Provide exclusive right-turn lane (150 feet storage) with overlap phase.	Yes	Yes	25.8	C	40.6	D
29	Route 1 / Route 14	Signalized	68.2	E	50.9	D	80.3	F	60.6	E	Southbound (Route 14): Provide right-turn overlap phase.	Yes		74.7	E	54	D
61[4]	Route 3 / USMC Main Gate	Signalized	-[3]	-[3]	-[3]	-[3]	54.5	D	48.1	D	New intersection to be signalized with the following lane configuration: All approaches: Provide one left-turn lane (100 feet storage) and one shared through/right-turn lane.	Yes	Yes	54.5	D	48.1	D
62[4]	Route 3 / USMC Secondary Gate	Signalized	-[3]	-[3]	-[3]	-[3]	59.8	E	28.8	C	New "T" intersection to be signalized with the following lane configuration: Northbound (Route 3): Provide one left-turn lane (100 feet storage) and one through lane. Southbound (Route 3): Provide one shared through/right-turn lane Eastbound (USMC Secondary Gate): Provide one left-turn lane (100 feet storage) and one right-turn lane.	Yes	Yes	59.8	E	28.8	C

Notes:

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

[3] Intersection does not exist in Year 2030 No Build conditions.

[4] Intersections 61 and 62 are design features of the project rather than mitigation measures.

LOS – level of service

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

Bold indicates LOS "F" conditions. Red indicates significant

5.5 Traffic Impacts at Full Build-Out

Roadway-Level Impacts

Exhibit 110 through Exhibit 114 show the forecasts for the 2030 peak hour v/c ratio for each segment of the primary road network and a comparison to the No Build Alternative. The exhibits show that:

- The Preferred Alternative would cause significant impacts for the entire length of Route 3 in the southbound direction in the AM peak hour (see Exhibit 110 and Exhibit 112)[18]. The project would add more northbound traffic than southbound, but the southbound direction is more congested with civilian traffic and so has less capacity to accommodate USMC traffic.
- In the PM peak hour the Preferred Alternative would also cause significant impacts on Route 3 between Route 28 and the Secondary Gate and between Route 9 and the Main Gate (see Exhibit 111). These sections currently have only one lane in each direction which is not enough capacity to handle the traffic to and from the proposed Marine base.
- There would also be a significant impact on the westbound leg of Route 28 in the AM peak hour, where traffic to the project would add to already congested conditions caused by outbound commuter traffic heading towards Route 3. There would also be a significant impact in the PM peak hour in the eastbound direction.
- In the PM peak hour, Route 1 between Route 3 and Route 16 would operate at capacity without the project. The project would add about 7% to PM peak hour traffic, which would put the v/c ratio in the 1.04-to-1.08 range, which would be a significant impact.

The project would not have any significant impacts on roadways in the central or southern regions of Guam.

[18] The sketch-level analysis did not find significant roadway impacts on Route 3 north of the Secondary Gate, but the current analysis did find such impacts. The difference is due to information that was received after the sketch-level analysis was submitted to the effect that traffic destined for the Main Cantonment would be required to use the Main Gate. The sketch-level analysis had assumed that project-related traffic from the south would be allowed to use the Secondary Gate and cut through the site using internal roads, which would have relieved congestion on the parallel portion of Route 3.

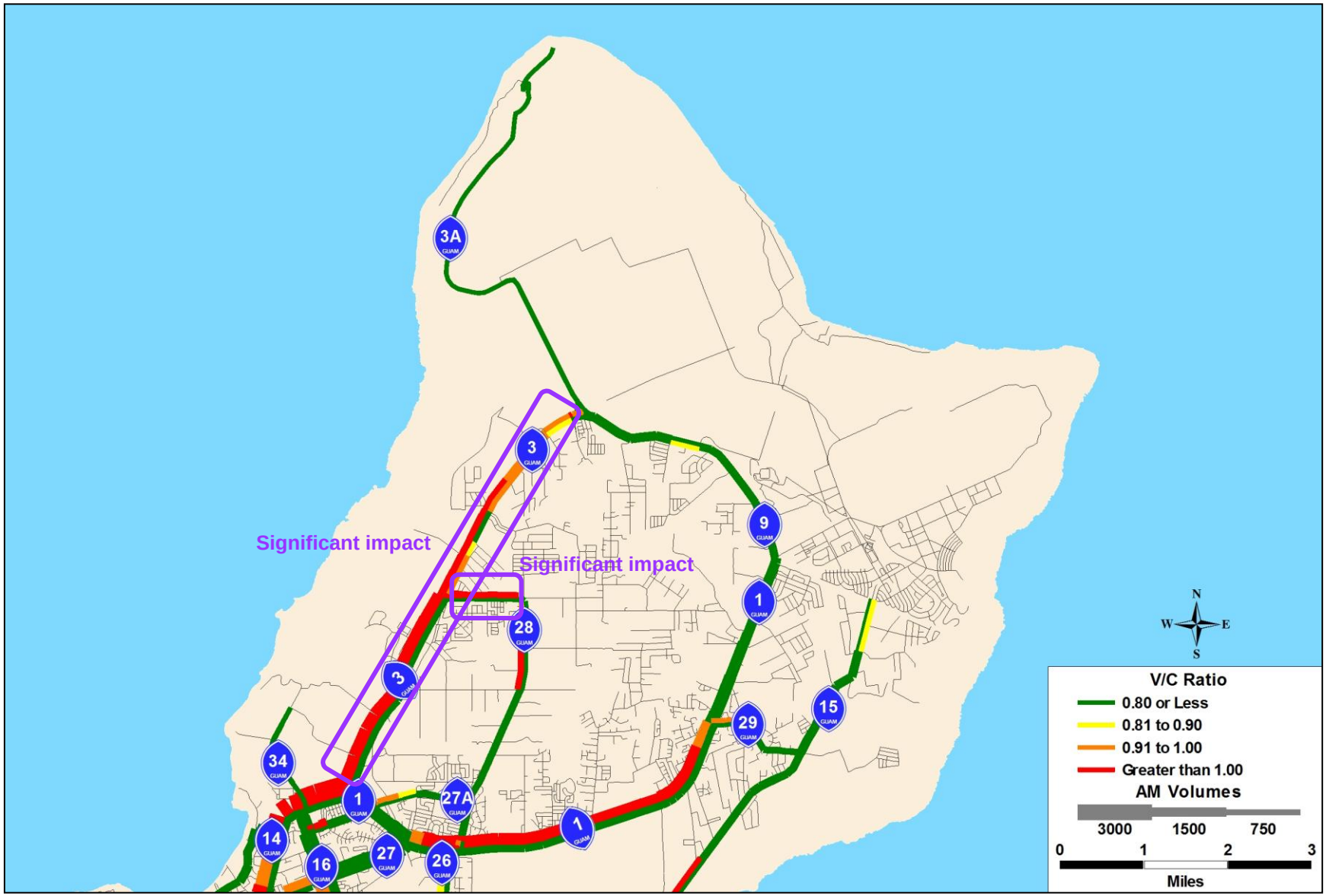


Exhibit 110: Roadway V/C for Preferred Alternative, AM Peak Hour - North Region, 2030

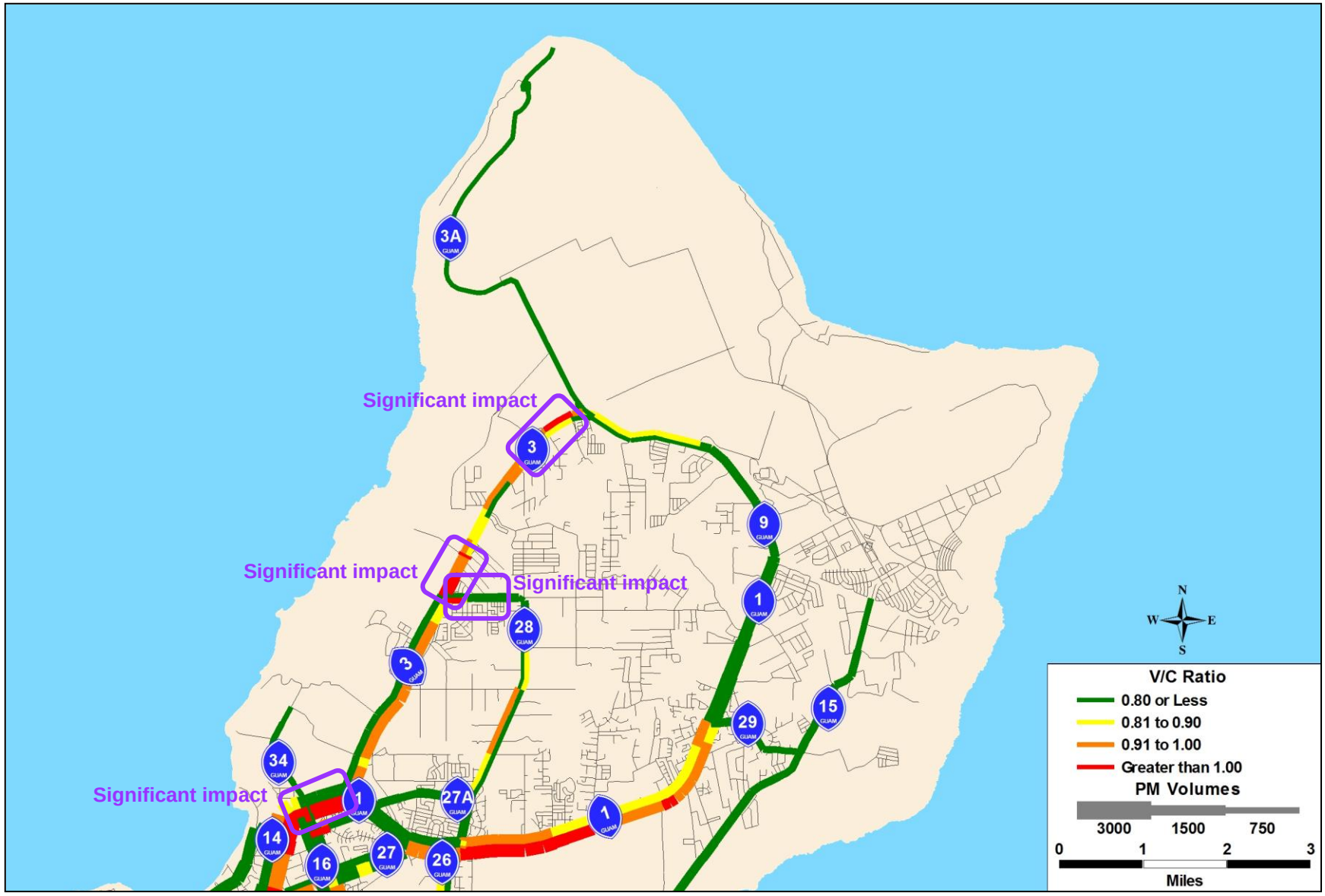


Exhibit 111: Roadway V/C for Preferred Alternative, PM Peak Hour – North Region, 2030

Exhibit 112: Roadway V/C for Preferred Alternative, North Region, 2030

Roadway		No Build Alternative				Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.49	0.68	0.67	0.71	0.55	0.69	0.75	0.76
Route 1	Route 29 to Chalan Lujuna	0.71	**1.10**	0.86	0.89	0.74	**1.10**	0.93	0.93
Route 1	Chalan Lujuna to Route 28	0.73	**1.38**	**1.29**	0.93	0.75	**1.38**	**1.29**	0.95
Route 1	Route 28 to Route 26	0.54	**1.04**	**1.05**	0.71	0.55	**1.04**	**1.05**	0.73
Route 1	Route 26 to Route 27	0.56	**1.10**	1.00	0.60	0.57	**1.10**	1.00	0.61
Route 1	Route 27 to Route 27A *	0.32	0.63	0.54	0.41	0.32	0.65	0.55	0.41
Route 1	Route 27A to Route 3 *	0.31	0.71	0.59	0.40	0.31	0.73	0.61	0.40
Route 1	Route 3 to Route 34	0.40	**1.53**	**1.01**	0.68	0.44	**1.60**	**1.08**	0.74
Route 1	Route 34 to Route 16	0.44	**1.35**	0.97	0.71	0.47	**1.41**	**1.04**	0.77
Route 1	Route 16 to Route 14 (N)	0.49	**1.26**	**1.20**	0.89	0.51	**1.30**	**1.24**	0.92
Route 1	Route 14 (N) to Route 14A	0.62	**1.12**	**1.32**	**1.08**	0.64	**1.15**	**1.36**	**1.10**
Route 3	Route 3A/9 to Fin. Main Gate	0.50	0.75	0.57	0.52	0.86	**1.02**	0.82	**1.05**
Route 3	Fin. Main Gate to Secondary Gate	0.49	**1.24**	0.68	0.56	0.94	**1.41**	0.95	0.97
Route 3	Fin. Secondary Gate to Route 28	0.70	**1.36**	0.91	0.74	0.97	**1.61**	**1.21**	**1.08**
Route 3	Route 28 to S. Fin. Main Gate	0.44	**1.25**	0.79	0.51	0.53	**1.36**	0.91	0.64
Route 3	S. Fin. Main Gate to Route 1	0.53	**1.35**	0.81	0.54	0.61	**1.45**	0.94	0.66
Route 3A	North of Route 3/9	0.11	0.03	0.02	0.13	0.11	0.03	0.02	0.24
Route 9	Route 3/3A to AAFB North Gate	0.48	0.56	0.42	0.40	0.82	0.76	0.60	0.90
Route 9	AAFB Main Gate to Route 1	0.52	0.38	0.30	0.47	0.61	0.51	0.45	0.70
Route 14	Route 1 to Gun Beach Rd.	0.26	0.64	0.64	0.63	0.27	0.65	0.65	0.64
Route 14	Gun Beach Rd. to Route 14A	0.51	0.36	0.36	0.76	0.51	0.36	0.37	0.76
Route 15	AAFB to Route 29	0.86	0.72	0.43	0.61	0.87	0.73	0.44	0.62
Route 15	Route 29 to Route 26	0.57	**1.08**	0.78	0.66	0.59	**1.08**	0.79	0.69
Route 16	Route 1 to Route 27A	0.35	0.50	0.53	0.48	0.37	0.52	0.56	0.51
Route 16	Route 27A to Route 27	0.36	0.74	0.73	0.52	0.38	0.76	0.76	0.55
Route 16	Route 27 to Route 10A	0.75	0.98	0.96	0.84	0.77	1.00	0.98	0.86
Route 26	Route 1 to Route 25 **	0.73	0.83	0.74	0.88	0.74	0.84	0.74	0.89
Route 27	Route 16 to Route 1	0.41	0.75	0.84	0.44	0.42	0.75	0.84	0.46
Route 27A	Route 16 to Route 1	0.72	**1.63**	**1.49**	0.96	0.73	**1.63**	**1.52**	0.96
Route 27A	Route 1 to Route 28	0.48	0.98	0.69	0.70	0.48	0.98	0.69	0.70
Route 28	Route 1 to Route 27A	0.51	0.90	0.99	0.79	0.51	0.91	1.00	0.80
Route 28	Route 27A to Chalan Balako	0.57	**1.16**	0.82	0.91	0.61	**1.17**	0.84	0.92
Route 28	Chalan Balako to Route 3	0.54	**1.48**	0.98	0.57	0.57	**1.56**	**1.04**	0.62
Route 29	Route 1 to Route 15	0.64	0.90	0.56	0.58	0.64	0.93	0.58	0.58
Route 34	North of Route 1	0.22	0.13	0.23	0.28	0.22	0.13	0.23	0.28

Notes:
* The widening of Route 27 will divert some traffic from Route 1.
** Route 26 will be widened so the volume-to-capacity ratio will decrease.
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 113: Roadway V/C for Preferred Alternative, Central Region, 2030

Roadway		No Build Alternative				Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 14A to Route 10A	0.76	0.84	**1.20**	**1.13**	0.77	0.86	**1.23**	**1.15**
Route 1	Route 10A to Route 14B	0.69	**1.13**	**1.26**	0.90	0.70	**1.16**	**1.29**	0.92
Route 1	Route 14B to Route 14 (S)	0.70	0.94	**1.11**	0.84	0.71	0.96	**1.14**	0.85
Route 1	Route 14 (S) to Route 30	0.90	0.83	0.90	0.83	0.90	0.85	0.92	0.85
Route 1	Route 30 to Route 8	0.98	1.00	**1.01**	1.00	0.98	**1.02**	**1.03**	**1.01**
Route 1	Route 8 to Route 4	0.78	0.85	0.91	0.68	0.78	0.87	0.94	0.71
Route 1	Route 4 to Route 6 (N)	0.58	0.96	0.66	0.69	0.58	0.98	0.68	0.70
Route 1	Route 6 (N) to Route 11	0.91	**1.05**	0.99	0.78	0.92	**1.08**	**1.01**	0.79
Route 1	Route 11 to Route 6 (S)	0.79	0.80	0.75	0.73	0.80	0.83	0.78	0.74
Route 1	Route 6 (S) to Route 18	0.79	0.80	0.76	0.71	0.80	0.82	0.78	0.72
Route 1	Route 18 to Route 2A	0.92	0.86	0.77	0.80	0.93	0.88	0.80	0.81
Route 2A	Route 1 to Route 5	0.75	0.40	0.38	0.72	0.76	0.40	0.38	0.72
Route 4	Route 1 to Route 33	0.49	0.27	0.41	0.46	0.49	0.27	0.42	0.46
Route 4	Route 33 to Route 7B	0.75	0.27	0.47	0.64	0.75	0.27	0.47	0.65
Route 4	Route 7B to Route 15	**1.39**	**1.39**	**1.29**	**1.29**	**1.39**	**1.39**	**1.29**	**1.29**
Route 4	Route 15 to Route 10	**1.11**	**1.12**	0.88	0.88	**1.11**	**1.12**	0.88	0.88
Route 4	Route 10 to Route 17	**1.63**	0.87	**1.21**	**1.42**	**1.64**	0.88	**1.22**	**1.43**
Route 6	Route 1 (N) to Route 7	0.71	0.61	0.87	0.59	0.71	0.61	0.87	0.59
Route 6	Route 7 to Murray Rd.	0.53	0.52	0.65	0.49	0.53	0.52	0.65	0.50
Route 6	Murray Rd. to Route 1 (S)	0.17	0.18	0.25	0.16	0.17	0.18	0.25	0.16
Route 7	Route 6 to Route 7B	**1.02**	**1.14**	0.92	**1.07**	**1.03**	**1.19**	0.96	**1.08**
Route 7	Route 7B to Route 7A	**1.16**	0.92	0.77	**1.13**	**1.17**	0.97	0.81	**1.14**
Route 7A	Route 8 to Route 33	**1.19**	0.56	**1.12**	0.93	**1.20**	0.59	**1.14**	0.94
Route 7A	Route 33 to Route 4	**1.14**	0.75	**1.20**	0.85	**1.16**	0.78	**1.23**	0.86
Route 7A	Route 4 to Route 7	0.41	0.65	0.38	0.48	0.42	0.68	0.40	0.49
Route 7A	West of Route 7	0.37	0.48	0.67	0.38	0.37	0.48	0.68	0.39
Route 7B	Route 7 to Route 4	0.59	0.94	0.92	0.71	0.60	0.94	0.92	0.73
Route 8	Bar. Main Gate To Route 16	0.48	0.35	0.15	0.18	0.48	0.35	0.16	0.18
Route 8	Route 16 to Route 10	**1.02**	0.89	0.88	0.90	**1.03**	0.90	0.89	0.92
Route 8	Route 10 to Route 33 (E)	0.55	0.95	0.81	0.61	0.55	0.95	0.81	0.61
Route 8	Route 33 (E) to Route 33 (W)	0.98	**1.16**	**1.29**	**1.03**	1.00	**1.18**	**1.30**	**1.04**
Route 8	Route 33 (W) to Route 1	0.52	0.91	0.98	0.59	0.52	0.91	0.98	0.59
Route 10	Route 8 to Route 15	**1.26**	0.80	0.77	1.00	**1.27**	0.80	0.78	**1.01**
Route 10	Route 15 to Route 32	**1.17**	0.95	0.90	0.96	**1.18**	0.96	0.91	0.97
Route 10	Route 32 to Route 4	**1.11**	0.86	0.83	0.89	**1.12**	0.86	0.84	0.90
Route 10A	Route 16 to Sunset Blvd.	0.34	**1.13**	0.86	0.65	0.35	**1.15**	0.87	0.66
Route 10A	Sunset Blvd. to Route 1	0.50	**1.27**	**1.10**	0.78	0.50	**1.27**	**1.10**	0.78
Route 11	West of Route 1	0.14	0.66	0.58	0.12	0.15	0.66	0.59	0.12
Route 14	Route 14A to Route 14B	0.27	0.80	0.84	0.52	0.29	0.80	0.84	0.53
Route 14	Route 14B to Route 1 (S)	0.45	0.58	0.70	0.60	0.46	0.58	0.71	0.60
Route 14A	Route 14 to Route 1	0.43	0.57	0.86	0.67	0.44	0.57	0.87	0.68
Route 14B	Route 14 to Route 1	0.83	0.78	0.87	0.95	0.83	0.78	0.87	0.96
Route 15	Route 26 to Bar. South Gate	0.75	**1.11**	**1.06**	0.84	0.77	**1.11**	**1.06**	0.87
Route 15	Bar. South Gate to Route 10	0.60	0.99	**1.02**	0.74	0.61	0.99	**1.02**	0.76
Route 15	Route 10 to Route 4	0.55	0.66	0.43	0.38	0.56	0.66	0.43	0.38
Route 16	Route 10A to Bar. Main Gate	**1.07**	0.89	**1.05**	**1.13**	**1.09**	0.90	**1.06**	**1.15**
Route 16	Bar. Main Gate to Route 8	0.76	0.94	0.89	0.85	0.77	0.95	0.91	0.86
Route 25	Route 16 to Route 26	0.38	**1.85**	**1.53**	0.96	0.38	**1.85**	**1.53**	0.96
Route 26	Route 25 to Route 15	**1.41**	0.89	**1.01**	**1.31**	**1.42**	0.89	**1.01**	**1.31**
Route 30	North of Route 1	0.39	0.58	0.56	0.54	0.39	0.58	0.56	0.54
Route 33	Route 8 (E) to Route 7A	0.71	1.00	0.59	0.31	0.71	1.00	0.59	0.31
Route 33	Route 7A to Route 8 (W)	0.27	0.49	0.16	0.04	0.27	0.49	0.16	0.04
Tiyan Pkwy	Route 1 to Route 8	0.82	0.67	0.73	0.90	0.84	0.69	0.75	0.91

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 114: Roadway V/C for Preferred Alternative, South Region, 2030

Roadway		No Build Alternative				Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 2	Route 2A to Route 12	**1.38**	0.44	0.57	**1.09**	**1.39**	0.44	0.58	**1.10**
Route 2	Route 12 to Nimitz Beach	**1.25**	0.84	0.64	0.98	**1.25**	0.85	0.64	0.99
Route 2	Nimitz Beach to Route 4	0.47	0.47	0.40	0.40	0.47	0.47	0.40	0.40
Route 2A	Route 5 to Route 2	**1.02**	0.51	0.49	0.85	**1.03**	0.51	0.50	0.86
Route 4	Route 17 to Route 4A	0.99	0.99	0.56	0.57	1.00	1.00	0.56	0.57
Route 4	Route 4A to Inarajan	0.44	0.55	0.37	0.28	0.44	0.55	0.37	0.29
Route 4	Inarajan to Route 2	0.26	0.26	0.20	0.15	0.27	0.27	0.20	0.15
Route 4A	Route 17 to Route 4	0.54	0.32	0.29	0.42	0.54	0.32	0.29	0.42
Route 5	Route 2A to Route 17	0.36	0.93	0.62	0.29	0.36	0.93	0.63	0.29
Route 5	Route 17 to Route 12	0.21	0.19	0.14	0.15	0.21	0.19	0.14	0.15
Route 12	Route 5 to Route 2	0.50	0.90	0.54	0.37	0.50	0.90	0.54	0.37
Route 17	Route 5 to Route 4A	0.23	0.82	0.55	0.26	0.23	0.83	0.55	0.26
Route 17	Route 4A to Route 4	0.71	0.39	0.36	0.48	0.72	0.41	0.36	0.48

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Intersection-Level Impacts

Exhibit 115 through Exhibit 121 show the intersection LOS in the north, central, and south regions of Guam for the AM and PM peak periods for this alternative. In the AM peak hour the project would have significant impacts at six intersections, namely:

- Rte 3/Rte 9/ Chalan Santa Anita (Intersection #2) – This intersection currently operates at LOS "C" and is expected to worsen to LOS "E" by 2030 even without the USMC Roadmap Adjustments Project. With the project the LOS would be "F". The problem is that there is a substantial flow of traffic turning left out of Chalan Santa Anita that will have difficulty finding a gap in the traffic sufficient to permit a safe turn. The project adds hundreds of vehicles to the peak-hour traffic on Route 3/9, which will make the left-turn maneuver even more difficult.
- Rte.3/Royal Palm Drive (Intersection #6) – The problem at this intersection is similar to the one at Intersection #2. This intersection currently operates at LOS "C" and is expected to worsen to LOS "E" by 2030 even without the USMC Roadmap Adjustments Project. With the project the LOS would be "F". There is a small volume of vehicles turning left into or out of Royal Palm Drive that will have difficulty finding a gap in the Route 3 traffic sufficient to permit a safe turn. The project adds hundreds of vehicles to the peak-hour traffic on Route 3, which will make the left-turn maneuver even more difficult.
- Rte.1/Rte.3 (Intersection #12) – This intersection already operates at LOS "F" due to conflicts between two very heavy southbound traffic flows (on Rte. 1 and Rte. 3) and between the southbound movement on Route 1 and the northbound left-turn movement. The project adds hundreds of vehicles to the peak-hour traffic on Route 3, which will exacerbate these conflicts. Some preliminary work has been done to identify ways to relieve congestion at this location. However, this intersection has already been widened, signalized, and re-timed to optimize performance.

- Rte.1/Rte.27 (Intersection #18) – This intersection currently already operates at LOS "E" and is expected to worsen to LOS "F" by 2030 even without the USMC Roadmap Adjustments Project. The project has both direct and indirect impacts on this intersection. The direct impact is to add several dozen work trips through this intersection in the AM peak hour. The indirect impact comes from several dozen more trips[19] through the intersection made by members of the households of USMC civilian workers and project-induced population growth. Although these trips would not go to or from the project site, they are nevertheless a project impact because these households would not be on Guam without the project. Any increase in the civilian population of northern Guam will exacerbate conditions at critical bottleneck intersections like this one.
- Rte.16/Rte.27 (Intersection #21) – This intersection currently already operates at LOS "D" and is expected to worsen to LOS "F" by 2030 even without the USMC Roadmap Adjustments Project. The project has both direct and indirect impacts on this intersection, similar to those described for intersection #18
- Rte.16/10A (Intersection #22) - This intersection already operates at LOS "F" despite being the only grade-separated intersection on Guam. The northbound left-turn flows are large enough to justify dual left-turn lanes, but the intersection geometry precludes this movement from operating in the same phase as the southbound left-turn movement (the two streams would be dangerously close to each other). As a result the intersection is operated using split phasing, which is the least efficient method of allocating green time.

In the PM peak hour the project would have significant impacts at five intersections, namely:

- Rte.1/Rte.3 (Intersection #12) – This intersection already operates at LOS "E" due to conflicts between the southbound movement on Route 1 and the very heavy northbound left-turn movement. The queue for the northbound left turn movement regularly overflows its storage lane. As was the case in the AM peak hour, the project adds hundreds of vehicles to the peak-hour traffic on Route 3, which will change the PM peak-hour LOS from "E" without the project to "F" with the project.
- Rte.1/Rte.26 (Intersection #19) – This intersection currently operates at LOS "C" but is expected to worsen to LOS "F" by 2030 even without the USMC Roadmap Adjustments Project. The problem is that two substantial left turn movements conflict with the very large volume of northbound commuter traffic on Route 1. This is primarily an indirect impact of the growth in the civilian population induced by the project.
- Rte.16/Rte.27 (Intersection #21) – This intersection currently already operates at LOS "E" and is expected to worsen to LOS "F" by 2030 even without the USMC Roadmap Adjustments Project. The project has both direct and indirect impacts on this intersection, similar to those in the AM peak hour at this intersection.
- Rte.1/Rte.14A (Intersection #26) – This intersection currently operates at LOS "F" and conditions will worsen by 2030 even without the USMC Roadmap Adjustments Project. USMC civilian workers living in the southern half of the island and their dependents will cause more than a hundred additional trips to pass through this intersection, adding to the congestion.
- Rte.1/Rte.10A (Intersection #27) – This intersection currently operates at LOS "E" and is expected to worsen to LOS "F" by 2030 even without the USMC Roadmap Adjustments Project. USMC civilian workers living in the southern half of the island and their dependents will cause more than a hundred additional trips to pass through this intersection, adding to the congestion.

Note that the impacts that would occur at Intersections 3 and 6 in the AM peak hour are not forecast to occur in the PM peak hour. At Intersection #3 there is both less traffic turning left out of Chalan Santa

[19] These would likely include a combination of work trips, school trips, shopping trips, and personal errands.

Anita and less traffic on Route 3/9 in the evening, so conflicts between them are reduced. At Intersection #6 the southbound traffic volume on Route 3 in the evening is less than half the morning volume, so left turns across Route 3 are much easier.

Exhibit 115: Intersection LOS for Preferred Alternative, North Region, 2030

Intersection			No Build Alternative				Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	16.1	C	11.5	B	32.6	D	18.6	C
2	Route 3/9 / Chalan Santa Anita	TWSC	37.7	E	15.0	B	**> 180.0**	**F**	34.5	D
3	Route 9 / Route 3A	TWSC	14.7	B	13.6	B	21.4	C	24.7	C
4	Route 3 / Bullard Avenue	TWSC	19.0	C	12.4	B	-[3]	-[3]	-[3]	-[3]
5	Route 3 / Route 28	Signalized	33.7	C	23.2	C	40.4	D	26.4	C
6	Route 3 / Royal Palm Drive	TWSC	36.4	E	14.8	B	**57.8**	**F**	16.1	C
7	Route 1/9 / AAFB Entrance	Signalized	10.4	B	11.6	B	11.3	B	14.1	B
8	Route 1 / Route 29	Signalized	34.2	C	23.3	C	35.0	C	24.6	C
9	Route 15 / Route 29	TWSC	**102.0**	**F**	31.2	D	**113.0**	**F**	31.6	D
10	Route 1 / Chalan Lajuna	Signalized	19.9	B	13.8	B	20.5	C	14.1	B
11	Route 15 / Chalan Lajuna	TWSC	**75.8**	**F**	**82.6**	**F**	**86.0**	**F**	**92.7**	**F**
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	63.4	E	**> 180.0**	**F**	**90.1**	**F**
13	Route 1 / Route 16	Signalized	21.9	C	45.3	D	25.9	C	62.3	E
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	32.4	C	43.2	D	37.6	D	47.0	D
15	Route 16 / Route 27A	Signalized	24.0	C	18.8	B	24.1	C	18.9	B
16	Route 1 / Route 27A	Signalized	37.3	D	46.4	D	37.9	D	46.7	D
17	Route 28 / Route 27A	AWSC	11.7	B	**65.0**	**F**	12.1	B	**65.0**	**F**
18	Route 1 / Route 27	Signalized	**118.3**	**F**	50.2	D	**118.5**	**F**	54.6	D
19	Route 1 / Route 26	Signalized	34.4	C	**87.6**	**F**	36.4	D	**89.4**	**F**
20	Route 1 / Route 28	Signalized	53.5	D	37.1	D	54.1	D	37.6	D
21	Route 16 / Route 27	Signalized	**> 180.0**	**F**	**154.7**	**F**	**> 180.0**	**F**	**159.0**	**F**
61	Route 3 / USMC Main Gate	Signalized	-[4]	-[4]	-[4]	-[4]	39.8	D	25.5	C
62	Route 3 / USMC Secondary Gate	Signalized	-[4]	-[4]	-[4]	-[4]	15.5	B	7.3	A
63	Route 9 / ACE Gate	TWSC	-[5]	-[5]	-[5]	-[5]	19.6	C	13.5	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in Year 2030 No Build conditions.
[5] ACE Gate assumed to remain closed in Year 2030 No Build conditions.

Exhibit 116: Intersection LOS for Preferred Alternative, Central Region, 2030

Intersection			2030 No Build Conditions				2030 With Finegayan NWF Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
22	Route 16 / Route 10A	Signalized	**> 180.0**	**F**	49.1	D	**> 180.0**	**F**	53.9	D
23	Route 26 / Route 25	Signalized	26.2	C	9.6	A	26.3	C	9.7	A
24	Route 15 / Route 26	TWSC	**145.2**	**F**	**> 180.0**	**F**	**166.6**	**F**	**> 180.0**	**F**
25	Route 10A / Sunset Blvd (Airport)	Signalized	27.6	C	54.4	D	30.0	C	57.9	E
26	Route 1 / Route 14A	Signalized	35.2	D	**> 180.0**	**F**	37.3	D	**> 180.0**	**F**
27	Route 1 / Route 10A	Signalized	53.0	D	**139.3**	**F**	54.5	D	**144.7**	**F**
28	Route 1 / Route 14B	Signalized	38.3	D	30.4	C	42.8	D	32.3	C
29	Route 1 / Route 14	Signalized	73.4	E	50.8	D	77.3	E	53.2	D
30	Route 1 / Route 30	Signalized	55.1	E	42.5	D	58.7	E	43.9	D
31	Route 1 / Route 6 (Adelup)	Signalized	18.3	B	25.6	C	18.7	B	25.8	C
32	Route 1 / Route 4	Signalized	10.1	B	16.7	B	10.3	B	17.4	B
33	Route 1 / Route 8	Signalized	14.9	B	19.6	B	14.6	B	19.2	B
34	Route 8 / Chalan Santo Papa	TWSC	**86.5**	**F**	**158.9**	**F**	**87.6**	**F**	**161.2**	**F**
35	Route 8 / Route 7A	Signalized	19.6	B	58.2	E	20.3	C	59.5	E
36	Route 4 / Chalan Santo Papa	Signalized	31.3	C	37.6	D	31.1	C	37.7	D
37	Route 4 / Route 7A	Signalized	50.1	D	53.4	D	52.1	D	54.8	D
38	Route 4 / Route 7B	TWSC	32.3	D	**161.3**	**F**	39.9	E	**159.5**	**F**
39	Route 7A / Route 7	Signalized	29.4	C	26.6	C	29.9	C	26.7	C
40	Route 8 / Sunset Blvd	TWSC	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]
41	Route 8 / Route 33	Signalized	40.7	D	17.8	B	40.7	D	18.3	B
42	Route 8 / Route 10	Signalized	24.8	C	24.7	C	24.9	C	25.2	C
43	Route 16 / Route 8A	Signalized	17.2	B	6.7	A	17.4	B	6.7	A
44	Route 10 / Route 15	Signalized	43.7	D	33.4	C	43.8	D	34.6	C
45	Route 4 / Route 15	Signalized	73.4	E	36.4	D	76.9	E	37.3	D
46	Route 4 / Route 10	Signalized	73.8	E	53.0	D	74.2	E	54.4	D
47	Route 1 / Route 11	Signalized	10.8	B	14.2	B	10.9	B	14.0	B
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	10.0	A	12.8	B	9.9	A	12.6	B
49	Route 1 / Polaris Point	Signalized	11.2	B	5.7	A	11.2	B	5.7	A
58	Tiyan Parkway / Route 10A	Signalized	34.5	C	60.5	E	34.7	C	61.5	E
59	Tiyan Parkway / Route 8	Signalized	58.2	E	47.0	D	60.1	E	49.0	D
60	Route 1 / Route 27 Extension	Signalized	19.9	B	9.0	A	20.1	C	12.2	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in Year 2030 conditions.

Exhibit 117: Intersection LOS for Preferred Alternative, South Region, 2030

Intersection			No Build Alternative				Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
50	Route 1 / Route 2A	Signalized	13.6	B	22.9	C	13.4	B	23.2	C
51	Route 2A / Route 5	Signalized	20.9	C	18.4	B	20.9	C	18.4	B
52	Route 2 / Route 12	Signalized	26.1	C	14.6	B	26.1	C	14.6	B
53	Route 17 / Route 5	TWSC	18.3	C	13.5	B	18.9	C	13.5	B
54	Route 12 / Naval Magazine Entrance	TWSC	9.7	A	8.9	A	9.7	A	9.0	A
55	Route 17 / Route 4A	TWSC	21.8	C	24.1	C	23.5	C	24.1	C
56	Route 4 / Route 17	Signalized	62.6	E	21.5	C	67.2	E	22.1	C
57	Route 4 / Route 4A	TWSC	22.8	C	12.3	B	22.8	C	12.3	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

Impacts to Bicycle, Pedestrian, and Bus Transit

The project would significantly increase vehicular traffic on Route 3 whose northern portions near the Main Cantonment lacks shoulders or sidewalks. This would increase the potential for collisions with bicyclists and pedestrians at the locations where they are likely to be present, such as Artero Drive (Finegayan Elementary School and McDonald) and Okkodo High School.

None of the proposed USMC 2012 Roadmap Adjustment sites (Main Cantonment, Family Housing, LFTRC, or ACE) are served by fixed-route transit. The project may have a minor impact on the operation of Grey Line #1 by increasing travel delay at intersections 12 (Rte1/Rte3) and 19 (Rte1/Rte26). However, since the current problem with the bus operations is that the buses routinely run ahead of schedule[20] this is not considered a significant impact.

[20] See *Draft Conditions Assessment and Baseline for 2030 Mass Transit Plan*, Parsons Brinckerhoff, March 2008

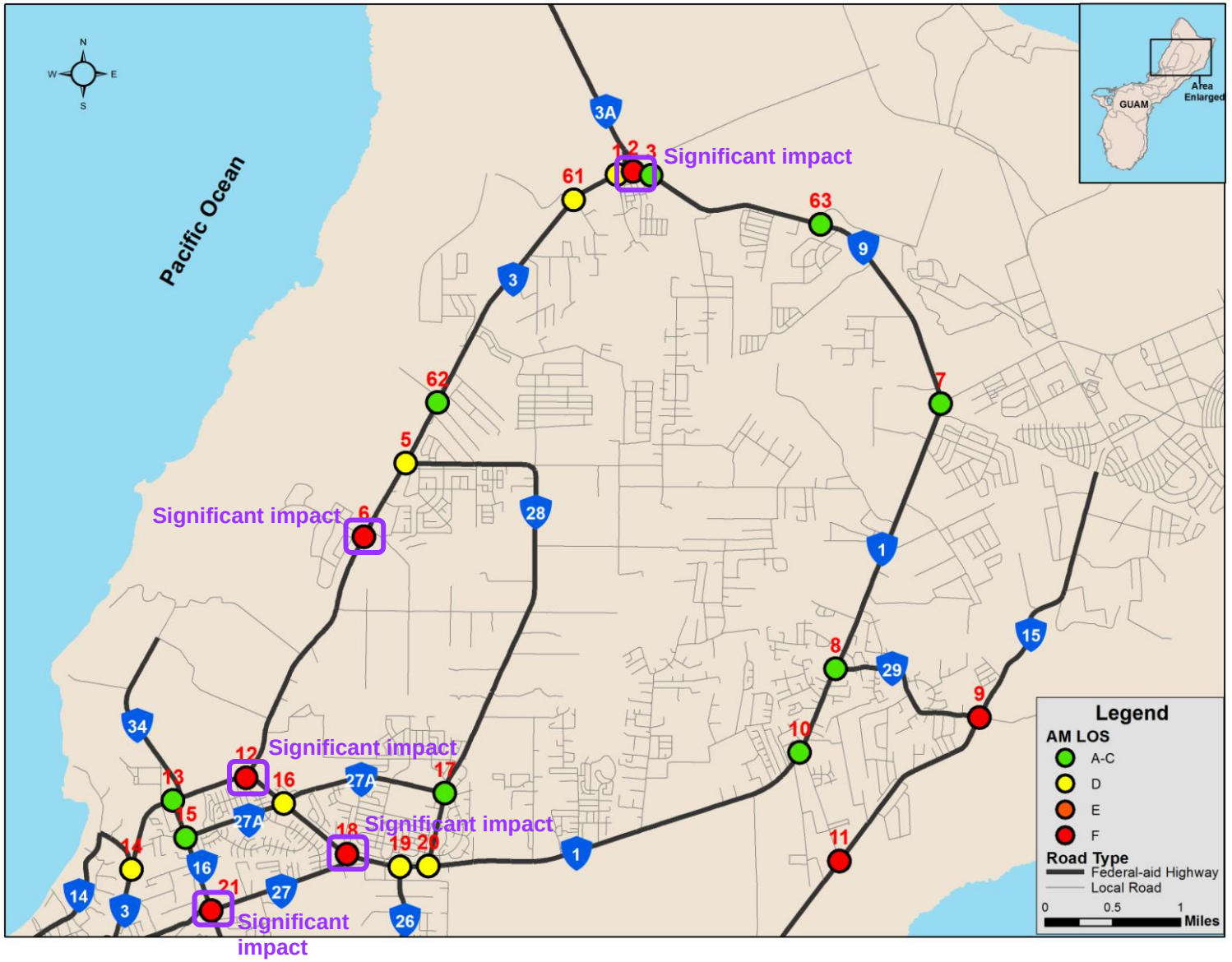


Exhibit 118: Intersection LOS for Preferred Alternative, AM Peak Hour – North Region, 2030

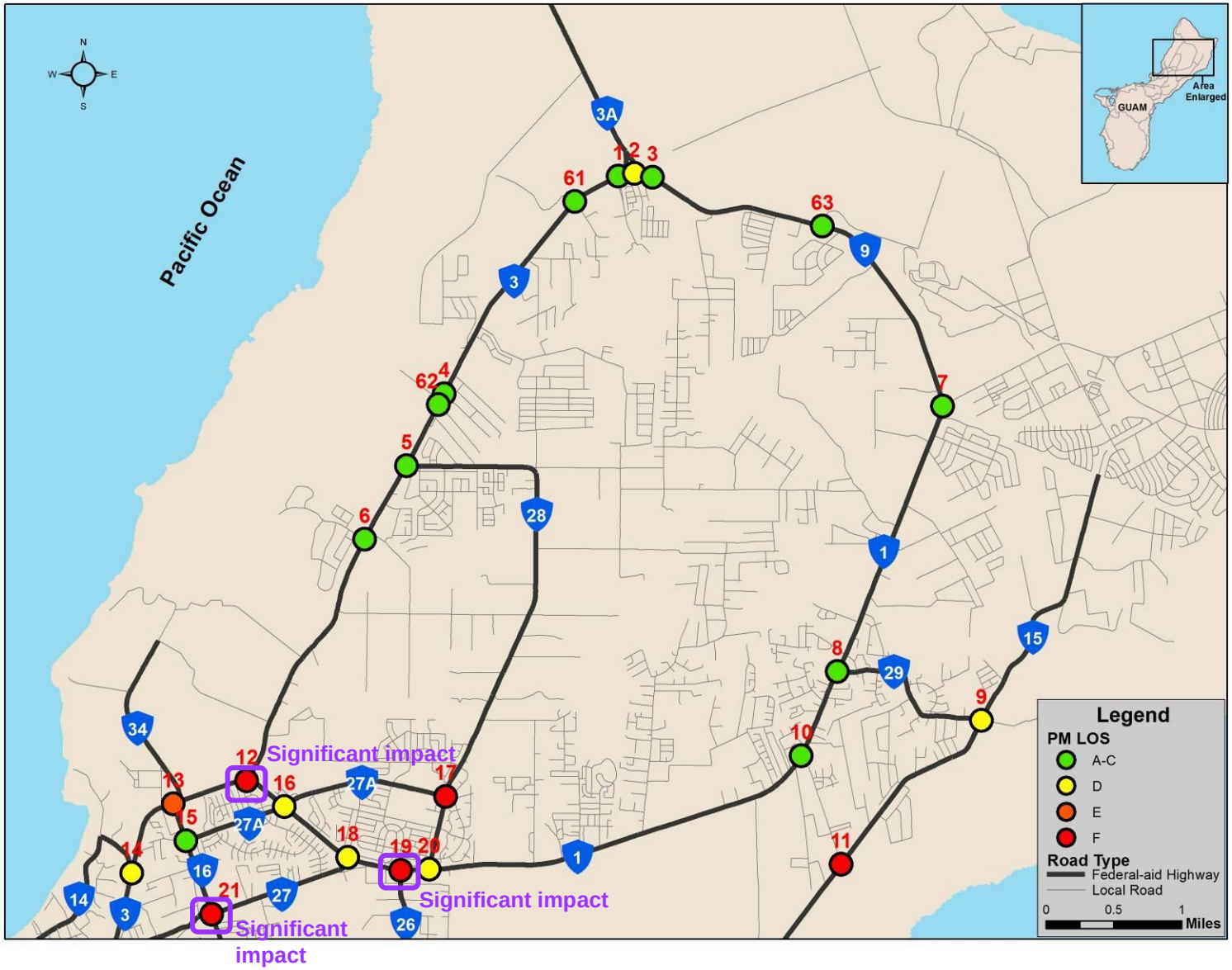


Exhibit 119: Intersection LOS for Preferred Alternative, PM Peak Hour – North Region, 2030

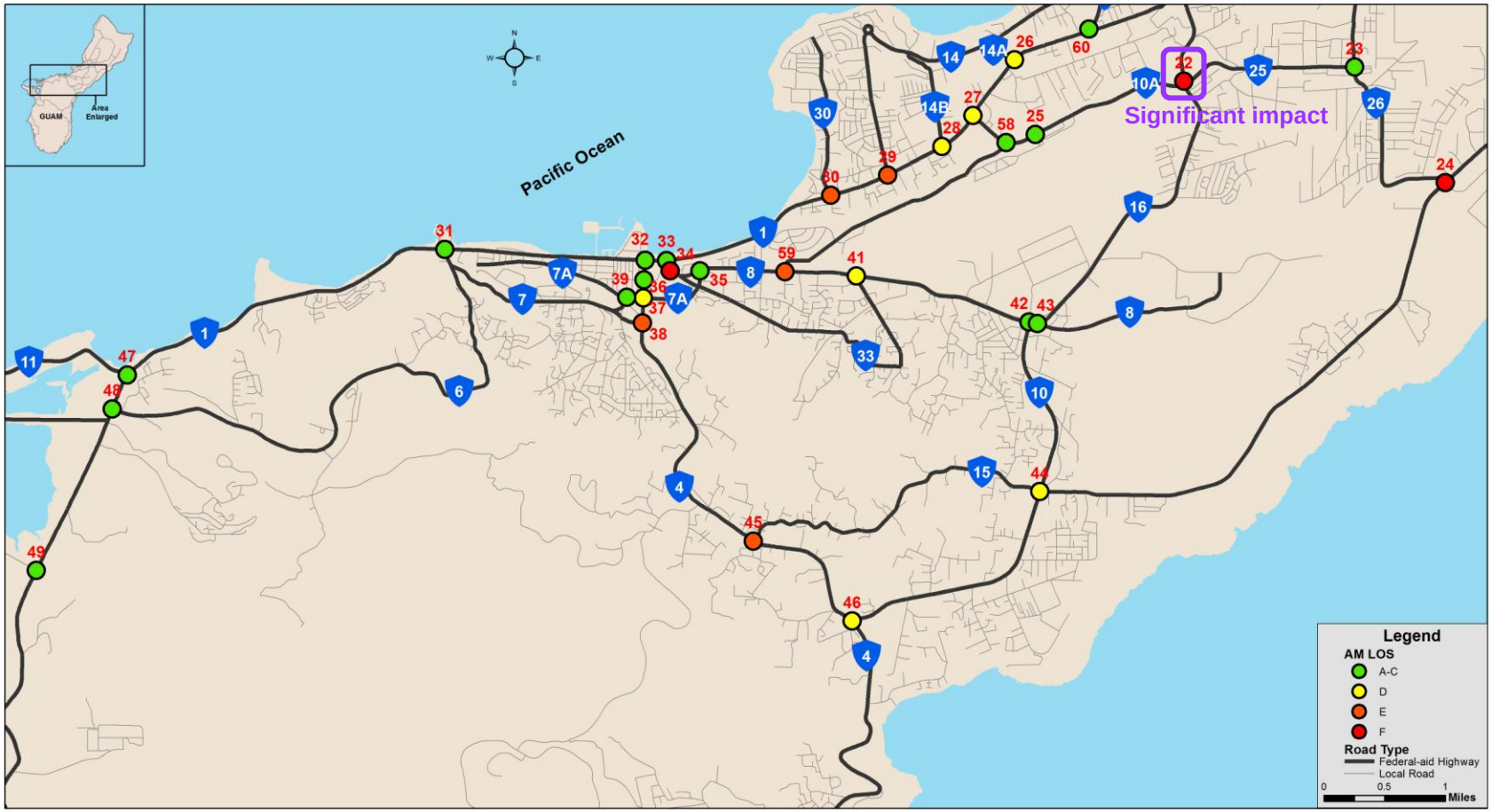


Exhibit 120: Intersection LOS for Preferred Alternative, AM Peak Hour – Central Region, 2030

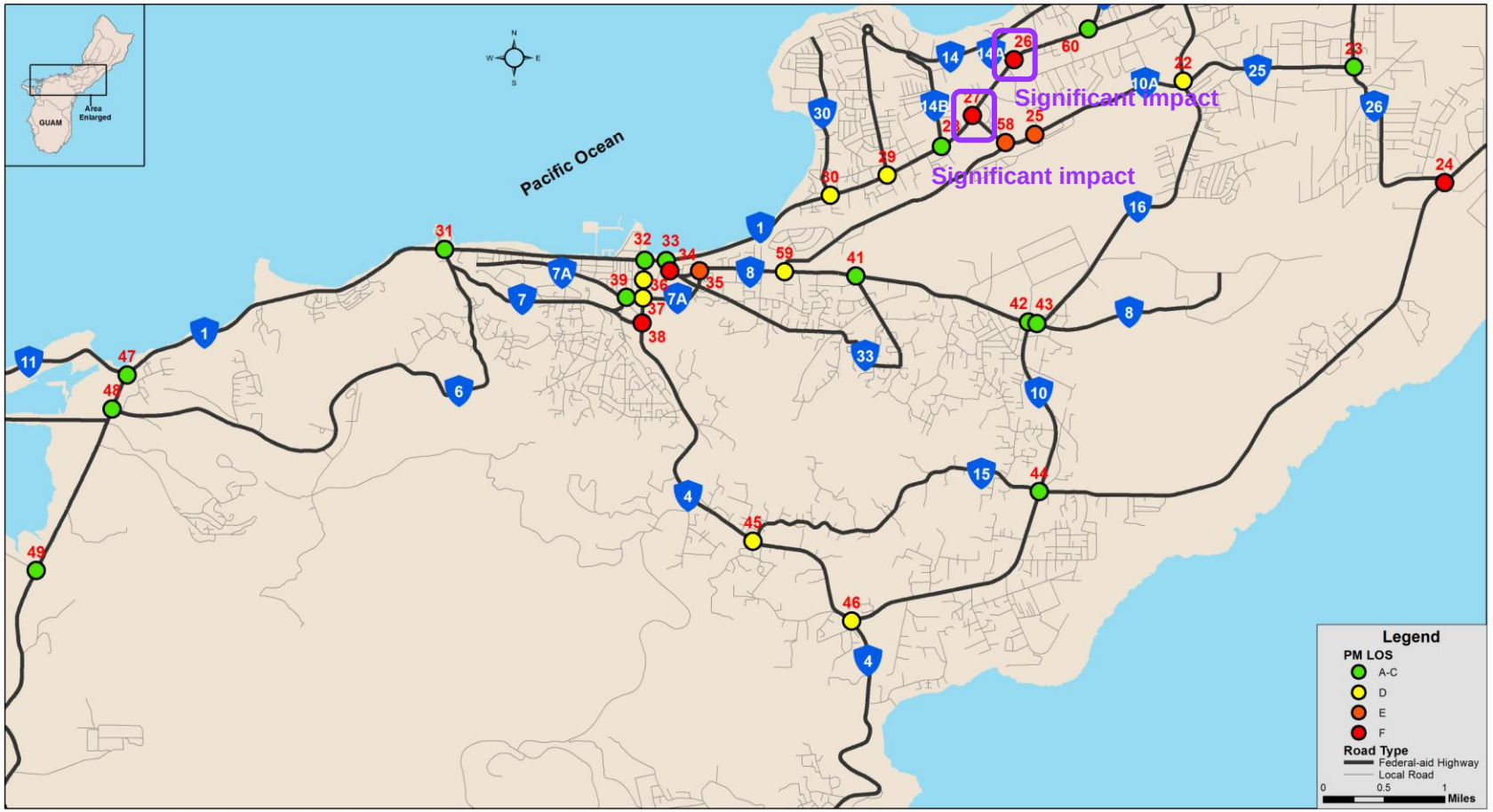


Exhibit 121: Intersection LOS for Preferred Alternative, PM Peak Hour – Central Region, 2030

5.6 Recommended Mitigation Measures for 2030 Impacts

Mitigations for Roadway-Level Impacts

The measures needed to mitigate the USMC 2012 Roadmap Adjustment project's roadway-level impacts are shown in Exhibit 122.

For the two sections of Route 1 where the project has significant impacts the project's impacts could be mitigated by adding an eastbound lane, however the most severe capacity problem would actually be on the westbound side of the road. Guam DPW may wish to consider adding lanes to both sides to achieve a good level of service in this area.

For Route 3, there is one section where the USMC 2012 Roadmap Adjustment project's impacts could only be mitigated by adding a lane in both directions of travel and three sections where the project's impacts could be mitigated by widening the southbound side only. However, given that the northbound side would also be operating near capacity (v/c of 0.82 to 0.95) for the entire length of Route 3, consideration should be given to widening both sides of the road.

Mitigations for Intersection-Level Impacts

The measures needed to mitigate the USMC 2012 Roadmap Adjustment project's intersection-level impacts are summarized in Exhibit 123. Aerial photographs of the intersections, drawings of the No Build and Preferred Alternative mitigations, turning movement counts, and Synchro analysis sheets for each intersection listed in Exhibit 123 are provided in the appendices to this report. For all twelve intersections where the project would have significant impacts it appears that it would be feasible to mitigate the project's impacts to less-than-significant.

Mitigations for Bicycle, Pedestrian, and Bus Transit Impacts

The proposed widening of Route 3 would create an opportunity to put in sidewalks and bicycle lanes near established communities and widened shoulders in the areas between communities. This would be consistent with the proposed pedestrian and bicycle improvements in the 2030 Guam Transportation Plan and would mitigate project impacts on bicyclists and pedestrians.

If the mass transit improvements in the 2030 Guam Transportation Plan were to be implemented, then the Main Cantonment and Family Housing would be served by Andersen/Tumon Route 102 which will run along Route 3. The ACE base and the LFTRC will be served by the Andersen Shuttle. To the extent that USMC civilian workers used these services it could potentially reduce the number of car trips generated by the project. Bus pull-outs and passenger waiting areas should be provided near the new military gates and other incentives, such as free bus passes, should be used to encourage transit use by civilian workers.

Exhibit 122: Roadway-Level Mitigation Measures for Preferred Alternative 2030

Roadway			No Build Alternative				Preferred Alternative						Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Proposed Mitigation Measures Feasible?	V/C After Feasible Mitigations are Implemented			
			AM Peak		PM Peak		AM Peak			PM Peak					AM Peak		PM Peak	
Route	Segment	Approximate Length	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	Impact?	SB / WB	NB / EB	Impact?	SB / WB			NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 3 to Route 34	0.50 miles (2,700 ft)	0.40	**1.53**	**1.01**	0.68	0.44	N	**1.60**	**1.08**	N	0.74	Add additional EB lane.	Yes	0.33	**1.21**	0.82	0.56
Route 1	Route 34 to Route 16	0.06 miles (300 ft)	0.44	**1.35**	0.97	0.71	0.47	N	**1.41**	**1.04**	N	0.77	Add additional EB lane.	Yes	0.36	**1.07**	0.79	0.58
Route 3	Route 3A/9 to Fin. Main Gate	0.49 miles (2,600 ft)	0.50	0.75	0.57	0.52	0.86	Y	**1.02**	0.82	Y	**1.05**	Add SB additional lane.	Yes	0.50	0.60	0.48	0.61
Route 3	Fin. Main Gate to Secondary Gate	1.75 miles (9,200 ft)	0.49	**1.24**	0.68	0.56	0.94	Y	**1.41**	0.95	N	0.97	Add SB additional lane.	Yes	0.55	0.83	0.56	0.57
Route 3	Fin. Secondary Gate to Route 28	0.54 miles (2,900 ft)	0.70	**1.36**	0.91	0.74	0.97	Y	**1.61**	**1.21**	Y	**1.08**	Add additional lane in both directions.	Yes	0.57	0.94	0.71	0.63
Route 3	Route 28 to S. Fin. Main Gate	0.92 miles (4,900 ft)	0.44	**1.25**	0.79	0.51	0.53	Y	**1.36**	0.91	N	0.64	Add SB additional lane.	Yes	0.35	0.90	0.60	0.42
Route 3	S. Fin. Main Gate to Route 1	1.71 miles (9,000 ft)	0.53	**1.35**	0.81	0.54	0.61	Y	**1.45**	0.94	N	0.66	Add SB additional lane.	Yes	0.41	0.95	0.63	0.43
Route 28	Chalan Balako to Route 3	0.97 miles (5,100 ft)	0.54	**1.48**	0.98	0.57	0.57	Y	**1.56**	**1.04**	N	0.62	Add additional lane in both directions.	Yes	0.32	0.89	0.59	0.35

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 123: Intersection-Level Mitigation Measures for Preferred Alternative, 2030

Intersection			2030 No Build Conditions				2030 With Finegayan/NWF Conditions				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	LOS After Feasible Mitigations are Implemented			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS			Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3/9 / Route 3A	TWSC	37.7	E	15.0	B	> 180.0	F	34.5	D	Combine Route 3, 3A, and 9 into one signalized intersection with the following lane configuration: Northbound (Chalan Santa Anita): one shared left/through/right-turn lane. Southbound (Route 3A): one right-turn lane (150 feet storage), one shared through/left-turn lane. Eastbound (Route 3) and Westbound (Route 9): one left-turn lane (150 feet storage), one through lane, one shared through/right turn lane.	Yes	7.6	A	5.6	A
6	Route 3 / Royal Palm Drive	TWSC	36.4	E	14.8	B	57.8	F	16.1	C	Eastbound (Royal Palm Drive): Provide exclusive right-turn lane (100 feet storage).	Yes	48.0	E	15.6	C
12	Route 1 / Route 3	Signalized	> 180.0	F	63.4	E	> 180.0	F	90.1	F	Westbound (Route 1): Provide exclusive right-turn lane (200 feet storage). Eastbound (Route 1): Add second left-turn lane.	Yes	127.8	F	14.9	B
18	Route 1 / Route 27	Signalized	118.3	F	50.2	D	118.5	F	54.6	D	Southbound (Salisbury Street): Restripe to one left-turn lane (80 feet storage), one through lane, one right-turn lane (50 feet storage). Northbound (Route 27): Provide right-turn overlap phase.	Yes	81.7	F	38.8	D
19	Route 1 / Route 26	Signalized	34.4	C	87.6	F	36.4	D	89.4	F	Northbound (Route 26): Provide right-turn overlap phase.	Yes	37.2	D	63.8	E
21	Route 16 / Route 27	Signalized	> 180.0	F	154.7	F	> 180.0	F	159.0	F	Westbound (Route 27): Convert existing right turn to through lane and provide exclusive right-turn lane (150 feet storage). Eastbound (Route 27): Provide exclusive right-turn lane (150 feet storage).	Yes	116.0	F	117.6	F
22	Route 16 / Route 10A	Signalized	> 180.0	F	49.1	D	> 180.0	F	53.9	D	Southbound (Route 16): Provide free right-turn.	Yes	55.4	E	52.2	D
26	Route 1 / Route 14A	Signalized	35.2	D	> 180.0	F	37.3	D	> 180.0	F	Eastbound (Route 1): Provide exclusive right-turn lane (150 feet storage).	Yes	37.4	D	161.9	F
27	Route 1 / Route 10A	Signalized	53.0	D	139.3	F	54.5	D	144.7	F	Northbound (Route 1): Provide free right-turn lane (150 feet storage).	Yes	38.4	D	69.1	E
61	Route 3 / USMC Main Gate	Signalized	-[3]	-[3]	-[3]	-[3]	39.8	D	25.5	C	New intersection to be signalized with the following lane configuration: All approaches: Provide one left-turn lane (100 feet storage) and one shared through/right-turn lane.	Yes	39.8	D	25.5	C
62	Route 3 / USMC Secondary Gate	Signalized	-[3]	-[3]	-[3]	-[3]	15.5	B	7.3	A	New "T" intersection to be signalized with the following lane configuration: Northbound (Route 3): Provide one left-turn lane (100 feet storage) and one through lane. Southbound (Route 3): Provide one shared through/right-turn lane Eastbound (USMC Secondary Gate): Provide one left-turn lane (100 feet storage) and one right-turn lane.	Yes	15.5	B	7.3	A

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in Year 2030 No Build conditions.

5.7 Comparison of Impacts between No Action Alternative and Preferred Alternative

Exhibit 125 through Exhibit 127 compare the forecasts for the 2030 peak hour v/c ratio for each segment of the primary road network for the No Action and the Preferred Alternative. Exhibit 128 through Exhibit 130 show a similar comparison for intersection LOS in the north, central, and south regions of Guam for the AM and PM peak periods. Exhibit 124 summarizes the results in terms of the number of significant impacts by type and location:

Exhibit 124: Summary Comparison of the Impacts of No Action and Preferred Alternatives

	No Action Alternative	Preferred Alternative
Roadway-Level Impacts		
North Region	58	12
Central Region	62	0
South Region	8	0
Total	128	12
Intersection-Level Impacts		
North Region	24	8
Central Region	14	3
South Region	1	0
Total	39	11

As can be seen from Exhibit 124 and subsequent tables, the No Action Alternative's impacts would be much more numerous, severe, and widespread than the impacts of the Preferred Alternative.

Exhibit 125: Roadway V/C Comparison between No Action and Preferred Alternative, North Region, 2030

Roadway		No Action Alternative				Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	**1.14**	0.78	1.00	**1.07**	0.55	0.69	0.75	0.76
Route 1	Route 29 to Chalan Lujuna	**1.18**	**1.20**	**1.19**	**1.26**	0.74	**1.10**	0.93	0.93
Route 1	Chalan Lujuna to Route 28	0.99	**1.40**	**1.32**	**1.18**	0.75	**1.38**	**1.29**	0.95
Route 1	Route 28 to Route 26	0.73	**1.06**	**1.09**	0.92	0.55	**1.04**	**1.05**	0.73
Route 1	Route 26 to Route 27	0.70	**1.12**	**1.02**	0.83	0.57	**1.10**	1.00	0.61
Route 1	Route 27 to Route 27A *	0.39	0.67	0.57	0.51	0.32	0.65	0.55	0.41
Route 1	Route 27A to Route 3 *	0.36	0.75	0.62	0.48	0.31	0.73	0.61	0.40
Route 1	Route 3 to Route 34	0.70	**1.71**	**1.26**	0.93	0.44	**1.60**	**1.08**	0.74
Route 1	Route 34 to Route 16	0.74	**1.52**	**1.22**	0.96	0.47	**1.41**	**1.04**	0.77
Route 1	Route 16 to Route 14 (N)	0.62	**1.38**	**1.37**	**1.01**	0.51	**1.30**	**1.24**	0.92
Route 1	Route 14 (N) to Route 14A	0.74	**1.22**	**1.47**	**1.19**	0.64	**1.15**	**1.36**	**1.10**
Route 3	Route 3A/9 to Fin. Main Gate	**1.43**	**1.77**	**1.50**	**1.98**	0.86	**1.02**	0.82	**1.05**
Route 3	Fin. Main Gate to Secondary Gate	**2.03**	**1.43**	**1.37**	**1.82**	0.94	**1.41**	0.95	0.97
Route 3	Fin. Secondary Gate to Route 28	**1.81**	**1.55**	**1.51**	**1.66**	0.97	**1.61**	**1.21**	**1.08**
Route 3	Route 28 to S. Fin. Main Gate	**1.19**	**1.59**	**1.30**	**1.11**	0.53	**1.36**	0.91	0.64
Route 3	S. Fin. Main Gate to Route 1	**1.02**	**1.69**	**1.31**	0.94	0.61	**1.45**	0.94	0.66
Route 3A	North of Route 3/9	0.77	0.22	0.05	0.75	0.11	0.03	0.02	0.24
Route 9	Route 3/3A to AAFB North Gate	**1.18**	**1.63**	**1.23**	**1.46**	0.82	0.76	0.60	0.90
Route 9	AAFB Main Gate to Route 1	0.79	**1.50**	**1.09**	**1.24**	0.61	0.51	0.45	0.70
Route 14	Route 1 to Gun Beach Rd.	0.28	0.67	0.68	0.66	0.27	0.65	0.65	0.64
Route 14	Gun Beach Rd. to Route 14A	0.56	0.38	0.40	0.82	0.51	0.36	0.37	0.76
Route 15	AAFB to Route 29	0.91	0.78	0.46	0.66	0.87	0.73	0.44	0.62
Route 15	Route 29 to Route 26	**1.24**	**1.13**	0.86	**1.20**	0.59	**1.08**	0.79	0.69
Route 16	Route 1 to Route 27A	0.52	0.56	0.61	0.61	0.37	0.52	0.56	0.51
Route 16	Route 27A to Route 27	0.53	0.81	0.81	0.64	0.38	0.76	0.76	0.55
Route 16	Route 27 to Route 10A	0.95	**1.04**	**1.03**	**1.01**	0.77	1.00	0.98	0.86
Route 26	Route 1 to Route 25 **	0.93	0.94	0.96	**1.02**	0.74	0.84	0.74	0.89
Route 27	Route 16 to Route 1	0.50	0.80	0.86	0.58	0.42	0.75	0.84	0.46
Route 27A	Route 16 to Route 1	0.80	**1.68**	**1.56**	**1.04**	0.73	**1.63**	**1.52**	0.96
Route 27A	Route 1 to Route 28	0.53	0.99	0.72	0.79	0.48	0.98	0.69	0.70
Route 28	Route 1 to Route 27A	0.72	0.92	**1.06**	0.95	0.51	0.91	1.00	0.80
Route 28	Route 27A to Chalan Balako	0.90	**1.23**	0.95	**1.19**	0.61	**1.17**	0.84	0.92
Route 28	Chalan Balako to Route 3	**1.14**	**1.62**	**1.19**	**1.10**	0.57	**1.56**	**1.04**	0.62
Route 29	Route 1 to Route 15	0.67	**1.06**	0.66	0.63	0.64	0.93	0.58	0.58
Route 34	North of Route 1	0.23	0.20	0.25	0.29	0.22	0.13	0.23	0.28

Notes:
* The widening of Route 27 will divert some traffic from Route 1.
** Route 26 will be widened so the volume-to-capacity ratio will decrease.
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 126: Roadway V/C Comparison between No Action and Preferred Alternative, Central Region, 2030

Roadway		No Action Alternative				Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 14A to Route 10A	0.87	0.92	**1.33**	**1.22**	0.77	0.86	**1.23**	**1.15**
Route 1	Route 10A to Route 14B	0.79	**1.22**	**1.38**	1.00	0.70	**1.16**	**1.29**	0.92
Route 1	Route 14B to Route 14 (S)	0.80	**1.02**	**1.23**	0.93	0.71	0.96	**1.14**	0.85
Route 1	Route 14 (S) to Route 30	0.99	0.90	**1.01**	0.91	0.90	0.85	0.92	0.85
Route 1	Route 30 to Route 8	**1.06**	**1.06**	**1.12**	**1.11**	0.98	**1.02**	**1.03**	**1.01**
Route 1	Route 8 to Route 4	0.93	0.92	**1.03**	0.79	0.78	0.87	0.94	0.71
Route 1	Route 4 to Route 6 (N)	0.72	**1.03**	0.78	0.78	0.58	0.98	0.68	0.70
Route 1	Route 6 (N) to Route 11	**1.11**	**1.14**	**1.16**	0.92	0.92	**1.08**	**1.01**	0.79
Route 1	Route 11 to Route 6 (S)	0.99	0.89	0.92	0.86	0.80	0.83	0.78	0.74
Route 1	Route 6 (S) to Route 18	0.99	0.89	0.93	0.84	0.80	0.82	0.78	0.72
Route 1	Route 18 to Route 2A	**1.11**	0.95	0.94	0.93	0.93	0.88	0.80	0.81
Route 2A	Route 1 to Route 5	0.92	0.41	0.39	0.81	0.76	0.40	0.38	0.72
Route 4	Route 1 to Route 33	0.53	0.28	0.46	0.53	0.49	0.27	0.42	0.46
Route 4	Route 33 to Route 7B	0.82	0.28	0.49	0.71	0.75	0.27	0.47	0.65
Route 4	Route 7B to Route 15	**1.43**	**1.43**	**1.34**	**1.34**	**1.39**	**1.39**	**1.29**	**1.29**
Route 4	Route 15 to Route 10	**1.11**	**1.12**	0.89	0.88	**1.11**	**1.12**	0.88	0.88
Route 4	Route 10 to Route 17	**2.02**	**1.09**	**1.48**	**1.71**	**1.64**	0.88	**1.22**	**1.43**
Route 6	Route 1 (N) to Route 7	0.73	0.62	0.88	0.60	0.71	0.61	0.87	0.59
Route 6	Route 7 to Murray Rd.	0.56	0.53	0.68	0.59	0.53	0.52	0.65	0.50
Route 6	Murray Rd. to Route 1 (S)	0.19	0.20	0.26	0.20	0.17	0.18	0.25	0.16
Route 7	Route 6 to Route 7B	**1.14**	**1.22**	0.98	**1.18**	**1.03**	**1.19**	0.96	**1.08**
Route 7	Route 7B to Route 7A	**1.21**	**1.01**	0.83	**1.19**	**1.17**	0.97	0.81	**1.14**
Route 7A	Route 8 to Route 33	**1.26**	0.62	**1.19**	**1.01**	**1.20**	0.59	**1.14**	0.94
Route 7A	Route 33 to Route 4	**1.23**	0.81	**1.27**	0.93	**1.16**	0.78	**1.23**	0.86
Route 7A	Route 4 to Route 7	0.44	0.71	0.41	0.51	0.42	0.68	0.40	0.49
Route 7A	West of Route 7	0.40	0.51	0.69	0.42	0.37	0.48	0.68	0.39
Route 7B	Route 7 to Route 4	0.63	0.96	0.93	0.77	0.60	0.94	0.92	0.73
Route 8	Bar. Main Gate To Route 16	0.48	0.36	0.17	0.18	0.48	0.35	0.16	0.18
Route 8	Route 16 to Route 10	**1.20**	0.96	0.97	**1.04**	**1.03**	0.90	0.89	0.92
Route 8	Route 10 to Route 33 (E)	0.61	0.97	0.82	0.66	0.55	0.95	0.81	0.61
Route 8	Route 33 (E) to Route 33 (W)	**1.17**	**1.24**	**1.35**	**1.13**	1.00	**1.18**	**1.30**	**1.04**
Route 8	Route 33 (W) to Route 1	0.67	**1.01**	**1.04**	0.63	0.52	0.91	0.98	0.59
Route 10	Route 8 to Route 15	**1.39**	0.86	0.85	**1.11**	**1.27**	0.80	0.78	**1.01**
Route 10	Route 15 to Route 32	**1.43**	**1.03**	0.98	**1.11**	**1.18**	0.96	0.91	0.97
Route 10	Route 32 to Route 4	**1.36**	0.96	0.93	**1.04**	**1.12**	0.86	0.84	0.90
Route 10A	Route 16 to Sunset Blvd.	0.46	**1.16**	0.90	0.74	0.35	**1.15**	0.87	0.66
Route 10A	Sunset Blvd. to Route 1	0.53	**1.30**	**1.15**	0.84	0.50	**1.27**	**1.10**	0.78
Route 11	West of Route 1	0.15	0.66	0.59	0.13	0.15	0.66	0.59	0.12
Route 14	Route 14A to Route 14B	0.39	0.86	0.89	0.61	0.29	0.80	0.84	0.53
Route 14	Route 14B to Route 1 (S)	0.49	0.65	0.77	0.64	0.46	0.58	0.71	0.60
Route 14A	Route 14 to Route 1	0.46	0.58	0.89	0.70	0.44	0.57	0.87	0.68
Route 14B	Route 14 to Route 1	0.89	0.82	0.94	**1.02**	0.83	0.78	0.87	0.96
Route 15	Route 26 to Bar. South Gate	**1.24**	**1.14**	**1.07**	**1.15**	0.77	**1.11**	**1.06**	0.87
Route 15	Bar. South Gate to Route 10	0.95	**1.05**	**1.06**	0.96	0.61	0.99	**1.02**	0.76
Route 15	Route 10 to Route 4	0.66	0.68	0.48	0.50	0.56	0.66	0.43	0.38
Route 16	Route 10A to Bar. Main Gate	**1.27**	0.95	**1.12**	**1.29**	**1.09**	0.90	**1.06**	**1.15**
Route 16	Bar. Main Gate to Route 8	0.83	**1.12**	**1.03**	0.93	0.77	0.95	0.91	0.86
Route 25	Route 16 to Route 26	0.54	**1.88**	**1.56**	**1.01**	0.38	**1.85**	**1.53**	0.96
Route 26	Route 25 to Route 15	**1.48**	**1.08**	**1.26**	**1.38**	**1.42**	0.89	**1.01**	**1.31**
Route 30	North of Route 1	0.41	0.60	0.57	0.56	0.39	0.58	0.56	0.54
Route 33	Route 8 (E) to Route 7A	0.74	**1.06**	0.63	0.34	0.71	1.00	0.59	0.31
Route 33	Route 7A to Route 8 (W)	0.27	0.50	0.16	0.05	0.27	0.49	0.16	0.04
Tiyan Pkwy	Route 1 to Route 8	0.98	0.71	0.79	**1.01**	0.84	0.69	0.75	0.91

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 127: Roadway V/C Comparison between No Action and Preferred Alternative, South Region, 2030

Roadway		No Action Alternative				Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 2	Route 2A to Route 12	**1.65**	0.46	0.60	**1.23**	**1.39**	0.44	0.58	**1.10**
Route 2	Route 12 to Nimitz Beach	**1.49**	1.00	0.67	**1.10**	**1.25**	0.85	0.64	0.99
Route 2	Nimitz Beach to Route 4	0.58	0.58	0.46	0.46	0.47	0.47	0.40	0.40
Route 2A	Route 5 to Route 2	**1.28**	0.52	0.52	0.99	**1.03**	0.51	0.50	0.86
Route 4	Route 17 to Route 4A	**1.20**	**1.20**	0.67	0.68	1.00	1.00	0.56	0.57
Route 4	Route 4A to Inarajan	0.56	0.70	0.46	0.36	0.44	0.55	0.37	0.29
Route 4	Inarajan to Route 2	0.33	0.33	0.22	0.16	0.27	0.27	0.20	0.15
Route 4A	Route 17 to Route 4	0.64	0.34	0.31	0.45	0.54	0.32	0.29	0.42
Route 5	Route 2A to Route 17	0.36	**1.07**	0.70	0.30	0.36	0.93	0.63	0.29
Route 5	Route 17 to Route 12	0.33	0.20	0.15	0.18	0.21	0.19	0.14	0.15
Route 12	Route 5 to Route 2	0.51	0.92	0.57	0.37	0.50	0.90	0.54	0.37
Route 17	Route 5 to Route 4A	0.24	0.89	0.61	0.27	0.23	0.83	0.55	0.26
Route 17	Route 4A to Route 4	0.89	0.47	0.43	0.57	0.72	0.41	0.36	0.48

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Exhibit 128: Intersection LOS Comparison between No Action and Preferred Alternative, North Region, 2030

Intersection			No Action Alternative				Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	**> 180.0**	**F**	**> 180.0**	**F**	32.6	D	18.6	C
2	Route 3/9 / Chalan Santa Anita	TWSC	**> 180.0**	**F**	**> 180.0**	**F**	**> 180.0**	**F**	34.5	D
3	Route 9 / Route 3A	TWSC	**62.6**	**F**	**> 180.0**	**F**	21.4	C	24.7	C
4	Route 3 / Bullard Avenue	TWSC	- [3]	- [3]	- [3]	- [3]	- [3]	- [3]	- [3]	- [3]
5	Route 3 / Route 28	Signalized	**137.4**	**F**	65.6	E	40.4	D	26.4	C
6	Route 3 / Royal Palm Drive	TWSC	**> 180.0**	**F**	**> 180.0**	**F**	**57.8**	**F**	16.1	C
7	Route 1/9 / AAFB Entrance	Signalized	27.2	C	34.6	C	11.3	B	14.1	B
8	Route 1 / Route 29	Signalized	**110.8**	**F**	30.9	C	35.0	C	24.6	C
9	Route 15 / Route 29	TWSC	**> 180.0**	**F**	44.0	E	**113.0**	**F**	31.6	D
10	Route 1 / Chalan Lajuna	Signalized	28.4	C	19.0	B	20.5	C	14.1	B
11	Route 15 / Chalan Lajuna	TWSC	**> 180.0**	**F**	**> 180.0**	**F**	**86.0**	**F**	**92.7**	**F**
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	**177.3**	**F**	**> 180.0**	**F**	**90.1**	**F**
13	Route 1 / Route 16	Signalized	75.8	E	**128.0**	**F**	25.9	C	62.3	E
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	55.2	E	63.2	E	37.6	D	47.0	D
15	Route 16 / Route 27A	Signalized	32.4	C	21.5	C	24.1	C	18.9	B
16	Route 1 / Route 27A	Signalized	39.2	D	47.3	D	37.9	D	46.7	D
17	Route 28 / Route 27A	AWSC	18.2	C	**102.7**	**F**	12.1	B	**65.0**	**F**
18	Route 1 / Route 27	Signalized	**132.3**	**F**	**88.3**	**F**	**118.5**	**F**	54.6	D
19	Route 1 / Route 26	Signalized	**80.1**	**F**	**145.7**	**F**	36.4	D	**89.4**	**F**
20	Route 1 / Route 28	Signalized	**81.4**	**F**	63.6	E	54.1	D	37.6	D
21	Route 16 / Route 27	Signalized	**> 180.0**	**F**	**> 180.0**	**F**	**> 180.0**	**F**	**159.0**	**F**
61	Route 3 / USMC Main Gate	Signalized	48.3	D	53.7	D	39.8	D	25.5	C
62	Route 3 / USMC Secondary Gate	Signalized	10.9	B	7.9	A	15.5	B	7.3	A
63	Route 9 / ACE Gate	TWSC	26.3	C	16.5	B	19.6	C	13.5	B

Notes:

LOS – level of service

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

Bold indicates LOS "F" conditions. Red indicates significant impact.

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

[3] Intersection does not exist in evaluated alternative.

Exhibit 129: Intersection LOS Comparison between No Action and Preferred Alternative, Central Region, 2030

Intersection			No Action Alternative				Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
22	Route 16 / Route 10A	Signalized	> 180.0	F	91.0	F	> 180.0	F	53.9	D
23	Route 26 / Route 25	Signalized	62.4	E	12.1	B	26.3	C	9.7	A
24	Route 15 / Route 26	TWSC	> 180.0	F	> 180.0	F	166.6	F	> 180.0	F
25	Route 10A / Sunset Blvd (Airport)	Signalized	32.1	C	70.6	E	30.0	C	57.9	E
26	Route 1 / Route 14A	Signalized	46.5	D	> 180.0	F	37.3	D	> 180.0	F
27	Route 1 / Route 10A	Signalized	82.2	F	174.7	F	54.5	D	144.7	F
28	Route 1 / Route 14B	Signalized	59.2	E	50.7	D	42.8	D	32.3	C
29	Route 1 / Route 14	Signalized	105.9	F	70.1	E	77.3	E	53.2	D
30	Route 1 / Route 30	Signalized	73.7	E	75.3	E	58.7	E	43.9	D
31	Route 1 / Route 6 (Adelup)	Signalized	19.3	B	27.1	C	18.7	B	25.8	C
32	Route 1 / Route 4	Signalized	11.5	B	18.0	B	10.3	B	17.4	B
33	Route 1 / Route 8	Signalized	14.8	B	18.8	B	14.6	B	19.2	B
34	Route 8 / Chalan Santo Papa	TWSC	> 180.0	F	> 180.0	F	87.6	F	161.2	F
35	Route 8 / Route 7A	Signalized	26.6	C	75.5	E	20.3	C	59.5	E
36	Route 4 / Chalan Santo Papa	Signalized	38.9	D	40.6	D	31.1	C	37.7	D
37	Route 4 / Route 7A	Signalized	61.6	E	62.9	E	52.1	D	54.8	D
38	Route 4 / Route 7B	TWSC	> 180.0	F	> 180.0	F	39.9	E	159.5	F
39	Route 7A / Route 7	Signalized	34.2	C	27.4	C	29.9	C	26.7	C
40	Route 8 / Sunset Blvd	TWSC	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]
41	Route 8 / Route 33	Signalized	46.9	D	19.5	B	40.7	D	18.3	B
42	Route 8 / Route 10	Signalized	26.9	C	34.7	C	24.9	C	25.2	C
43	Route 16 / Route 8A	Signalized	25.3	C	7.4	A	17.4	B	6.7	A
44	Route 10 / Route 15	Signalized	64.3	E	47.6	D	43.8	D	34.6	C
45	Route 4 / Route 15	Signalized	92.7	F	46.2	D	76.9	E	37.3	D
46	Route 4 / Route 10	Signalized	85.3	F	71.4	E	51.6	D	44.0	D
47	Route 1 / Route 11	Signalized	12.4	B	13.5	B	10.9	B	14.0	B
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	10.9	B	12.6	B	9.9	A	12.6	B
49	Route 1 / Polaris Point	Signalized	10.9	B	5.6	A	11.2	B	5.7	A
58	Tiyan Parkway / Route 10A	Signalized	36.2	D	71.2	E	34.7	C	61.5	E
59	Tiyan Parkway / Route 8	Signalized	71.8	E	66.3	E	60.1	E	49.0	D
60	Route 1 / Route 27 Extension	Signalized	20.4	C	29.4	C	20.1	C	12.2	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.

Exhibit 130: Intersection LOS Comparison between No Action and Preferred Alternative, South Region, 2030

Intersection			No Action Alternative				Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
50	Route 1 / Route 2A	Signalized	17.3	B	27.4	C	13.4	B	23.2	C
51	Route 2A / Route 5	Signalized	23.0	C	18.8	B	20.9	C	18.4	B
52	Route 2 / Route 12	Signalized	29.4	C	14.8	B	26.1	C	14.6	B
53	Route 17 / Route 5	TWSC	31.0	D	15.1	C	18.9	C	13.5	B
54	Route 12 / Naval Magazine Entrance	TWSC	10.5	B	9.0	A	9.7	A	9.0	A
55	Route 17 / Route 4A	TWSC	34.8	D	37.6	E	23.5	C	24.1	C
56	Route 4 / Route 17	Signalized	**150.8**	**F**	33.0	C	67.2	E	22.1	C
57	Route 4 / Route 4A	TWSC	40.0	E	13.5	B	22.8	C	12.3	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

Roadway Level of Service Summary

Roadway			2030 No Build							2030 Finegayan (Alternative A)								
			Capacity	A.M. Peak			P.M. Peak			Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 1	AAFB to Route 29	NB/EB	1,600	782	0.49	A	1,067	0.67	B	1,600	873	0.55	A	1,193	0.75	C	10.4%	10.6%
		WB/SB	1,600	1,090	0.68	B	1,129	0.71	C	1,600	1,104	0.69	B	1,210	0.76	C	1.3%	6.7%
Route 1	Route 29 to Chalan Lujuna	NB/EB	1,600	1,139	0.71	C	1,376	0.86	D	1,600	1,181	0.74	C	1,493	0.93	E	3.6%	7.8%
		WB/SB	1,600	1,753	1.10	F	1,428	0.89	D	1,600	1,760	1.10	F	1,491	0.93	E	0.4%	4.2%
Route 1	Chalan Lujuna to Route 28	NB/EB	1,600	1,174	0.73	C	2,061	1.29	F	1,600	1,205	0.75	C	2,063	1.29	F	2.6%	0.1%
		WB/SB	1,600	2,209	1.38	F	1,487	0.93	E	1,600	2,209	1.38	F	1,519	0.95	E	0.0%	2.1%
Route 1	Route 28 to Route 26	NB/EB	2,420	1,305	0.54	A	2,537	1.05	F	2,420	1,330	0.55	A	2,543	1.05	F	1.9%	0.2%
		WB/SB	2,420	2,522	1.04	F	1,726	0.71	C	2,420	2,524	1.04	F	1,756	0.73	C	0.1%	1.7%
Route 1	Route 26 to Route 27	NB/EB	2,420	1,364	0.56	A	2,411	1.00	F	2,420	1,381	0.57	A	2,427	1.00	F	1.2%	0.7%
		WB/SB	2,420	2,650	1.10	F	1,441	0.60	A	2,420	2,667	1.10	F	1,487	0.61	B	0.6%	3.1%
Route 1	Route 27 to Route 27A	NB/EB	2,420	775	0.32	A	1,309	0.54	A	2,420	779	0.32	A	1,332	0.55	A	0.5%	1.7%
		WB/SB	2,420	1,532	0.63	B	997	0.41	A	2,420	1,570	0.65	B	1,000	0.41	A	2.4%	0.3%
Route 1	Route 27A to Route 3	NB/EB	2,420	741	0.31	A	1,432	0.59	A	2,420	748	0.31	A	1,470	0.61	B	0.9%	2.6%
		WB/SB	2,420	1,721	0.71	C	969	0.40	A	2,420	1,775	0.73	C	977	0.40	A	3.0%	0.8%
Route 1	Route 3 to Route 34	NB/EB	2,420	960	0.40	A	2,436	1.01	F	2,420	1,055	0.44	A	2,616	1.08	F	9.0%	6.9%
		WB/SB	2,420	3,712	1.53	F	1,635	0.68	B	2,420	3,864	1.60	F	1,786	0.74	C	3.9%	8.5%
Route 1	Route 34 to Route 16	NB/EB	2,420	1,053	0.44	A	2,354	0.97	E	2,420	1,146	0.47	A	2,525	1.04	F	8.1%	6.8%
		WB/SB	2,420	3,268	1.35	F	1,712	0.71	C	2,420	3,414	1.41	F	1,861	0.77	C	4.3%	8.0%
Route 1	Route 16 to Route 14 (N)	NB/EB	2,420	1,186	0.49	A	2,901	1.20	F	2,420	1,230	0.51	A	3,012	1.24	F	3.6%	3.7%
		WB/SB	2,420	3,053	1.26	F	2,156	0.89	D	2,420	3,141	1.30	F	2,231	0.92	E	2.8%	3.4%
Route 1	Route 14 (N) to Route 14A	NB/EB	2,420	1,494	0.62	B	3,198	1.32	F	2,420	1,546	0.64	B	3,287	1.36	F	3.4%	2.7%
		WB/SB	2,420	2,720	1.12	F	2,614	1.08	F	2,420	2,793	1.15	F	2,670	1.10	F	2.6%	2.1%
Route 3	Route 3A/9 to Fin. Main Gate	NB/EB	740	369	0.50	A	420	0.57	A	740	636	0.86	D	603	0.82	D	42.0%	30.3%
		WB/SB	740	554	0.75	C	387	0.52	A	740	752	1.02	F	776	1.05	F	26.3%	50.1%
Route 3	Fin. Main Gate to Residential Gate	NB/EB	740	360	0.49	A	502	0.68	B	740	693	0.94	E	705	0.95	E	48.1%	28.8%
		WB/SB	740	915	1.24	F	415	0.56	A	740	1,043	1.41	F	718	0.97	E	12.3%	42.2%
Route 3	Fin. Residential Gate to Route 28	NB/EB	740	517	0.70	B	670	0.91	E	740	716	0.97	E	895	1.21	F	27.8%	25.1%
		WB/SB	740	1,005	1.36	F	550	0.74	C	740	1,188	1.61	F	800	1.08	F	15.4%	31.3%
Route 3	Route 28 to S.Fin. Main Gate	NB/EB	1,580	695	0.44	A	1,250	0.79	C	1,580	840	0.53	A	1,445	0.91	E	17.3%	13.5%
		WB/SB	1,580	1,977	1.25	F	809	0.51	A	1,580	2,142	1.36	F	1,008	0.64	B	7.7%	19.7%
Route 3	S.Fin. Main Gate to Route 1	NB/EB	1,600	843	0.53	A	1,289	0.81	D	1,600	972	0.61	B	1,477	0.94	E	13.3%	12.7%
		WB/SB	1,600	2,134	1.35	F	860	0.54	A	1,580	2,295	1.45	F	1,048	0.66	B	7.0%	17.9%
Route 3A	North of Route 3/9	NB/EB	740	83	0.11	A	14	0.02	A	740	84	0.11	A	15	0.02	A	1.2%	6.7%
		WB/SB	740	21	0.03	A	98	0.13	A	740	22	0.03	A	175	0.24	A	4.5%	44.0%
Route 9	Route 3/3A to AAFB North Gate	NB/EB	740	356	0.48	A	308	0.42	A	740	604	0.82	D	445	0.60	A	41.1%	30.8%
		WB/SB	740	413	0.56	A	293	0.40	A	740	563	0.76	C	662	0.90	D	26.6%	55.7%
Route 9	AAFB Main Gate to Route 1	NB/EB	740	387	0.52	A	218	0.30	A	740	447	0.61	B	329	0.45	A	13.4%	33.7%
		WB/SB	740	281	0.38	A	348	0.47	A	740	375	0.51	A	521	0.70	B	25.1%	33.2%
Route 14	Route 1 to Gun Beach Rd.	NB/EB	1,600	418	0.26	A	1,027	0.64	B	1,600	425	0.27	A	1,045	0.65	B	1.6%	1.7%
		WB/SB	1,600	1,028	0.64	B	1,003	0.63	B	1,600	1,040	0.65	B	1,016	0.64	B	1.2%	1.3%
Route 14	Gun Beach Rd. to Route 14A	NB/EB	1,600	821	0.51	A	582	0.36	A	1,600	821	0.51	A	595	0.37	A	0.0%	2.2%
		WB/SB	1,600	568	0.36	A	1,209	0.76	C	1,600	576	0.36	A	1,209	0.76	C	1.4%	0.0%
Route 15	AAFB to Route 29	NB/EB	720	622	0.86	D	308	0.43	A	720	625	0.87	D	313	0.44	A	0.5%	1.6%
		WB/SB	720	519	0.72	C	436	0.61	B	720	525	0.73	C	443	0.62	B	1.1%	1.6%
Route 15	Route 29 to Route 26	NB/EB	720	410	0.57	A	563	0.78	C	720	425	0.59	A	565	0.79	C	3.5%	0.4%
		WB/SB	720	779	1.08	F	471	0.66	B	720	774	1.08	F	493	0.69	B	-0.6%	4.5%

Roadway			2030 No Build							2030 Finegayan (Alternative A)								
			Capacity	A.M. Peak			P.M. Peak			Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 16	Route 1 to Route 27A	NB/EB	2,420	851	0.35	A	1,290	0.53	A	2,420	899	0.37	A	1,347	0.56	A	5.3%	4.2%
		WB/SB	2,420	1,198	0.50	A	1,171	0.48	A	2,420	1,256	0.52	A	1,236	0.51	A	4.6%	5.3%
Route 16	Route 27A to Route 27	NB/EB	2,420	873	0.36	A	1,778	0.73	C	2,420	920	0.38	A	1,836	0.76	C	5.1%	3.2%
		WB/SB	2,420	1,791	0.74	C	1,259	0.52	A	2,420	1,850	0.76	C	1,322	0.55	A	3.2%	4.8%
Route 16	Route 27 to Route 10A	NB/EB	2,420	1,811	0.75	C	2,313	0.96	E	2,420	1,861	0.77	C	2,362	0.98	E	2.7%	2.1%
		WB/SB	2,420	2,364	0.98	E	2,031	0.84	D	2,420	2,410	1.00	E	2,090	0.86	D	1.9%	2.8%
Route 26	Route 1 to Route 25	NB/EB	1,280	937	0.73	C	945	0.74	C	1,280	951	0.74	C	951	0.74	C	1.5%	0.6%
		WB/SB	1,280	1,067	0.83	D	1,126	0.88	D	1,280	1,069	0.84	D	1,141	0.89	D	0.2%	1.3%
Route 27	Route 16 to Route 1	NB/EB	2,420	993	0.41	A	2,030	0.84	D	2,420	1,008	0.42	A	2,030	0.84	D	1.5%	0.0%
		WB/SB	2,420	1,822	0.75	C	1,074	0.44	A	2,420	1,824	0.75	C	1,117	0.46	A	0.1%	3.8%
Route 27A	Route 16 to Route 1	NB/EB	756	544	0.72	C	1,122	1.49	F	756	552	0.73	C	1,146	1.52	F	1.4%	2.1%
		WB/SB	756	1,232	1.63	F	726	0.96	E	756	1,233	1.63	F	728	0.96	E	0.1%	0.3%
Route 27A	Route 1 to Route 28	NB/EB	756	361	0.48	A	519	0.69	B	756	361	0.48	A	524	0.69	B	0.0%	1.0%
		WB/SB	756	738	0.98	E	532	0.70	B	756	742	0.98	E	532	0.70	B	0.5%	0.0%
Route 28	Route 1 to Route 27A	NB/EB	720	365	0.51	A	716	1.00	F	720	370	0.51	A	722	1.00	F	1.4%	0.8%
		WB/SB	720	648	0.90	D	569	0.79	C	720	652	0.91	E	576	0.80	C	0.6%	1.2%
Route 28	Route 27A to Chalan Balako	NB/EB	720	411	0.57	A	589	0.82	D	720	437	0.61	B	606	0.84	D	5.9%	2.8%
		WB/SB	720	831	1.16	F	654	0.91	E	720	841	1.17	F	663	0.92	E	1.2%	1.4%
Route 28	Chalan Balako to Route 3	NB/EB	720	390	0.54	A	704	0.98	E	720	408	0.57	A	750	1.04	F	4.4%	6.1%
		WB/SB	720	1,068	1.48	F	412	0.57	A	720	1,122	1.56	F	443	0.62	B	4.8%	7.0%
Route 29	Route 1 to Route 15	NB/EB	720	459	0.64	B	401	0.56	A	720	464	0.64	B	421	0.58	A	1.1%	4.8%
		WB/SB	720	648	0.90	D	414	0.58	A	720	672	0.93	E	414	0.58	A	3.6%	0.0%
Route 34	North of Route 1	NB/EB	720	156	0.22	A	166	0.23	A	720	156	0.22	A	167	0.23	A	0.0%	0.6%
		WB/SB	720	90	0.13	A	201	0.28	A	720	90	0.13	A	201	0.28	A	0.0%	0.0%
Route 1	Route 14A to Route 10A	NB/EB	2,420	1,839	0.76	C	2,903	1.20	F	2,420	1,862	0.77	C	2,976	1.23	F	1.2%	2.5%
		WB/SB	2,420	2,021	0.84	D	2,729	1.13	F	2,420	2,082	0.86	D	2,774	1.15	F	2.9%	1.6%
Route 1	Route 10A to Route 14B	NB/EB	2,420	1,663	0.69	B	3,039	1.26	F	2,420	1,684	0.70	B	3,112	1.29	F	1.2%	2.3%
		WB/SB	2,420	2,737	1.13	F	2,186	0.90	D	2,420	2,797	1.16	F	2,224	0.92	E	2.1%	1.7%
Route 1	Route 14B to Route 14 (S)	NB/EB	2,420	1,694	0.70	B	2,679	1.11	F	2,420	1,713	0.71	C	2,748	1.14	F	1.1%	2.5%
		WB/SB	2,420	2,274	0.94	E	2,029	0.84	D	2,420	2,332	0.96	E	2,061	0.85	D	2.5%	1.6%
Route 1	Route 14 (S) to Route 30	NB/EB	2,420	2,171	0.90	D	2,178	0.90	D	2,420	2,184	0.90	D	2,238	0.92	E	0.6%	2.7%
		WB/SB	2,420	2,002	0.83	D	2,012	0.83	D	2,420	2,053	0.85	D	2,046	0.85	D	2.5%	1.7%
Route 1	Route 30 to Route 8	NB/EB	2,420	2,364	0.98	E	2,445	1.01	F	2,420	2,376	0.98	E	2,501	1.03	F	0.5%	2.2%
		WB/SB	2,420	2,411	1.00	F	2,408	1.00	F	2,420	2,461	1.02	F	2,440	1.01	F	2.0%	1.3%
Route 1	Route 8 to Route 4	NB/EB	2,420	1,875	0.78	C	2,203	0.91	E	2,420	1,890	0.78	C	2,265	0.94	E	0.8%	2.7%
		WB/SB	2,420	2,061	0.85	D	1,639	0.68	B	2,420	2,107	0.87	D	1,717	0.71	C	2.2%	4.5%
Route 1	Route 4 to Route 6 (N)	NB/EB	2,420	1,392	0.58	A	1,586	0.66	B	2,420	1,403	0.58	A	1,641	0.68	B	0.8%	3.4%
		WB/SB	2,420	2,333	0.96	E	1,674	0.69	B	2,420	2,379	0.98	E	1,694	0.70	B	1.9%	1.2%
Route 1	Route 6 (N) to Route 11	NB/EB	1,580	1,435	0.91	E	1,561	1.00	F	1,580	1,447	0.92	E	1,601	1.01	F	0.8%	2.5%
		WB/SB	1,580	1,657	1.05	F	1,235	0.78	C	1,580	1,701	1.08	F	1,252	0.79	C	2.6%	1.4%
Route 1	Route 11 to Route 6 (S)	NB/EB	1,580	1,255	0.79	C	1,186	0.75	C	1,580	1,267	0.80	C	1,225	0.78	C	0.9%	3.2%
		WB/SB	1,580	1,266	0.80	C	1,149	0.73	C	1,580	1,308	0.83	D	1,166	0.74	C	3.2%	1.5%
Route 1	Route 6 (S) to Route 18	NB/EB	1,580	1,253	0.79	C	1,196	0.76	C	1,580	1,265	0.80	C	1,235	0.78	C	0.9%	3.2%
		WB/SB	1,580	1,259	0.80	C	1,118	0.71	C	1,580	1,302	0.82	D	1,135	0.72	C	3.3%	1.5%
Route 1	Route 18 to Route 2A	NB/EB	1,580	1,454	0.92	E	1,217	0.77	C	1,580	1,465	0.93	E	1,256	0.80	C	0.8%	3.1%
		WB/SB	1,580	1,353	0.86	D	1,261	0.80	C	1,580	1,396	0.88	D	1,278	0.81	D	3.1%	1.3%

Roadway			2030 No Build							2030 Finegayan (Alternative A)								
			Capacity	A.M. Peak			P.M. Peak			Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 2A	Route 1 to Route 5	NB/EB	1,580	1,179	0.75	C	592	0.38	A	1,580	1,195	0.76	C	596	0.38	A	1.3%	0.7%
		WB/SB	1,580	627	0.40	A	1,130	0.72	C	1,580	630	0.40	A	1,140	0.72	C	0.5%	0.9%
Route 4	Route 1 to Route 33	NB/EB	2,420	1,185	0.49	A	995	0.41	A	2,420	1,185	0.49	A	1,018	0.42	A	0.0%	2.3%
		WB/SB	2,420	654	0.27	A	1,103	0.46	A	2,420	658	0.27	A	1,119	0.46	A	0.6%	1.4%
Route 4	Route 33 to Route 7B	NB/EB	2,420	1,816	0.75	C	1,144	0.47	A	2,420	1,823	0.75	C	1,145	0.47	A	0.4%	0.1%
		WB/SB	2,420	661	0.27	A	1,549	0.64	B	2,420	661	0.27	A	1,563	0.65	B	0.0%	0.9%
Route 4	Route 7B to Route 15	NB/EB	1,600	2,225	1.39	F	2,066	1.29	F	1,600	2,228	1.39	F	2,069	1.29	F	0.1%	0.1%
		WB/SB	1,600	2,225	1.39	F	2,066	1.29	F	1,600	2,228	1.39	F	2,069	1.29	F	0.1%	0.1%
Route 4	Route 15 to Route 10	NB/EB	1,600	1,773	1.11	F	1,402	0.88	D	1,600	1,773	1.11	F	1,402	0.88	D	0.0%	0.0%
		WB/SB	1,600	1,785	1.12	F	1,402	0.88	D	1,600	1,785	1.12	F	1,402	0.88	D	0.0%	0.0%
Route 4	Route 10 to Route 17	NB/EB	720	1,170	1.63	F	912	1.21	F	720	1,178	1.64	F	923	1.22	F	0.7%	1.2%
		WB/SB	756	1,390	0.87	D	1,019	1.42	F	756	1,400	0.88	D	1,031	1.43	F	0.7%	1.2%
Route 6	Route 1 (N) to Route 7	NB/EB	777	550	0.71	C	673	0.87	D	777	551	0.71	C	674	0.87	D	0.2%	0.1%
		WB/SB	777	474	0.61	B	457	0.59	A	777	476	0.61	B	458	0.59	A	0.4%	0.2%
Route 6	Route 7 to Military Boundary (N)	NB/EB	740	388	0.53	A	480	0.65	B	740	390	0.53	A	481	0.65	B	0.5%	0.2%
		WB/SB	740	383	0.52	A	365	0.49	A	740	384	0.52	A	366	0.50	A	0.3%	0.3%
Route 6	Military Boundary (S) to Route 1 (S)	NB/EB	1,264	217	0.17	A	318	0.25	A	1,264	217	0.17	A	319	0.25	A	0.0%	0.3%
		WB/SB	1,264	232	0.18	A	202	0.16	A	1,264	232	0.18	A	203	0.16	A	0.0%	0.5%
Route 7	Route 6 to Route 7B	NB/EB	756	774	1.02	F	692	0.92	E	756	780	1.03	F	723	0.96	E	0.8%	4.3%
		WB/SB	756	861	1.14	F	806	1.07	F	756	896	1.19	F	815	1.08	F	3.9%	1.1%
Route 7	Route 7B to Route 7A	NB/EB	756	876	1.16	F	578	0.77	C	756	883	1.17	F	610	0.81	D	0.8%	5.2%
		WB/SB	756	697	0.92	E	850	1.13	F	756	733	0.97	E	860	1.14	F	4.9%	1.2%
Route 7A	Route 8 to Route 33	NB/EB	720	853	1.19	F	804	1.12	F	720	867	1.20	F	823	1.14	F	1.6%	2.3%
		WB/SB	720	722	0.56	A	1,191	0.93	E	720	757	0.59	A	1,204	0.94	E	4.6%	1.1%
Route 7A	Route 33 to Route 4	NB/EB	720	821	1.14	F	865	1.20	F	720	837	1.16	F	885	1.23	F	1.9%	2.3%
		WB/SB	720	962	0.75	C	1,092	0.85	D	720	996	0.78	C	1,105	0.86	D	3.4%	1.2%
Route 7A	Route 4 to Route 7	NB/EB	1,600	662	0.41	A	603	0.38	A	1,600	668	0.42	A	635	0.40	A	0.9%	5.0%
		WB/SB	1,600	1,044	0.65	B	769	0.48	A	1,600	1,081	0.68	B	780	0.49	A	3.4%	1.4%
Route 7A	West of Route 7	NB/EB	720	265	0.37	A	479	0.67	B	720	265	0.37	A	487	0.68	B	0.0%	1.6%
		WB/SB	720	348	0.48	A	275	0.38	A	720	348	0.48	A	283	0.39	A	0.0%	2.8%
Route 7B	Route 33 to Route 4	NB/EB	720	428	0.59	A	664	0.92	E	720	428	0.60	A	665	0.92	E	0.0%	0.2%
		WB/SB	720	679	0.94	E	513	0.71	C	720	679	0.94	E	522	0.73	C	0.0%	1.7%
Route 8	Bar. Main Gate To Route 16	NB/EB	720	346	0.48	A	111	0.15	A	720	346	0.48	A	112	0.16	A	0.0%	0.9%
		WB/SB	720	253	0.35	A	130	0.18	A	720	254	0.35	A	131	0.18	A	0.4%	0.8%
Route 8	Route 16 to Route 10	NB/EB	1,600	1,632	1.02	F	1,411	0.88	D	1,600	1,654	1.03	F	1,426	0.89	D	1.3%	1.1%
		WB/SB	1,600	1,426	0.89	D	1,438	0.90	D	1,600	1,440	0.90	D	1,466	0.92	E	1.0%	1.9%
Route 8	Route 10 to Route 33 (E)	NB/EB	1,600	876	0.55	A	1,295	0.81	D	1,600	880	0.55	A	1,298	0.81	D	0.5%	0.2%
		WB/SB	1,600	1,521	0.95	E	972	0.61	B	1,600	1,527	0.95	E	979	0.61	B	0.4%	0.7%
Route 8	Route 33 (E) to Route 33 (W)	NB/EB	1,600	1,566	0.98	E	2,056	1.29	F	1,600	1,594	1.00	E	2,079	1.30	F	1.8%	1.1%
		WB/SB	1,600	1,858	1.16	F	1,650	1.03	F	1,600	1,894	1.18	F	1,665	1.04	F	1.9%	0.9%
Route 8	Route 33 (W) to Route 1	NB/EB	1,600	825	0.52	A	1,571	0.98	E	1,600	837	0.52	A	1,575	0.98	E	1.4%	0.3%
		WB/SB	1,600	1,456	0.91	E	943	0.59	A	1,600	1,457	0.91	E	944	0.59	A	0.1%	0.1%
Route 10	Route 8 to Route 15	NB/EB	1,600	2,012	1.26	F	1,232	0.77	C	1,600	2,030	1.27	F	1,243	0.78	C	0.9%	0.9%
		WB/SB	1,600	1,279	0.80	C	1,594	1.00	F	1,600	1,287	0.80	C	1,615	1.01	F	0.6%	1.3%
Route 10	Route 15 to Route 32	NB/EB	1,600	1,875	1.17	F	1,444	0.90	D	1,600	1,892	1.18	F	1,451	0.91	E	0.9%	0.5%
		WB/SB	1,600	1,527	0.95	E	1,536	0.96	E	1,600	1,532	0.96	E	1,551	0.97	E	0.3%	1.0%

Roadway			2030 No Build							2030 Finegayan (Alternative A)								
			Capacity	A.M. Peak			P.M. Peak			Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 10	Route 32 to Route 4	NB/EB	1,600	1,774	1.11	F	1,326	0.83	D	1,600	1,795	1.12	F	1,336	0.84	D	1.2%	0.7%
		WB/SB	1,600	1,376	0.86	D	1,430	0.89	D	1,600	1,373	0.86	D	1,443	0.90	D	-0.2%	0.9%
Route 10A	Route 16 to Sunset Blvd.	NB/EB	2,420	823	0.34	A	2,081	0.86	D	2,420	846	0.35	A	2,107	0.87	D	2.7%	1.2%
		WB/SB	2,420	2,743	1.13	F	1,568	0.65	B	2,420	2,777	1.15	F	1,597	0.66	B	1.2%	1.8%
Route 10A	Sunset Blvd. to Route 1	NB/EB	1,600	794	0.50	A	1,762	1.10	F	1,600	797	0.50	A	1,763	1.10	F	0.4%	0.1%
		WB/SB	1,600	2,034	1.27	F	1,241	0.78	C	1,600	2,034	1.27	F	1,253	0.78	C	0.0%	1.0%
Route 11	West of Route 1	NB/EB	720	104	0.14	A	420	0.58	A	720	104	0.15	A	421	0.59	A	0.0%	0.2%
		WB/SB	720	475	0.66	B	87	0.12	A	720	476	0.66	B	87	0.12	A	0.2%	0.0%
Route 14	Route 14A to Route 14B	NB/EB	1,600	439	0.27	A	1,337	0.84	D	1,600	467	0.29	A	1,348	0.84	D	6.0%	0.8%
		WB/SB	1,600	1,273	0.80	C	827	0.52	A	1,600	1,281	0.80	C	848	0.53	A	0.6%	2.5%
Route 14	Route 14B to Route 1 (S)	NB/EB	2,420	1,099	0.45	A	1,126	0.70	B	2,420	1,101	0.46	A	1,128	0.71	C	0.2%	0.2%
		WB/SB	1,600	928	0.58	A	953	0.60	A	1,600	929	0.58	A	953	0.60	A	0.1%	0.0%
Route 14A	Route 14 to Route 1	NB/EB	1,280	551	0.43	A	1,106	0.86	D	1,280	561	0.44	A	1,113	0.87	D	1.8%	0.6%
		WB/SB	1,280	724	0.57	A	863	0.67	B	1,280	730	0.57	A	874	0.68	B	0.8%	1.3%
Route 14B	Route 14 to Route 1	NB/EB	720	598	0.83	D	626	0.87	D	720	600	0.83	D	627	0.87	D	0.3%	0.2%
		WB/SB	720	559	0.78	C	680	0.95	E	720	561	0.78	C	688	0.96	E	0.4%	1.2%
Route 15	Route 26 to Bar. South Gate	NB/EB	720	540	0.75	C	760	1.06	F	720	553	0.77	C	761	1.06	F	2.4%	0.1%
		WB/SB	720	799	1.11	F	606	0.84	D	720	800	1.11	F	624	0.87	D	0.1%	2.9%
Route 15	Bar. South Gate to Route 10	NB/EB	756	451	0.60	A	770	1.02	F	756	459	0.61	B	771	1.02	F	1.7%	0.1%
		WB/SB	756	749	1.00	F	560	0.74	C	756	751	1.00	F	571	0.76	C	0.3%	1.9%
Route 15	Route 10 to Route 4	NB/EB	720	398	0.55	A	306	0.43	A	720	400	0.56	A	307	0.43	A	0.5%	0.3%
		WB/SB	720	471	0.66	B	270	0.38	A	720	472	0.66	B	270	0.38	A	0.2%	0.0%
Route 16	Route 10A to Bar. Main Gate	NB/EB	1,600	1,719	1.07	F	1,677	1.05	F	1,600	1,745	1.09	F	1,698	1.06	F	1.5%	1.2%
		WB/SB	1,600	1,416	0.89	D	1,815	1.13	F	1,600	1,433	0.90	D	1,847	1.15	F	1.2%	1.7%
Route 16	Bar. Main Gate to Route 8	NB/EB	1,600	1,222	0.76	C	1,422	0.89	D	1,600	1,238	0.77	C	1,451	0.91	E	1.3%	2.0%
		WB/SB	1,600	1,502	0.94	E	1,359	0.85	D	1,600	1,525	0.95	E	1,375	0.86	D	1.5%	1.2%
Route 25	Route 16 to Route 26	NB/EB	720	271	0.38	A	1,100	1.53	F	720	271	0.38	A	1,102	1.53	F	0.0%	0.2%
		WB/SB	720	1,330	1.85	F	689	0.96	E	720	1,330	1.85	F	689	0.96	E	0.0%	0.0%
Route 26	Route 25 to Route 15	NB/EB	720	1,016	1.41	F	727	1.01	F	720	1,021	1.42	F	730	1.01	F	0.5%	0.4%
		WB/SB	720	637	0.89	D	940	1.31	F	720	638	0.89	D	945	1.31	F	0.2%	0.5%
Route 30	North of Route 1	NB/EB	1,600	626	0.39	A	403	0.56	A	1,600	626	0.39	A	404	0.56	A	0.0%	0.2%
		WB/SB	720	418	0.58	A	866	0.54	A	720	420	0.58	A	868	0.54	A	0.5%	0.2%
Route 33	Route 8 (E) to Route 7A	NB/EB	720	513	0.71	C	422	0.59	A	720	514	0.71	C	422	0.59	A	0.2%	0.0%
		WB/SB	720	719	1.00	F	221	0.31	A	720	720	1.00	F	222	0.31	A	0.1%	0.5%
Route 33	Route 7A to Route 8 (W)	NB/EB	720	192	0.27	A	111	0.16	A	720	192	0.27	A	111	0.16	A	0.0%	0.0%
		WB/SB	720	356	0.49	A	30	0.04	A	720	356	0.49	A	30	0.04	A	0.0%	0.0%
Tiyan Pkwy	Route 1 to Route 8	NB/EB	1,600	1,308	0.82	D	1,171	0.73	C	1,600	1,340	0.84	D	1,194	0.75	C	2.4%	1.9%
		WB/SB	1,600	1,064	0.67	B	1,435	0.90	D	1,600	1,096	0.69	B	1,450	0.91	E	2.9%	1.0%
Route 2	Route 2A to Route 12	NB/EB	740	1,021	1.38	F	424	0.57	A	740	1,027	1.39	F	427	0.58	A	0.6%	0.7%
		WB/SB	740	324	0.44	A	808	1.09	F	740	326	0.44	A	813	1.10	F	0.6%	0.6%
Route 2	Route 12 to Nimitz Beach	NB/EB	740	923	1.25	F	470	0.64	B	740	928	1.25	F	472	0.64	B	0.5%	0.4%
		WB/SB	740	623	0.84	D	724	0.98	E	740	627	0.85	D	729	0.99	E	0.6%	0.7%
Route 2	Nimitz Beach to Route 4	NB/EB	740	345	0.47	A	296	0.40	A	740	348	0.47	A	298	0.40	A	0.9%	0.7%
		WB/SB	740	345	0.47	A	296	0.40	A	740	348	0.47	A	298	0.40	A	0.9%	0.7%
Route 2A	Route 5 to Route 2	NB/EB	740	755	1.02	F	363	0.49	A	740	761	1.03	F	366	0.50	A	0.8%	0.8%
		WB/SB	740	375	0.51	A	626	0.85	D	740	377	0.51	A	633	0.86	D	0.5%	1.1%

Roadway			2030 No Build							2030 Finegayan (Alternative A)								
			Capacity	A.M. Peak			P.M. Peak			Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 4	Route 17 to Route 4A	NB/EB	720	715	1.00	F	399	0.56	A	720	720	1.00	F	405	0.56	A	0.7%	1.5%
		WB/SB	720	715	1.00	F	406	0.57	A	720	720	1.00	F	412	0.57	A	0.7%	1.5%
Route 4	Route 4A to Inarajan	NB/EB	720	313	0.44	A	264	0.37	A	720	316	0.44	A	269	0.37	A	0.9%	1.9%
		WB/SB	720	394	0.55	A	204	0.28	A	720	398	0.55	A	208	0.29	A	1.0%	1.9%
Route 4	Inarajan to Route 2	NB/EB	740	195	0.26	A	146	0.20	A	740	197	0.27	A	147	0.20	A	1.0%	0.7%
		WB/SB	740	195	0.26	A	107	0.15	A	740	197	0.27	A	108	0.15	A	1.0%	0.9%
Route 4A	Route 17 to Route 4	NB/EB	720	387	0.54	A	205	0.29	A	720	389	0.54	A	206	0.29	A	0.5%	0.5%
		WB/SB	720	231	0.32	A	300	0.42	A	720	231	0.32	A	302	0.42	A	0.0%	0.7%
Route 5	Route 2A to Route 17	NB/EB	720	257	0.36	A	447	0.62	B	720	258	0.36	A	450	0.63	B	0.4%	0.7%
		WB/SB	720	666	0.93	E	209	0.29	A	720	669	0.93	E	209	0.29	A	0.4%	0.0%
Route 5	Route 17 to Route 12	NB/EB	720	151	0.21	A	98	0.14	A	720	152	0.21	A	98	0.14	A	0.7%	0.0%
		WB/SB	720	136	0.19	A	104	0.15	A	720	136	0.19	A	104	0.15	A	0.0%	0.0%
Route 12	Route 5 to Route 2	NB/EB	720	360	0.50	A	390	0.54	A	720	361	0.50	A	391	0.54	A	0.3%	0.3%
		WB/SB	720	646	0.90	D	265	0.37	A	720	648	0.90	D	266	0.37	A	0.3%	0.4%
Route 17	Route 5 to Route 4A	NB/EB	720	167	0.23	A	393	0.55	A	720	167	0.23	A	396	0.55	A	0.0%	0.8%
		WB/SB	720	588	0.82	D	186	0.26	A	720	600	0.83	D	187	0.26	A	2.0%	0.5%
Route 17	Route 4A to Route 4	NB/EB	720	512	0.71	C	256	0.36	A	720	515	0.72	C	259	0.36	A	0.6%	1.2%
		WB/SB	720	284	0.39	A	344	0.48	A	720	293	0.41	A	347	0.48	A	3.1%	0.9%

Roadway Level of Service Summary

Roadway			2030 South Finegayan (Alternative B)									2030 AAFB (Alternative C)								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 1	AAFB to Route 29	NB/EB	1,600	930	0.58	A	1,204	0.75	C	15.9%	11.4%	1,600	971	0.61	B	1,342	0.84	D	19.5%	20.5%
		WB/SB	1,600	1,103	0.69	B	1,248	0.78	C	1.2%	9.5%	1,600	1,187	0.74	C	1,270	0.79	C	8.2%	11.1%
Route 1	Route 29 to Chalan Lujuna	NB/EB	1,600	1,219	0.76	C	1,496	0.94	E	6.6%	8.0%	1,600	1,236	0.77	C	1,639	1.02	F	7.8%	16.0%
		WB/SB	1,600	1,759	1.10	F	1,514	0.95	E	0.3%	5.7%	1,600	1,840	1.15	F	1,537	0.96	E	4.7%	7.1%
Route 1	Chalan Lujuna to Route 28	NB/EB	1,600	1,232	0.77	C	2,071	1.29	F	4.7%	0.5%	1,600	1,228	0.77	C	2,111	1.32	F	4.4%	2.4%
		WB/SB	1,600	2,210	1.38	F	1,538	0.96	E	0.0%	3.3%	1,600	2,274	1.42	F	1,521	0.95	E	2.9%	2.2%
Route 1	Route 28 to Route 26	NB/EB	2,420	1,350	0.56	A	2,545	1.05	F	3.3%	0.3%	2,420	1,339	0.55	A	2,582	1.07	F	2.5%	1.7%
		WB/SB	2,420	2,524	1.04	F	1,780	0.74	C	0.1%	3.0%	2,420	2,584	1.07	F	1,756	0.73	C	2.4%	1.7%
Route 1	Route 26 to Route 27	NB/EB	2,420	1,400	0.58	A	2,421	1.00	F	2.6%	0.4%	2,420	1,382	0.57	A	2,443	1.01	F	1.3%	1.3%
		WB/SB	2,420	2,663	1.10	F	1,508	0.62	B	0.5%	4.4%	2,420	2,701	1.12	F	1,472	0.61	B	1.9%	2.1%
Route 1	Route 27 to Route 27A	NB/EB	2,420	784	0.32	A	1,325	0.55	A	1.1%	1.2%	2,420	780	0.32	A	1,311	0.54	A	0.6%	0.2%
		WB/SB	2,420	1,547	0.64	B	1,012	0.42	A	1.0%	1.5%	2,420	1,539	0.64	B	1,000	0.41	A	0.5%	0.3%
Route 1	Route 27A to Route 3	NB/EB	2,420	752	0.31	A	1,460	0.60	A	1.5%	1.9%	2,420	741	0.31	A	1,438	0.59	A	0.0%	0.4%
		WB/SB	2,420	1,749	0.72	C	981	0.41	A	1.6%	1.2%	2,420	1,733	0.72	C	971	0.40	A	0.7%	0.2%
Route 1	Route 3 to Route 34	NB/EB	2,420	1,050	0.43	A	2,686	1.11	F	8.6%	9.3%	2,420	1,025	0.42	A	2,526	1.04	F	6.3%	3.6%
		WB/SB	2,420	3,867	1.60	F	1,775	0.73	C	4.0%	7.9%	2,420	3,781	1.56	F	1,721	0.71	C	1.8%	5.0%
Route 1	Route 34 to Route 16	NB/EB	2,420	1,139	0.47	A	2,595	1.07	F	7.6%	9.3%	2,420	1,117	0.46	A	2,440	1.01	F	5.7%	3.5%
		WB/SB	2,420	3,417	1.41	F	1,851	0.76	C	4.4%	7.5%	2,420	3,334	1.38	F	1,797	0.74	C	2.0%	4.7%
Route 1	Route 16 to Route 14 (N)	NB/EB	2,420	1,228	0.51	A	3,012	1.24	F	3.4%	3.7%	2,420	1,230	0.51	A	2,971	1.23	F	3.6%	2.4%
		WB/SB	2,420	3,146	1.30	F	2,226	0.92	E	3.0%	3.1%	2,420	3,113	1.29	F	2,211	0.91	E	1.9%	2.5%
Route 1	Route 14 (N) to Route 14A	NB/EB	2,420	1,544	0.64	B	3,287	1.36	F	3.2%	2.7%	2,420	1,530	0.63	B	3,258	1.35	F	2.4%	1.8%
		WB/SB	2,420	2,797	1.16	F	2,667	1.10	F	2.8%	2.0%	2,420	2,778	1.15	F	2,658	1.10	F	2.1%	1.7%
Route 3	Route 3A/9 to Fin. Main Gate	NB/EB	740	633	0.86	D	623	0.84	D	41.7%	32.6%	740	513	0.69	B	530	0.72	C	28.1%	20.8%
		WB/SB	740	777	1.05	F	766	1.04	F	28.7%	49.5%	740	632	0.85	D	552	0.75	C	12.3%	29.9%
Route 3	Fin. Main Gate to Residential Gate	NB/EB	740	854	1.15	F	811	1.10	F	57.8%	38.1%	740	500	0.68	B	610	0.83	D	28.0%	17.7%
		WB/SB	740	1,063	1.44	F	837	1.13	F	13.9%	50.4%	740	985	1.33	F	527	0.71	C	7.1%	21.3%
Route 3	Fin. Residential Gate to Route 28	NB/EB	740	1,044	1.41	F	957	1.29	F	50.5%	30.0%	740	604	0.82	D	768	1.04	F	14.4%	12.8%
		WB/SB	740	1,148	1.55	F	1,066	1.44	F	12.5%	48.4%	740	1,072	1.45	F	662	0.89	D	6.3%	16.9%
Route 3	Route 28 to S.Fin. Main Gate	NB/EB	1,580	1,206	0.76	C	1,521	0.96	E	42.4%	17.8%	1,580	773	0.49	A	1,342	0.85	D	10.1%	6.9%
		WB/SB	1,580	2,143	1.36	F	1,326	0.84	D	7.7%	39.0%	1,580	2,042	1.29	F	904	0.57	A	3.2%	10.5%
Route 3	S.Fin. Main Gate to Route 1	NB/EB	1,600	961	0.60	A	1,551	0.98	E	12.3%	16.9%	1,600	920	0.58	A	1,378	0.87	D	8.4%	6.5%
		WB/SB	1,580	2,302	1.46	F	1,016	0.64	B	7.3%	15.4%	1,580	2,198	1.39	F	937	0.59	A	2.9%	8.2%
Route 3A	North of Route 3/9	NB/EB	740	84	0.11	A	15	0.02	A	1.2%	6.7%	740	83	0.11	A	15	0.02	A	0.0%	6.7%
		WB/SB	740	22	0.03	A	100	0.14	A	4.5%	2.0%	740	22	0.03	A	99	0.13	A	4.5%	1.0%
Route 9	Route 3/3A to AAFB North Gate	NB/EB	740	601	0.81	D	461	0.62	B	40.8%	33.2%	740	573	0.78	C	427	0.58	A	37.9%	27.9%
		WB/SB	740	584	0.79	C	649	0.88	D	29.3%	54.9%	740	515	0.70	B	529	0.72	C	19.8%	44.6%
Route 9	AAFB Main Gate to Route 1	NB/EB	740	445	0.60	A	372	0.50	A	13.0%	41.4%	740	432	0.58	A	386	0.52	A	10.4%	43.5%
		WB/SB	740	420	0.57	A	507	0.69	B	33.1%	31.4%	740	463	0.63	B	582	0.79	C	39.3%	40.2%
Route 14	Route 1 to Gun Beach Rd.	NB/EB	1,600	424	0.27	A	1,044	0.65	B	1.4%	1.6%	1,600	423	0.26	A	1,037	0.65	B	1.2%	1.0%
		WB/SB	1,600	1,040	0.65	B	1,015	0.63	B	1.2%	1.2%	1,600	1,035	0.65	B	1,011	0.63	B	0.7%	0.8%
Route 14	Gun Beach Rd. to Route 14A	NB/EB	1,600	821	0.51	A	595	0.37	A	0.0%	2.2%	1,600	824	0.52	A	590	0.37	A	0.4%	1.4%
		WB/SB	1,600	576	0.36	A	1,218	0.76	C	1.4%	0.7%	1,600	573	0.36	A	1,221	0.76	C	0.9%	1.0%
Route 15	AAFB to Route 29	NB/EB	720	629	0.87	D	314	0.44	A	1.1%	1.9%	720	622	0.86	D	315	0.44	A	0.0%	2.2%
		WB/SB	720	526	0.73	C	443	0.62	B	1.3%	1.6%	720	527	0.73	C	439	0.61	B	1.5%	0.7%
Route 15	Route 29 to Route 26	NB/EB	720	439	0.61	B	570	0.79	C	6.6%	1.2%	720	454	0.63	B	656	0.91	E	9.7%	14.2%
		WB/SB	720	774	1.08	F	507	0.71	C	-0.6%	7.1%	720	788	1.10	F	510	0.71	C	1.1%	7.6%

Roadway			2030 South Finegayan (Alternative B)									2030 AAFB (Alternative C)								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 16	Route 1 to Route 27A	NB/EB	2,420	896	0.37	A	1,418	0.59	A	5.0%	9.0%	2,420	875	0.36	A	1,305	0.54	A	2.7%	1.1%
		WB/SB	2,420	1,254	0.52	A	1,231	0.51	A	4.5%	4.9%	2,420	1,205	0.50	A	1,195	0.49	A	0.6%	2.0%
Route 16	Route 27A to Route 27	NB/EB	2,420	917	0.38	A	1,906	0.79	C	4.8%	6.7%	2,420	891	0.37	A	1,793	0.74	C	2.0%	0.8%
		WB/SB	2,420	1,848	0.76	C	1,318	0.54	A	3.1%	4.5%	2,420	1,798	0.74	C	1,282	0.53	A	0.4%	1.8%
Route 16	Route 27 to Route 10A	NB/EB	2,420	1,849	0.76	C	2,433	1.01	F	2.1%	4.9%	2,420	1,836	0.76	C	2,351	0.97	E	1.4%	1.6%
		WB/SB	2,420	2,407	0.99	E	2,082	0.86	D	1.8%	2.4%	2,420	2,397	0.99	E	2,068	0.85	D	1.4%	1.8%
Route 26	Route 1 to Route 25	NB/EB	1,280	947	0.74	C	951	0.74	C	1.1%	0.6%	1,280	945	0.74	C	957	0.75	C	0.8%	1.3%
		WB/SB	1,280	1,070	0.84	D	1,136	0.89	D	0.3%	0.9%	1,280	1,077	0.84	D	1,138	0.89	D	0.9%	1.1%
Route 27	Route 16 to Route 1	NB/EB	2,420	1,017	0.42	A	2,034	0.84	D	2.4%	0.2%	2,420	1,009	0.42	A	2,060	0.85	D	1.6%	1.5%
		WB/SB	2,420	1,824	0.75	C	1,123	0.46	A	0.1%	4.4%	2,420	1,866	0.77	C	1,108	0.46	A	2.4%	3.1%
Route 27A	Route 16 to Route 1	NB/EB	756	552	0.73	C	1,150	1.52	F	1.4%	2.4%	756	555	0.73	C	1,146	1.52	F	2.0%	2.1%
		WB/SB	756	1,233	1.63	F	730	0.97	E	0.1%	0.5%	756	1,233	1.63	F	727	0.96	E	0.1%	0.1%
Route 27A	Route 1 to Route 28	NB/EB	756	363	0.48	A	523	0.69	B	0.6%	0.8%	756	359	0.48	A	527	0.70	B	-0.6%	1.5%
		WB/SB	756	741	0.98	E	536	0.71	C	0.4%	0.7%	756	738	0.98	E	533	0.71	C	0.0%	0.2%
Route 28	Route 1 to Route 27A	NB/EB	720	371	0.52	A	722	1.01	F	1.6%	0.8%	720	368	0.51	A	723	1.01	F	0.8%	1.0%
		WB/SB	720	650	0.90	D	584	0.81	D	0.3%	2.6%	720	655	0.91	E	573	0.80	C	1.1%	0.7%
Route 28	Route 27A to Chalan Balako	NB/EB	720	426	0.59	A	608	0.84	D	3.5%	3.1%	720	413	0.57	A	598	0.83	D	0.5%	1.5%
		WB/SB	720	838	1.17	F	673	0.94	E	0.8%	2.8%	720	832	1.16	F	657	0.91	E	0.1%	0.5%
Route 28	Chalan Balako to Route 3	NB/EB	720	423	0.59	A	727	1.01	F	7.8%	3.2%	720	392	0.55	A	719	0.99	E	0.5%	2.1%
		WB/SB	720	1,095	1.52	F	455	0.63	B	2.5%	9.5%	720	1,085	1.51	F	416	0.58	A	1.6%	1.0%
Route 29	Route 1 to Route 15	NB/EB	720	463	0.64	B	422	0.59	A	0.9%	5.0%	720	465	0.65	B	428	0.60	A	1.3%	6.3%
		WB/SB	720	673	0.94	E	414	0.58	A	3.7%	0.0%	720	679	0.94	E	422	0.59	A	4.6%	1.9%
Route 34	North of Route 1	NB/EB	720	156	0.22	A	167	0.23	A	0.0%	0.6%	720	156	0.22	A	166	0.23	A	0.0%	0.0%
		WB/SB	720	90	0.13	A	201	0.28	A	0.0%	0.0%	720	90	0.13	A	201	0.28	A	0.0%	0.0%
Route 1	Route 14A to Route 10A	NB/EB	2,420	1,862	0.77	C	2,976	1.23	F	1.2%	2.5%	2,420	1,863	0.77	C	2,952	1.22	F	1.3%	1.7%
		WB/SB	2,420	2,086	0.86	D	2,772	1.15	F	3.1%	1.6%	2,420	2,071	0.86	D	2,762	1.14	F	2.4%	1.2%
Route 1	Route 10A to Route 14B	NB/EB	2,420	1,684	0.70	B	3,112	1.29	F	1.2%	2.3%	2,420	1,686	0.70	B	3,088	1.28	F	1.4%	1.6%
		WB/SB	2,420	2,800	1.16	F	2,222	0.92	E	2.3%	1.6%	2,420	2,788	1.15	F	2,222	0.92	E	1.8%	1.6%
Route 1	Route 14B to Route 14 (S)	NB/EB	2,420	1,714	0.71	C	2,748	1.14	F	1.2%	2.5%	2,420	1,716	0.71	C	2,726	1.13	F	1.3%	1.7%
		WB/SB	2,420	2,335	0.97	E	2,060	0.85	D	2.6%	1.5%	2,420	2,324	0.96	E	2,059	0.85	D	2.2%	1.5%
Route 1	Route 14 (S) to Route 30	NB/EB	2,420	2,186	0.90	D	2,239	0.93	E	0.7%	2.7%	2,420	2,197	0.91	E	2,220	0.92	E	1.2%	1.9%
		WB/SB	2,420	2,056	0.85	D	2,036	0.84	D	2.6%	1.2%	2,420	2,046	0.85	D	2,043	0.84	D	2.2%	1.5%
Route 1	Route 30 to Route 8	NB/EB	2,420	2,378	0.98	E	2,503	1.03	F	0.6%	2.3%	2,420	2,385	0.99	E	2,485	1.03	F	0.9%	1.6%
		WB/SB	2,420	2,464	1.02	F	2,436	1.01	F	2.2%	1.1%	2,420	2,457	1.02	F	2,438	1.01	F	1.9%	1.2%
Route 1	Route 8 to Route 4	NB/EB	2,420	1,891	0.78	C	2,265	0.94	E	0.8%	2.7%	2,420	1,897	0.78	C	2,252	0.93	E	1.2%	2.2%
		WB/SB	2,420	2,107	0.87	D	1,667	0.69	B	2.2%	1.7%	2,420	2,106	0.87	D	1,664	0.69	B	2.1%	1.5%
Route 1	Route 4 to Route 6 (N)	NB/EB	2,420	1,402	0.58	A	1,642	0.68	B	0.7%	3.4%	2,420	1,409	0.58	A	1,634	0.68	B	1.2%	2.9%
		WB/SB	2,420	2,379	0.98	E	1,695	0.70	B	1.9%	1.2%	2,420	2,380	0.98	E	1,701	0.70	B	2.0%	1.6%
Route 1	Route 6 (N) to Route 11	NB/EB	1,580	1,448	0.92	E	1,601	1.01	F	0.9%	2.5%	1,580	1,455	0.92	E	1,603	1.01	F	1.4%	2.6%
		WB/SB	1,580	1,700	1.08	F	1,253	0.79	C	2.5%	1.4%	1,580	1,701	1.08	F	1,259	0.80	C	2.6%	1.9%
Route 1	Route 11 to Route 6 (S)	NB/EB	1,580	1,268	0.80	C	1,225	0.78	C	1.0%	3.2%	1,580	1,274	0.81	D	1,226	0.78	C	1.5%	3.3%
		WB/SB	1,580	1,308	0.83	D	1,166	0.74	C	3.2%	1.5%	1,580	1,309	0.83	D	1,172	0.74	C	3.3%	2.0%
Route 1	Route 6 (S) to Route 18	NB/EB	1,580	1,265	0.80	C	1,235	0.78	C	0.9%	3.2%	1,580	1,272	0.81	D	1,236	0.78	C	1.5%	3.2%
		WB/SB	1,580	1,302	0.82	D	1,136	0.72	C	3.3%	1.6%	1,580	1,302	0.82	D	1,142	0.72	C	3.3%	2.1%
Route 1	Route 18 to Route 2A	NB/EB	1,580	1,466	0.93	E	1,256	0.80	C	0.8%	3.1%	1,580	1,473	0.93	E	1,257	0.80	C	1.3%	3.2%
		WB/SB	1,580	1,396	0.88	D	1,278	0.81	D	3.1%	1.3%	1,580	1,396	0.88	D	1,284	0.81	D	3.1%	1.8%

Roadway			2030 South Finegayan (Alternative B)									2030 AAFB (Alternative C)								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 2A	Route 1 to Route 5	NB/EB	1,580	1,195	0.76	C	596	0.38	A	1.3%	0.7%	1,580	1,193	0.76	C	597	0.38	A	1.2%	0.8%
		WB/SB	1,580	630	0.40	A	1,139	0.72	C	0.5%	0.8%	1,580	630	0.40	A	1,143	0.72	C	0.5%	1.1%
Route 4	Route 1 to Route 33	NB/EB	2,420	1,185	0.49	A	1,024	0.42	A	0.0%	2.8%	2,420	1,187	0.49	A	1,010	0.42	A	0.2%	1.5%
		WB/SB	2,420	662	0.27	A	1,116	0.46	A	1.2%	1.2%	2,420	655	0.27	A	1,111	0.46	A	0.2%	0.7%
Route 4	Route 33 to Route 7B	NB/EB	2,420	1,830	0.76	C	1,153	0.48	A	0.8%	0.8%	2,420	1,817	0.75	C	1,145	0.47	A	0.1%	0.1%
		WB/SB	2,420	661	0.27	A	1,551	0.64	B	0.0%	0.1%	2,420	661	0.27	A	1,550	0.64	B	0.0%	0.1%
Route 4	Route 7B to Route 15	NB/EB	1,600	2,227	1.39	F	2,067	1.29	F	0.1%	0.0%	1,600	2,226	1.39	F	2,067	1.29	F	0.0%	0.0%
		WB/SB	1,600	2,227	1.39	F	2,067	1.29	F	0.1%	0.0%	1,600	2,226	1.39	F	2,067	1.29	F	0.0%	0.0%
Route 4	Route 15 to Route 10	NB/EB	1,600	1,773	1.11	F	1,402	0.88	D	0.0%	0.0%	1,600	1,773	1.11	F	1,402	0.88	D	0.0%	0.0%
		WB/SB	1,600	1,785	1.12	F	1,402	0.88	D	0.0%	0.0%	1,600	1,785	1.12	F	1,402	0.88	D	0.0%	0.0%
Route 4	Route 10 to Route 17	NB/EB	720	1,179	1.64	F	923	1.22	F	0.8%	1.2%	720	1,188	1.65	F	932	1.23	F	1.5%	2.1%
		WB/SB	756	1,401	0.88	D	1,031	1.43	F	0.8%	1.2%	756	1,413	0.88	D	1,040	1.45	F	1.6%	2.0%
Route 6	Route 1 (N) to Route 7	NB/EB	777	551	0.71	C	674	0.87	D	0.2%	0.1%	777	551	0.71	C	675	0.87	D	0.2%	0.3%
		WB/SB	777	475	0.61	B	458	0.59	A	0.2%	0.2%	777	475	0.61	B	458	0.59	A	0.2%	0.2%
Route 6	Route 7 to Military Boundary (N)	NB/EB	740	389	0.53	A	481	0.65	B	0.3%	0.2%	740	390	0.53	A	481	0.65	B	0.5%	0.2%
		WB/SB	740	384	0.52	A	366	0.50	A	0.3%	0.3%	740	384	0.52	A	367	0.50	A	0.3%	0.5%
Route 6	Military Boundary (S) to Route 1 (S)	NB/EB	1,264	217	0.17	A	319	0.25	A	0.0%	0.3%	1,264	218	0.17	A	319	0.25	A	0.5%	0.3%
		WB/SB	1,264	232	0.18	A	203	0.16	A	0.0%	0.5%	1,264	232	0.18	A	203	0.16	A	0.0%	0.5%
Route 7	Route 6 to Route 7B	NB/EB	756	779	1.03	F	723	0.96	E	0.6%	4.3%	756	779	1.03	F	723	0.96	E	0.6%	4.3%
		WB/SB	756	896	1.19	F	815	1.08	F	3.9%	1.1%	756	897	1.19	F	816	1.08	F	4.0%	1.2%
Route 7	Route 7B to Route 7A	NB/EB	756	882	1.17	F	610	0.81	D	0.7%	5.2%	756	883	1.17	F	610	0.81	D	0.8%	5.2%
		WB/SB	756	733	0.97	E	861	1.14	F	4.9%	1.3%	756	733	0.97	E	860	1.14	F	4.9%	1.2%
Route 7A	Route 8 to Route 33	NB/EB	720	860	1.19	F	823	1.14	F	0.8%	2.3%	720	859	1.19	F	833	1.16	F	0.7%	3.5%
		WB/SB	720	754	0.59	A	1,203	0.94	E	4.2%	1.0%	720	761	0.59	A	1,204	0.94	E	5.1%	1.1%
Route 7A	Route 33 to Route 4	NB/EB	720	829	1.15	F	884	1.23	F	1.0%	2.1%	720	828	1.15	F	894	1.24	F	0.8%	3.2%
		WB/SB	720	993	0.78	C	1,105	0.86	D	3.1%	1.2%	720	1,001	0.78	C	1,095	0.86	D	3.9%	0.3%
Route 7A	Route 4 to Route 7	NB/EB	1,600	668	0.42	A	635	0.40	A	0.9%	5.0%	1,600	668	0.42	A	635	0.40	A	0.9%	5.0%
		WB/SB	1,600	1,081	0.68	B	781	0.49	A	3.4%	1.5%	1,600	1,081	0.68	B	779	0.49	A	3.4%	1.3%
Route 7A	West of Route 7	NB/EB	720	265	0.37	A	488	0.68	B	0.0%	1.8%	720	265	0.37	A	487	0.68	B	0.0%	1.6%
		WB/SB	720	348	0.48	A	283	0.39	A	0.0%	2.8%	720	350	0.49	A	280	0.39	A	0.6%	1.8%
Route 7B	Route 33 to Route 4	NB/EB	720	429	0.60	A	664	0.92	E	0.2%	0.0%	720	428	0.59	A	664	0.92	E	0.0%	0.0%
		WB/SB	720	679	0.94	E	522	0.73	C	0.0%	1.7%	720	679	0.94	E	522	0.73	C	0.0%	1.7%
Route 8	Bar. Main Gate To Route 16	NB/EB	720	346	0.48	A	112	0.16	A	0.0%	0.9%	720	346	0.48	A	111	0.16	A	0.0%	0.0%
		WB/SB	720	254	0.35	A	131	0.18	A	0.4%	0.8%	720	253	0.35	A	130	0.18	A	0.0%	0.0%
Route 8	Route 16 to Route 10	NB/EB	1,600	1,653	1.03	F	1,499	0.94	E	1.3%	5.9%	1,600	1,635	1.02	F	1,443	0.90	D	0.2%	2.2%
		WB/SB	1,600	1,440	0.90	D	1,463	0.91	E	1.0%	1.7%	1,600	1,430	0.89	D	1,457	0.91	E	0.3%	1.3%
Route 8	Route 10 to Route 33 (E)	NB/EB	1,600	879	0.55	A	1,298	0.81	D	0.3%	0.2%	1,600	878	0.55	A	1,297	0.81	D	0.2%	0.2%
		WB/SB	1,600	1,527	0.95	E	979	0.61	B	0.4%	0.7%	1,600	1,530	0.96	E	980	0.61	B	0.6%	0.8%
Route 8	Route 33 (E) to Route 33 (W)	NB/EB	1,600	1,583	0.99	E	2,077	1.30	F	1.1%	1.0%	1,600	1,581	0.99	E	2,095	1.31	F	0.9%	1.9%
		WB/SB	1,600	1,891	1.18	F	1,665	1.04	F	1.7%	0.9%	1,600	1,901	1.19	F	1,666	1.04	F	2.3%	1.0%
Route 8	Route 33 (W) to Route 1	NB/EB	1,600	832	0.52	A	1,579	0.99	E	0.8%	0.5%	1,600	829	0.52	A	1,581	0.99	E	0.5%	0.6%
		WB/SB	1,600	1,465	0.92	E	944	0.59	A	0.6%	0.1%	1,600	1,460	0.91	E	944	0.59	A	0.3%	0.1%
Route 10	Route 8 to Route 15	NB/EB	1,600	2,030	1.27	F	1,316	0.82	D	0.9%	6.4%	1,600	2,016	1.26	F	1,259	0.79	C	0.2%	2.1%
		WB/SB	1,600	1,287	0.80	C	1,614	1.01	F	0.6%	1.2%	1,600	1,282	0.80	C	1,595	1.00	E	0.2%	0.1%
Route 10	Route 15 to Route 32	NB/EB	1,600	1,889	1.18	F	1,526	0.95	E	0.7%	5.4%	1,600	1,900	1.19	F	1,529	0.96	E	1.3%	5.6%
		WB/SB	1,600	1,532	0.96	E	1,557	0.97	E	0.3%	1.3%	1,600	1,534	0.96	E	1,565	0.98	E	0.5%	1.9%

Roadway			2030 South Finegayan (Alternative B)									2030 AAFB (Alternative C)								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 10	Route 32 to Route 4	NB/EB	1,600	1,788	1.12	F	1,407	0.88	D	0.8%	5.8%	1,600	1,802	1.13	F	1,410	0.88	D	1.6%	6.0%
		WB/SB	1,600	1,371	0.86	D	1,461	0.91	E	-0.4%	2.1%	1,600	1,373	0.86	D	1,458	0.91	E	-0.2%	1.9%
Route 10A	Route 16 to Sunset Blvd.	NB/EB	2,420	841	0.35	A	2,105	0.87	D	2.1%	1.1%	2,420	841	0.35	A	2,122	0.88	D	2.1%	1.9%
		WB/SB	2,420	2,775	1.15	F	1,585	0.66	B	1.2%	1.1%	2,420	2,786	1.15	F	1,588	0.66	B	1.5%	1.3%
Route 10A	Sunset Blvd. to Route 1	NB/EB	1,600	795	0.50	A	1,763	1.10	F	0.1%	0.1%	1,600	796	0.50	A	1,763	1.10	F	0.3%	0.1%
		WB/SB	1,600	2,034	1.27	F	1,252	0.78	C	0.0%	0.9%	1,600	2,036	1.27	F	1,253	0.78	C	0.1%	1.0%
Route 11	West of Route 1	NB/EB	720	104	0.15	A	421	0.59	A	0.0%	0.2%	720	104	0.15	A	421	0.59	A	0.0%	0.2%
		WB/SB	720	476	0.66	B	87	0.12	A	0.2%	0.0%	720	476	0.66	B	88	0.12	A	0.2%	1.1%
Route 14	Route 14A to Route 14B	NB/EB	1,600	465	0.29	A	1,348	0.84	D	5.6%	0.8%	1,600	466	0.29	A	1,346	0.84	D	5.8%	0.7%
		WB/SB	1,600	1,282	0.80	C	844	0.53	A	0.7%	2.0%	1,600	1,281	0.80	C	841	0.53	A	0.6%	1.7%
Route 14	Route 14B to Route 1 (S)	NB/EB	2,420	1,101	0.46	A	1,127	0.70	B	0.2%	0.1%	2,420	1,101	0.46	A	1,127	0.70	B	0.2%	0.1%
		WB/SB	1,600	932	0.58	A	953	0.60	A	0.4%	0.0%	1,600	930	0.58	A	953	0.60	A	0.2%	0.0%
Route 14A	Route 14 to Route 1	NB/EB	1,280	557	0.44	A	1,113	0.87	D	1.1%	0.6%	1,280	557	0.44	A	1,119	0.87	D	1.1%	1.2%
		WB/SB	1,280	730	0.57	A	873	0.68	B	0.8%	1.1%	1,280	732	0.57	A	869	0.68	B	1.1%	0.7%
Route 14B	Route 14 to Route 1	NB/EB	720	599	0.83	D	629	0.87	D	0.2%	0.5%	720	599	0.83	D	629	0.87	D	0.2%	0.5%
		WB/SB	720	561	0.78	C	686	0.95	E	0.4%	0.9%	720	561	0.78	C	689	0.96	E	0.4%	1.3%
Route 15	Route 26 to Bar. South Gate	NB/EB	720	561	0.78	C	767	1.07	F	3.7%	0.9%	720	580	0.81	D	850	1.18	F	6.9%	10.6%
		WB/SB	720	800	1.11	F	631	0.88	D	0.1%	4.0%	720	812	1.13	F	639	0.89	D	1.6%	5.2%
Route 15	Bar. South Gate to Route 10	NB/EB	756	462	0.61	B	774	1.02	F	2.4%	0.5%	756	482	0.64	B	858	1.14	F	6.4%	10.3%
		WB/SB	756	750	1.01	F	584	0.77	C	0.1%	4.1%	756	760	1.01	F	588	0.78	C	1.4%	4.8%
Route 15	Route 10 to Route 4	NB/EB	720	401	0.56	A	310	0.43	A	0.7%	1.3%	720	402	0.56	A	311	0.43	A	1.0%	1.6%
		WB/SB	720	472	0.66	B	275	0.38	A	0.2%	1.8%	720	474	0.66	B	275	0.38	A	0.6%	1.8%
Route 16	Route 10A to Bar. Main Gate	NB/EB	1,600	1,744	1.09	F	1,771	1.11	F	1.4%	5.3%	1,600	1,724	1.08	F	1,697	1.06	F	0.3%	1.2%
		WB/SB	1,600	1,433	0.90	D	1,845	1.15	F	1.2%	1.6%	1,600	1,422	0.89	D	1,837	1.15	F	0.4%	1.2%
Route 16	Bar. Main Gate to Route 8	NB/EB	1,600	1,238	0.77	C	1,448	0.91	E	1.3%	1.8%	1,600	1,228	0.77	C	1,442	0.90	D	0.5%	1.4%
		WB/SB	1,600	1,525	0.95	E	1,448	0.91	E	1.5%	6.1%	1,600	1,506	0.94	E	1,390	0.87	D	0.3%	2.2%
Route 25	Route 16 to Route 26	NB/EB	720	272	0.38	A	1,109	1.54	F	0.4%	0.8%	720	273	0.38	A	1,110	1.54	F	0.7%	0.9%
		WB/SB	720	1,330	1.85	F	689	0.96	E	0.0%	0.0%	720	1,339	1.86	F	694	0.96	E	0.7%	0.7%
Route 26	Route 25 to Route 15	NB/EB	720	1,013	1.41	F	737	1.02	F	-0.3%	1.4%	720	1,011	1.41	F	728	1.01	F	-0.5%	0.1%
		WB/SB	720	641	0.89	D	941	1.31	F	0.6%	0.1%	720	637	0.89	D	940	1.31	F	0.0%	0.0%
Route 30	North of Route 1	NB/EB	1,600	626	0.39	A	405	0.56	A	0.0%	0.5%	1,600	626	0.39	A	405	0.56	A	0.0%	0.5%
		WB/SB	720	420	0.58	A	868	0.54	A	0.5%	0.2%	720	420	0.58	A	867	0.54	A	0.5%	0.1%
Route 33	Route 8 (E) to Route 7A	NB/EB	720	514	0.72	C	422	0.59	A	0.2%	0.0%	720	514	0.72	C	422	0.59	A	0.2%	0.0%
		WB/SB	720	719	1.00	F	223	0.31	A	0.0%	0.9%	720	719	1.00	E	223	0.31	A	0.0%	0.9%
Route 33	Route 7A to Route 8 (W)	NB/EB	720	192	0.27	A	111	0.16	A	0.0%	0.0%	720	192	0.27	A	111	0.16	A	0.0%	0.0%
		WB/SB	720	356	0.49	A	30	0.04	A	0.0%	0.0%	720	356	0.49	A	30	0.04	A	0.0%	0.0%
Tiyan Pkwy	Route 1 to Route 8	NB/EB	1,600	1,324	0.83	D	1,196	0.75	C	1.2%	2.1%	1,600	1,325	0.83	D	1,210	0.76	C	1.3%	3.2%
		WB/SB	1,600	1,093	0.68	B	1,450	0.91	E	2.7%	1.0%	1,600	1,104	0.69	B	1,451	0.91	E	3.6%	1.1%
Route 2	Route 2A to Route 12	NB/EB	740	1,028	1.39	F	427	0.58	A	0.7%	0.7%	740	1,033	1.40	F	427	0.58	A	1.2%	0.7%
		WB/SB	740	326	0.44	A	814	1.10	F	0.6%	0.7%	740	327	0.44	A	818	1.11	F	0.9%	1.2%
Route 2	Route 12 to Nimitz Beach	NB/EB	740	928	1.25	F	472	0.64	B	0.5%	0.4%	740	932	1.26	F	472	0.64	B	1.0%	0.4%
		WB/SB	740	626	0.85	D	729	0.99	E	0.5%	0.7%	740	629	0.85	D	733	0.99	E	1.0%	1.2%
Route 2	Nimitz Beach to Route 4	NB/EB	740	348	0.47	A	299	0.40	A	0.9%	1.0%	740	350	0.47	A	301	0.41	A	1.4%	1.7%
		WB/SB	740	348	0.47	A	299	0.40	A	0.9%	1.0%	740	350	0.47	A	301	0.41	A	1.4%	1.7%
Route 2A	Route 5 to Route 2	NB/EB	740	761	1.03	F	366	0.50	A	0.8%	0.8%	740	766	1.04	F	366	0.50	A	1.4%	0.8%
		WB/SB	740	377	0.51	A	633	0.86	D	0.5%	1.1%	740	377	0.51	A	637	0.86	D	0.5%	1.7%

Roadway			2030 South Finegayan (Alternative B)									2030 AAFB (Alternative C)								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 4	Route 17 to Route 4A	NB/EB	720	720	1.00	F	405	0.56	A	0.7%	1.5%	720	726	1.01	F	408	0.57	A	1.5%	2.2%
		WB/SB	720	720	1.00	F	412	0.57	A	0.7%	1.5%	720	726	1.01	F	416	0.58	A	1.5%	2.4%
Route 4	Route 4A to Inarajan	NB/EB	720	317	0.44	A	269	0.37	A	1.3%	1.9%	720	321	0.45	A	271	0.38	A	2.5%	2.6%
		WB/SB	720	398	0.55	A	233	0.32	A	1.0%	12.4%	720	403	0.56	A	234	0.33	A	2.2%	12.8%
Route 4	Inarajan to Route 2	NB/EB	740	197	0.27	A	148	0.20	A	1.0%	1.4%	740	199	0.27	A	149	0.20	A	2.0%	2.0%
		WB/SB	740	197	0.27	A	108	0.15	A	1.0%	0.9%	740	199	0.27	A	108	0.15	A	2.0%	0.9%
Route 4A	Route 17 to Route 4	NB/EB	720	389	0.54	A	206	0.29	A	0.5%	0.5%	720	391	0.54	A	206	0.29	A	1.0%	0.5%
		WB/SB	720	231	0.32	A	302	0.42	A	0.0%	0.7%	720	232	0.32	A	303	0.42	A	0.4%	1.0%
Route 5	Route 2A to Route 17	NB/EB	720	258	0.36	A	448	0.62	B	0.4%	0.2%	720	258	0.36	A	448	0.62	B	0.4%	0.2%
		WB/SB	720	669	0.93	E	209	0.29	A	0.4%	0.0%	720	668	0.93	E	210	0.29	A	0.3%	0.5%
Route 5	Route 17 to Route 12	NB/EB	720	152	0.21	A	98	0.14	A	0.7%	0.0%	720	152	0.21	A	98	0.14	A	0.7%	0.0%
		WB/SB	720	136	0.19	A	104	0.15	A	0.0%	0.0%	720	136	0.19	A	105	0.15	A	0.0%	1.0%
Route 12	Route 5 to Route 2	NB/EB	720	361	0.50	A	391	0.54	A	0.3%	0.3%	720	361	0.50	A	391	0.54	A	0.3%	0.3%
		WB/SB	720	649	0.90	D	266	0.37	A	0.5%	0.4%	720	648	0.90	D	266	0.37	A	0.3%	0.4%
Route 17	Route 5 to Route 4A	NB/EB	720	167	0.23	A	394	0.55	A	0.0%	0.3%	720	167	0.23	A	394	0.55	A	0.0%	0.3%
		WB/SB	720	598	0.83	D	187	0.26	A	1.7%	0.5%	720	596	0.83	D	187	0.26	A	1.3%	0.5%
Route 17	Route 4A to Route 4	NB/EB	720	516	0.72	C	258	0.36	A	0.8%	0.8%	720	519	0.72	C	258	0.36	A	1.3%	0.8%
		WB/SB	720	291	0.40	A	348	0.48	A	2.4%	1.1%	720	291	0.40	A	351	0.49	A	2.4%	2.0%

Roadway Level of Service Summary

Roadway			2030 Barrigada (Alternative D)									2030 No Action								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 1	AAFB to Route 29	NB/EB	1,600	894	0.56	A	1,127	0.70	B	12.5%	5.3%	1,600	1,830	1.14	F	1,604	1.00	E	57.3%	33.5%
		WB/SB	1,600	1,132	0.71	C	1,269	0.79	C	3.7%	11.0%	1,600	1,251	0.78	C	1,706	1.07	F	12.9%	33.8%
Route 1	Route 29 to Chalan Lujuna	NB/EB	1,600	1,243	0.78	C	1,437	0.90	D	8.4%	4.2%	1,600	1,884	1.18	F	1,903	1.19	F	39.5%	27.7%
		WB/SB	1,600	1,801	1.13	F	1,560	0.98	E	2.7%	8.5%	1,600	1,914	1.20	F	2,012	1.26	F	8.4%	29.0%
Route 1	Chalan Lujuna to Route 28	NB/EB	1,600	1,244	0.78	C	2,088	1.31	F	5.6%	1.3%	1,600	1,587	0.99	E	2,114	1.32	F	26.0%	2.5%
		WB/SB	1,600	2,232	1.40	F	1,548	0.97	E	1.0%	3.9%	1,600	2,240	1.40	F	1,881	1.18	F	1.4%	20.9%
Route 1	Route 28 to Route 26	NB/EB	2,420	1,370	0.57	A	2,585	1.07	F	4.7%	1.9%	2,420	1,770	0.73	C	2,630	1.09	F	26.3%	3.5%
		WB/SB	2,420	2,557	1.06	F	1,791	0.74	C	1.4%	3.6%	2,420	2,558	1.06	F	2,228	0.92	E	1.4%	22.5%
Route 1	Route 26 to Route 27	NB/EB	2,420	1,426	0.59	A	2,437	1.01	F	4.3%	1.1%	2,420	1,689	0.70	B	2,473	1.02	F	19.2%	2.5%
		WB/SB	2,420	2,678	1.11	F	1,580	0.65	B	1.0%	8.8%	2,420	2,711	1.12	F	2,003	0.83	D	2.3%	28.1%
Route 1	Route 27 to Route 27A	NB/EB	2,420	776	0.32	A	1,310	0.54	A	0.1%	0.1%	2,420	945	0.39	A	1,370	0.57	A	18.0%	4.5%
		WB/SB	2,420	1,532	0.63	B	999	0.41	A	0.0%	0.2%	2,420	1,618	0.67	B	1,241	0.51	A	5.3%	19.7%
Route 1	Route 27A to Route 3	NB/EB	2,420	741	0.31	A	1,432	0.59	A	0.0%	0.0%	2,420	878	0.36	A	1,503	0.62	B	15.6%	4.7%
		WB/SB	2,420	1,721	0.71	C	980	0.41	A	0.0%	1.1%	2,420	1,811	0.75	C	1,169	0.48	A	5.0%	17.1%
Route 1	Route 3 to Route 34	NB/EB	2,420	985	0.41	A	2,447	1.01	F	2.5%	0.4%	2,420	1,696	0.70	B	3,057	1.26	F	43.4%	20.3%
		WB/SB	2,420	3,727	1.54	F	1,689	0.70	B	0.4%	3.2%	2,420	4,132	1.71	F	2,250	0.93	E	10.2%	27.3%
Route 1	Route 34 to Route 16	NB/EB	2,420	1,078	0.45	A	2,375	0.98	E	2.3%	0.9%	2,420	1,783	0.74	C	2,960	1.22	F	40.9%	20.5%
		WB/SB	2,420	3,285	1.36	F	1,766	0.73	C	0.5%	3.1%	2,420	3,685	1.52	F	2,324	0.96	E	11.3%	26.3%
Route 1	Route 16 to Route 14 (N)	NB/EB	2,420	1,193	0.49	A	2,922	1.21	F	0.6%	0.7%	2,420	1,505	0.62	B	3,314	1.37	F	21.2%	12.5%
		WB/SB	2,420	3,060	1.26	F	2,170	0.90	D	0.2%	0.6%	2,420	3,329	1.38	F	2,456	1.01	F	8.3%	12.2%
Route 1	Route 14 (N) to Route 14A	NB/EB	2,420	1,500	0.62	B	3,207	1.33	F	0.4%	0.3%	2,420	1,798	0.74	C	3,561	1.47	F	16.9%	10.2%
		WB/SB	2,420	2,764	1.14	F	2,618	1.08	F	1.6%	0.2%	2,420	2,961	1.22	F	2,873	1.19	F	8.1%	9.0%
Route 3	Route 3A/9 to Fin. Main Gate	NB/EB	740	392	0.53	A	429	0.58	A	5.9%	2.1%	740	1,056	1.43	F	1,108	1.50	F	65.1%	62.1%
		WB/SB	740	560	0.76	C	436	0.59	A	1.1%	11.2%	740	1,312	1.77	F	1,463	1.98	F	57.8%	73.5%
Route 3	Fin. Main Gate to Residential Gate	NB/EB	740	382	0.52	A	512	0.69	B	5.8%	2.0%	740	1,503	2.03	F	1,011	1.37	F	76.0%	50.3%
		WB/SB	740	922	1.25	F	464	0.63	B	0.8%	10.6%	740	1,059	1.43	F	1,348	1.82	F	13.6%	69.2%
Route 3	Fin. Residential Gate to Route 28	NB/EB	740	540	0.73	C	681	0.92	E	4.3%	1.6%	740	1,341	1.81	F	1,117	1.51	F	61.4%	40.0%
		WB/SB	740	1,013	1.37	F	599	0.81	D	0.8%	8.2%	740	1,145	1.55	F	1,226	1.66	F	12.2%	55.1%
Route 3	Route 28 to S.Fin. Main Gate	NB/EB	1,580	719	0.46	A	1,268	0.80	C	3.3%	1.4%	1,580	1,881	1.19	F	2,046	1.30	F	63.1%	38.9%
		WB/SB	1,580	1,989	1.26	F	860	0.54	A	0.6%	5.9%	1,580	2,515	1.59	F	1,746	1.11	F	21.4%	53.7%
Route 3	S.Fin. Main Gate to Route 1	NB/EB	1,600	873	0.55	A	1,305	0.83	D	3.4%	1.2%	1,600	1,636	1.02	F	2,076	1.31	F	48.5%	37.9%
		WB/SB	1,580	2,148	1.36	F	912	0.57	A	0.7%	5.7%	1,580	2,675	1.69	F	1,497	0.94	E	20.2%	42.6%
Route 3A	North of Route 3/9	NB/EB	740	83	0.11	A	14	0.02	A	0.0%	0.0%	740	570	0.77	C	38	0.05	A	85.4%	63.2%
		WB/SB	740	21	0.03	A	173	0.23	A	0.0%	43.4%	740	163	0.22	A	558	0.75	C	87.1%	82.4%
Route 9	Route 3/3A to AAFB North Gate	NB/EB	740	383	0.52	A	368	0.50	A	7.0%	16.3%	740	871	1.18	F	908	1.23	F	59.1%	66.1%
		WB/SB	740	419	0.57	A	324	0.44	A	1.4%	9.6%	740	1,209	1.63	F	1,081	1.46	F	65.8%	72.9%
Route 9	AAFB Main Gate to Route 1	NB/EB	740	399	0.54	A	277	0.37	A	3.0%	21.3%	740	585	0.79	C	803	1.09	F	33.8%	72.9%
		WB/SB	740	282	0.38	A	358	0.48	A	0.4%	2.8%	740	1,113	1.50	F	915	1.24	F	74.8%	62.0%
Route 14	Route 1 to Gun Beach Rd.	NB/EB	1,600	422	0.26	A	1,035	0.65	B	0.9%	0.8%	1,600	446	0.28	A	1,085	0.68	B	6.3%	5.3%
		WB/SB	1,600	1,035	0.65	B	1,010	0.63	B	0.7%	0.7%	1,600	1,066	0.67	B	1,062	0.66	B	3.6%	5.6%
Route 14	Gun Beach Rd. to Route 14A	NB/EB	1,600	828	0.52	A	605	0.38	A	0.8%	3.8%	1,600	897	0.56	A	646	0.40	A	8.5%	9.9%
		WB/SB	1,600	571	0.36	A	1,212	0.76	C	0.5%	0.2%	1,600	613	0.38	A	1,316	0.82	D	7.3%	8.1%
Route 15	AAFB to Route 29	NB/EB	720	626	0.87	D	313	0.44	A	0.6%	1.6%	720	656	0.91	E	329	0.46	A	5.2%	6.4%
		WB/SB	720	524	0.73	C	438	0.61	B	1.0%	0.5%	720	558	0.78	C	471	0.66	B	7.0%	7.4%
Route 15	Route 29 to Route 26	NB/EB	720	458	0.64	B	633	0.88	D	10.5%	11.1%	720	890	1.24	F	619	0.86	D	53.9%	9.0%
		WB/SB	720	842	1.17	F	675	0.94	E	7.5%	30.2%	720	810	1.13	F	860	1.20	F	3.8%	45.2%

Roadway			2030 Barrigada (Alternative D)									2030 No Action								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 16	Route 1 to Route 27A	NB/EB	2,420	883	0.37	A	1,314	0.54	A	3.6%	1.8%	2,420	1,263	0.52	A	1,480	0.61	B	32.6%	12.8%
		WB/SB	2,420	1,221	0.50	A	1,236	0.51	A	1.9%	5.3%	2,420	1,350	0.56	A	1,466	0.61	B	11.3%	20.1%
Route 16	Route 27A to Route 27	NB/EB	2,420	911	0.38	A	1,810	0.75	C	4.2%	1.8%	2,420	1,282	0.53	A	1,968	0.81	D	31.9%	9.7%
		WB/SB	2,420	1,820	0.75	C	1,325	0.55	A	1.6%	5.0%	2,420	1,951	0.81	D	1,553	0.64	B	8.2%	18.9%
Route 16	Route 27 to Route 10A	NB/EB	2,420	1,932	0.80	C	2,386	0.99	E	6.3%	3.1%	2,420	2,288	0.95	E	2,501	1.03	F	20.8%	7.5%
		WB/SB	2,420	2,424	1.00	E	2,174	0.90	D	2.5%	6.6%	2,420	2,516	1.04	F	2,454	1.01	F	6.0%	17.2%
Route 26	Route 1 to Route 25	NB/EB	1,280	942	0.74	C	978	0.76	C	0.5%	3.4%	1,280	1,185	0.93	E	1,233	0.96	E	20.9%	23.4%
		WB/SB	1,280	1,103	0.86	D	1,137	0.89	D	3.3%	1.0%	1,280	1,203	0.94	E	1,311	1.02	F	11.3%	14.1%
Route 27	Route 16 to Route 1	NB/EB	2,420	1,057	0.44	A	2,063	0.85	D	6.1%	1.6%	2,420	1,202	0.50	A	2,088	0.86	D	17.4%	2.8%
		WB/SB	2,420	1,870	0.77	C	1,193	0.49	A	2.6%	10.0%	2,420	1,939	0.80	C	1,397	0.58	A	6.0%	23.1%
Route 27A	Route 16 to Route 1	NB/EB	756	549	0.73	C	1,154	1.53	F	0.9%	2.8%	756	604	0.80	C	1,176	1.56	F	9.9%	4.6%
		WB/SB	756	1,239	1.64	F	728	0.96	E	0.6%	0.3%	756	1,266	1.68	F	784	1.04	F	2.7%	7.4%
Route 27A	Route 1 to Route 28	NB/EB	756	361	0.48	A	531	0.70	B	0.0%	2.3%	756	403	0.53	A	541	0.72	C	10.4%	4.1%
		WB/SB	756	738	0.98	E	533	0.71	C	0.0%	0.2%	756	750	0.99	E	598	0.79	C	1.6%	11.0%
Route 28	Route 1 to Route 27A	NB/EB	720	368	0.51	A	737	1.02	F	0.8%	2.8%	720	521	0.72	C	765	1.06	F	29.9%	6.4%
		WB/SB	720	667	0.93	E	573	0.80	C	2.8%	0.7%	720	665	0.92	E	682	0.95	E	2.6%	16.6%
Route 28	Route 27A to Chalan Balako	NB/EB	720	411	0.57	A	598	0.83	D	0.0%	1.5%	720	645	0.90	D	681	0.95	E	36.3%	13.5%
		WB/SB	720	840	1.17	F	656	0.91	E	1.1%	0.3%	720	886	1.23	F	859	1.19	F	6.2%	23.9%
Route 28	Chalan Balako to Route 3	NB/EB	720	391	0.54	A	706	0.98	E	0.3%	0.3%	720	822	1.14	F	855	1.19	F	52.6%	17.7%
		WB/SB	720	1,071	1.49	F	413	0.57	A	0.3%	0.2%	720	1,163	1.62	F	791	1.10	F	8.2%	47.9%
Route 29	Route 1 to Route 15	NB/EB	720	461	0.64	B	407	0.57	A	0.4%	1.5%	720	483	0.67	B	474	0.66	B	5.0%	15.4%
		WB/SB	720	651	0.91	E	429	0.60	A	0.5%	3.5%	720	760	1.06	F	453	0.63	B	14.7%	8.6%
Route 34	North of Route 1	NB/EB	720	157	0.22	A	167	0.23	A	0.6%	0.6%	720	162	0.23	A	182	0.25	A	3.7%	8.8%
		WB/SB	720	90	0.13	A	202	0.28	A	0.0%	0.5%	720	142	0.20	A	212	0.29	A	36.6%	5.2%
Route 1	Route 14A to Route 10A	NB/EB	2,420	1,848	0.76	C	2,921	1.21	F	0.5%	0.6%	2,420	2,100	0.87	D	3,210	1.33	F	12.4%	9.6%
		WB/SB	2,420	2,051	0.85	D	2,753	1.14	F	1.5%	0.9%	2,420	2,221	0.92	E	2,941	1.22	F	9.0%	7.2%
Route 1	Route 10A to Route 14B	NB/EB	2,420	1,669	0.69	B	3,057	1.26	F	0.4%	0.6%	2,420	1,913	0.79	C	3,346	1.38	F	13.1%	9.2%
		WB/SB	2,420	2,767	1.14	F	2,213	0.91	E	1.1%	1.2%	2,420	2,941	1.22	F	2,427	1.00	E	6.9%	9.9%
Route 1	Route 14B to Route 14 (S)	NB/EB	2,420	1,697	0.70	B	2,692	1.11	F	0.2%	0.5%	2,420	1,935	0.80	C	2,976	1.23	F	12.5%	10.0%
		WB/SB	2,420	2,302	0.95	E	2,039	0.84	D	1.2%	0.5%	2,420	2,468	1.02	F	2,245	0.93	E	7.9%	9.6%
Route 1	Route 14 (S) to Route 30	NB/EB	2,420	2,187	0.90	D	2,213	0.91	E	0.7%	1.6%	2,420	2,384	0.99	E	2,449	1.01	F	8.9%	11.1%
		WB/SB	2,420	2,085	0.86	D	2,041	0.84	D	4.0%	1.4%	2,420	2,167	0.90	D	2,204	0.91	E	7.6%	8.7%
Route 1	Route 30 to Route 8	NB/EB	2,420	2,434	1.01	F	2,533	1.05	F	2.9%	3.5%	2,420	2,571	1.06	F	2,716	1.12	F	8.1%	10.0%
		WB/SB	2,420	2,515	1.04	F	2,433	1.01	F	4.1%	1.0%	2,420	2,571	1.06	F	2,682	1.11	F	6.2%	10.2%
Route 1	Route 8 to Route 4	NB/EB	2,420	1,916	0.79	C	2,291	0.95	E	2.1%	3.8%	2,420	2,253	0.93	E	2,495	1.03	F	16.8%	11.7%
		WB/SB	2,420	2,147	0.89	D	1,713	0.71	C	4.0%	4.3%	2,420	2,216	0.92	E	1,901	0.79	C	7.0%	13.8%
Route 1	Route 4 to Route 6 (N)	NB/EB	2,420	1,424	0.59	A	1,684	0.70	B	2.2%	5.8%	2,420	1,740	0.72	C	1,875	0.78	C	20.0%	15.4%
		WB/SB	2,420	2,429	1.00	E	1,722	0.71	C	4.0%	2.8%	2,420	2,492	1.03	F	1,896	0.78	C	6.4%	11.7%
Route 1	Route 6 (N) to Route 11	NB/EB	1,580	1,466	0.93	E	1,642	1.04	F	2.1%	4.9%	1,580	1,761	1.11	F	1,835	1.16	F	18.5%	14.9%
		WB/SB	1,580	1,752	1.11	F	1,280	0.81	D	5.4%	3.5%	1,580	1,807	1.14	F	1,450	0.92	E	8.3%	14.8%
Route 1	Route 11 to Route 6 (S)	NB/EB	1,580	1,283	0.81	D	1,264	0.80	C	2.2%	6.2%	1,580	1,566	0.99	E	1,453	0.92	E	19.9%	18.4%
		WB/SB	1,580	1,359	0.86	D	1,192	0.75	C	6.8%	3.6%	1,580	1,409	0.89	D	1,355	0.86	D	10.1%	15.2%
Route 1	Route 6 (S) to Route 18	NB/EB	1,580	1,280	0.81	D	1,274	0.81	D	2.1%	6.1%	1,580	1,563	0.99	E	1,463	0.93	E	19.8%	18.3%
		WB/SB	1,580	1,353	0.86	D	1,161	0.74	C	6.9%	3.7%	1,580	1,402	0.89	D	1,329	0.84	D	10.2%	15.9%
Route 1	Route 18 to Route 2A	NB/EB	1,580	1,481	0.94	E	1,296	0.82	D	1.8%	6.1%	1,580	1,761	1.11	F	1,484	0.94	E	17.4%	18.0%
		WB/SB	1,580	1,447	0.92	E	1,304	0.83	D	6.5%	3.3%	1,580	1,496	0.95	E	1,465	0.93	E	9.6%	13.9%

Roadway			2030 Barrigada (Alternative D)									2030 No Action								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 2A	Route 1 to Route 5	NB/EB	1,580	1,196	0.76	C	595	0.38	A	1.4%	0.5%	1,580	1,452	0.92	E	618	0.39	A	18.8%	4.2%
		WB/SB	1,580	629	0.40	A	1,137	0.72	C	0.3%	0.6%	1,580	643	0.41	A	1,280	0.81	D	2.5%	11.7%
Route 4	Route 1 to Route 33	NB/EB	2,420	1,224	0.51	A	1,032	0.43	A	3.2%	3.6%	2,420	1,272	0.53	A	1,124	0.46	A	6.8%	11.5%
		WB/SB	2,420	658	0.27	A	1,141	0.47	A	0.6%	3.3%	2,420	688	0.28	A	1,286	0.53	A	4.9%	14.2%
Route 4	Route 33 to Route 7B	NB/EB	2,420	1,828	0.76	C	1,168	0.48	A	0.7%	2.1%	2,420	1,977	0.82	D	1,195	0.49	A	8.1%	4.3%
		WB/SB	2,420	662	0.27	A	1,564	0.65	B	0.2%	1.0%	2,420	675	0.28	A	1,709	0.71	C	2.1%	9.4%
Route 4	Route 7B to Route 15	NB/EB	1,600	2,229	1.39	F	2,083	1.30	F	0.2%	0.8%	1,600	2,293	1.43	F	2,145	1.34	F	3.0%	3.7%
		WB/SB	1,600	2,229	1.39	F	2,083	1.30	F	0.2%	0.8%	1,600	2,293	1.43	F	2,145	1.34	F	3.0%	3.7%
Route 4	Route 15 to Route 10	NB/EB	1,600	1,774	1.11	F	1,417	0.89	D	0.1%	1.1%	1,600	1,773	1.11	F	1,426	0.89	D	0.0%	1.7%
		WB/SB	1,600	1,785	1.12	F	1,407	0.88	D	0.0%	0.4%	1,600	1,786	1.12	F	1,405	0.88	D	0.1%	0.2%
Route 4	Route 10 to Route 17	NB/EB	720	1,191	1.66	F	946	1.25	F	1.8%	3.6%	720	1,453	2.02	F	1,119	1.48	F	19.5%	18.5%
		WB/SB	756	1,436	0.90	D	1,058	1.47	F	3.2%	3.7%	756	1,742	1.09	F	1,231	1.71	F	20.2%	17.2%
Route 6	Route 1 (N) to Route 7	NB/EB	777	555	0.71	C	674	0.87	D	0.9%	0.1%	777	566	0.73	C	682	0.88	D	2.8%	1.3%
		WB/SB	777	477	0.61	B	458	0.59	A	0.6%	0.2%	777	478	0.62	B	468	0.60	A	0.8%	2.4%
Route 6	Route 7 to Military Boundary (N)	NB/EB	740	391	0.53	A	482	0.65	B	0.8%	0.4%	740	414	0.56	A	500	0.68	B	6.3%	4.0%
		WB/SB	740	384	0.52	A	368	0.50	A	0.3%	0.8%	740	393	0.53	A	438	0.59	A	2.5%	16.7%
Route 6	Military Boundary (S) to Route 1 (S)	NB/EB	1,264	219	0.17	A	319	0.25	A	0.9%	0.3%	1,264	237	0.19	A	332	0.26	A	8.4%	4.2%
		WB/SB	1,264	233	0.18	A	204	0.16	A	0.4%	1.0%	1,264	254	0.20	A	257	0.20	A	8.7%	21.4%
Route 7	Route 6 to Route 7B	NB/EB	756	783	1.04	F	727	0.96	E	1.1%	4.8%	756	860	1.14	F	739	0.98	E	10.0%	6.4%
		WB/SB	756	901	1.19	F	823	1.09	F	4.4%	2.1%	756	922	1.22	F	895	1.18	F	6.6%	9.9%
Route 7	Route 7B to Route 7A	NB/EB	756	886	1.17	F	604	0.80	C	1.1%	4.3%	756	918	1.21	F	630	0.83	D	4.6%	8.3%
		WB/SB	756	737	0.98	E	866	1.15	F	5.4%	1.8%	756	765	1.01	F	900	1.19	F	8.9%	5.6%
Route 7A	Route 8 to Route 33	NB/EB	720	867	1.20	F	835	1.16	F	1.6%	3.7%	720	906	1.26	F	853	1.19	F	5.8%	5.7%
		WB/SB	720	809	0.63	B	1,243	0.97	E	10.8%	4.2%	720	796	0.62	B	1,292	1.01	F	9.3%	7.8%
Route 7A	Route 33 to Route 4	NB/EB	720	834	1.16	F	896	1.25	F	1.6%	3.5%	720	883	1.23	F	914	1.27	F	7.0%	5.4%
		WB/SB	720	1,049	0.82	D	1,133	0.89	D	8.3%	3.6%	720	1,035	0.81	D	1,193	0.93	E	7.1%	8.5%
Route 7A	Route 4 to Route 7	NB/EB	1,600	673	0.42	A	629	0.39	A	1.6%	4.1%	1,600	704	0.44	A	654	0.41	A	6.0%	7.8%
		WB/SB	1,600	1,088	0.68	B	790	0.49	A	4.0%	2.7%	1,600	1,135	0.71	C	822	0.51	A	8.0%	6.4%
Route 7A	West of Route 7	NB/EB	720	265	0.37	A	488	0.68	B	0.0%	1.8%	720	285	0.40	A	498	0.69	B	7.0%	3.8%
		WB/SB	720	350	0.49	A	284	0.40	A	0.6%	3.2%	720	368	0.51	A	305	0.42	A	5.4%	9.8%
Route 7B	Route 33 to Route 4	NB/EB	720	429	0.60	A	674	0.94	E	0.2%	1.5%	720	454	0.63	B	671	0.93	E	5.7%	1.0%
		WB/SB	720	679	0.94	E	522	0.73	C	0.0%	1.7%	720	691	0.96	E	551	0.77	C	1.7%	6.9%
Route 8	Bar. Main Gate To Route 16	NB/EB	720	349	0.48	A	114	0.16	A	0.9%	2.6%	720	347	0.48	A	121	0.17	A	0.3%	8.3%
		WB/SB	720	266	0.37	A	133	0.18	A	4.9%	2.3%	720	255	0.36	A	132	0.18	A	0.8%	1.5%
Route 8	Route 16 to Route 10	NB/EB	1,600	1,684	1.05	F	1,546	0.97	E	3.1%	8.7%	1,600	1,919	1.20	F	1,549	0.97	E	15.0%	8.9%
		WB/SB	1,600	1,577	0.99	E	1,546	0.97	E	9.6%	7.0%	1,600	1,542	0.96	E	1,668	1.04	F	7.5%	13.8%
Route 8	Route 10 to Route 33 (E)	NB/EB	1,600	985	0.62	B	1,470	0.92	E	11.1%	11.9%	1,600	977	0.61	B	1,310	0.82	D	10.3%	1.1%
		WB/SB	1,600	1,706	1.07	F	1,125	0.70	B	10.8%	13.6%	1,600	1,547	0.97	E	1,052	0.66	B	1.7%	7.6%
Route 8	Route 33 (E) to Route 33 (W)	NB/EB	1,600	1,647	1.03	F	2,204	1.38	F	4.9%	6.7%	1,600	1,878	1.17	F	2,159	1.35	F	16.6%	4.8%
		WB/SB	1,600	2,020	1.26	F	1,764	1.10	F	8.0%	6.5%	1,600	1,982	1.24	F	1,809	1.13	F	6.3%	8.8%
Route 8	Route 33 (W) to Route 1	NB/EB	1,600	884	0.55	A	1,684	1.05	F	6.7%	6.7%	1,600	1,069	0.67	B	1,671	1.04	F	22.8%	6.0%
		WB/SB	1,600	1,528	0.96	E	997	0.62	B	4.7%	5.4%	1,600	1,609	1.01	F	1,008	0.63	B	9.5%	6.4%
Route 10	Route 8 to Route 15	NB/EB	1,600	2,168	1.36	F	1,449	0.91	E	7.2%	15.0%	1,600	2,226	1.39	F	1,360	0.85	D	9.6%	9.4%
		WB/SB	1,600	1,496	0.94	E	1,801	1.13	F	14.5%	11.5%	1,600	1,371	0.86	D	1,770	1.11	F	6.7%	9.9%
Route 10	Route 15 to Route 32	NB/EB	1,600	1,972	1.23	F	1,485	0.93	E	4.9%	2.8%	1,600	2,286	1.43	F	1,566	0.98	E	18.0%	7.8%
		WB/SB	1,600	1,551	0.97	E	1,621	1.01	F	1.5%	5.2%	1,600	1,640	1.03	F	1,777	1.11	F	6.9%	13.6%

Roadway			2030 Barrigada (Alternative D)									2030 No Action								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 10	Route 32 to Route 4	NB/EB	1,600	1,857	1.16	F	1,355	0.85	D	4.5%	2.1%	1,600	2,170	1.36	F	1,485	0.93	E	18.2%	10.7%
		WB/SB	1,600	1,389	0.87	D	1,498	0.94	E	0.9%	4.5%	1,600	1,531	0.96	E	1,666	1.04	F	10.1%	14.2%
Route 10A	Route 16 to Sunset Blvd.	NB/EB	2,420	825	0.34	A	2,097	0.87	D	0.2%	0.8%	2,420	1,102	0.46	A	2,186	0.90	D	25.3%	4.8%
		WB/SB	2,420	2,757	1.14	F	1,573	0.65	B	0.5%	0.3%	2,420	2,818	1.16	F	1,794	0.74	C	2.7%	12.6%
Route 10A	Sunset Blvd. to Route 1	NB/EB	1,600	807	0.50	A	1,785	1.12	F	1.6%	1.3%	1,600	851	0.53	A	1,832	1.15	F	6.7%	3.8%
		WB/SB	1,600	2,056	1.29	F	1,257	0.79	C	1.1%	1.3%	1,600	2,072	1.30	F	1,346	0.84	D	1.8%	7.8%
Route 11	West of Route 1	NB/EB	720	104	0.15	A	422	0.59	A	0.0%	0.5%	720	107	0.15	A	424	0.59	A	2.8%	0.9%
		WB/SB	720	476	0.66	B	88	0.12	A	0.2%	1.1%	720	478	0.66	B	90	0.13	A	0.6%	3.3%
Route 14	Route 14A to Route 14B	NB/EB	1,600	457	0.29	A	1,342	0.84	D	3.9%	0.4%	1,600	621	0.39	A	1,424	0.89	D	29.3%	6.1%
		WB/SB	1,600	1,299	0.81	D	833	0.52	A	2.0%	0.7%	1,600	1,382	0.86	D	978	0.61	B	7.9%	15.4%
Route 14	Route 14B to Route 1 (S)	NB/EB	2,420	1,105	0.46	A	1,133	0.71	C	0.5%	0.6%	2,420	1,191	0.49	A	1,228	0.77	C	7.7%	8.3%
		WB/SB	1,600	938	0.59	A	957	0.60	A	1.1%	0.4%	1,600	1,041	0.65	B	1,020	0.64	B	10.9%	6.6%
Route 14A	Route 14 to Route 1	NB/EB	1,280	554	0.43	A	1,127	0.88	D	0.5%	1.9%	1,280	590	0.46	A	1,139	0.89	D	6.6%	2.9%
		WB/SB	1,280	728	0.57	A	867	0.68	B	0.5%	0.5%	1,280	745	0.58	A	896	0.70	B	2.8%	3.7%
Route 14B	Route 14 to Route 1	NB/EB	720	602	0.84	D	630	0.88	D	0.7%	0.6%	720	638	0.89	D	678	0.94	E	6.3%	7.7%
		WB/SB	720	562	0.78	C	687	0.96	E	0.5%	1.0%	720	592	0.82	D	734	1.02	F	5.6%	7.4%
Route 15	Route 26 to Bar. South Gate	NB/EB	720	595	0.83	D	891	1.24	F	9.2%	14.7%	720	895	1.24	F	771	1.07	F	39.7%	1.4%
		WB/SB	720	924	1.28	F	829	1.15	F	13.5%	26.9%	720	822	1.14	F	825	1.15	F	2.8%	26.5%
Route 15	Bar. South Gate to Route 10	NB/EB	756	804	1.06	F	1,044	1.38	F	43.9%	26.2%	756	718	0.95	E	799	1.06	F	37.2%	3.6%
		WB/SB	756	943	1.25	F	921	1.22	F	20.6%	39.2%	756	796	1.05	F	727	0.96	E	5.9%	23.0%
Route 15	Route 10 to Route 4	NB/EB	720	442	0.61	B	323	0.45	A	10.0%	5.3%	720	475	0.66	B	342	0.48	A	16.2%	10.5%
		WB/SB	720	485	0.67	B	316	0.44	A	2.9%	14.6%	720	492	0.68	B	356	0.50	A	4.3%	24.2%
Route 16	Route 10A to Bar. Main Gate	NB/EB	1,600	1,857	1.16	F	1,767	1.10	F	7.4%	5.1%	1,600	2,024	1.27	F	1,797	1.12	F	15.1%	6.7%
		WB/SB	1,600	1,495	0.93	E	1,980	1.24	F	5.3%	8.3%	1,600	1,526	0.95	E	2,068	1.29	F	7.2%	12.2%
Route 16	Bar. Main Gate to Route 8	NB/EB	1,600	1,371	0.86	D	1,528	0.96	E	10.9%	6.9%	1,600	1,325	0.83	D	1,652	1.03	F	7.8%	13.9%
		WB/SB	1,600	1,551	0.97	E	1,489	0.93	E	3.2%	8.7%	1,600	1,785	1.12	F	1,484	0.93	E	15.9%	8.4%
Route 25	Route 16 to Route 26	NB/EB	720	273	0.38	A	1,113	1.55	F	0.7%	1.2%	720	386	0.54	A	1,124	1.56	F	29.8%	2.1%
		WB/SB	720	1,337	1.86	F	693	0.96	E	0.5%	0.6%	720	1,354	1.88	F	727	1.01	F	1.8%	5.2%
Route 26	Route 25 to Route 15	NB/EB	720	1,035	1.44	F	774	1.08	F	1.8%	6.1%	720	1,063	1.48	F	907	1.26	F	4.4%	19.8%
		WB/SB	720	680	0.95	E	954	1.33	F	6.3%	1.5%	720	774	1.08	F	990	1.38	F	17.7%	5.1%
Route 30	North of Route 1	NB/EB	1,600	629	0.39	A	405	0.56	A	0.5%	0.5%	1,600	650	0.41	A	410	0.57	A	3.7%	1.7%
		WB/SB	720	420	0.58	A	871	0.54	A	0.5%	0.6%	720	428	0.60	A	897	0.56	A	2.3%	3.5%
Route 33	Route 8 (E) to Route 7A	NB/EB	720	517	0.72	C	422	0.59	A	0.8%	0.0%	720	531	0.74	C	454	0.63	B	3.4%	7.0%
		WB/SB	720	719	1.00	E	224	0.31	A	0.0%	1.3%	720	760	1.06	F	246	0.34	A	5.4%	10.2%
Route 33	Route 7A to Route 8 (W)	NB/EB	720	192	0.27	A	112	0.16	A	0.0%	0.9%	720	195	0.27	A	114	0.16	A	1.5%	2.6%
		WB/SB	720	356	0.49	A	30	0.04	A	0.0%	0.0%	720	358	0.50	A	33	0.05	A	0.6%	9.1%
Tiyan Pkwy	Route 1 to Route 8	NB/EB	1,600	1,321	0.83	D	1,217	0.76	C	1.0%	3.8%	1,600	1,562	0.98	E	1,270	0.79	C	16.3%	7.8%
		WB/SB	1,600	1,092	0.68	B	1,458	0.91	E	2.6%	1.6%	1,600	1,129	0.71	C	1,611	1.01	F	5.8%	10.9%
Route 2	Route 2A to Route 12	NB/EB	740	1,028	1.39	F	426	0.58	A	0.7%	0.5%	740	1,217	1.65	F	442	0.60	A	16.1%	4.1%
		WB/SB	740	325	0.44	A	813	1.10	F	0.3%	0.6%	740	338	0.46	A	913	1.23	F	4.1%	11.5%
Route 2	Route 12 to Nimitz Beach	NB/EB	740	928	1.26	F	471	0.64	B	0.5%	0.2%	740	1,104	1.49	F	493	0.67	B	16.4%	4.7%
		WB/SB	740	626	0.85	D	728	0.98	E	0.5%	0.5%	740	742	1.00	E	816	1.10	F	16.0%	11.3%
Route 2	Nimitz Beach to Route 4	NB/EB	740	347	0.47	A	297	0.40	A	0.6%	0.3%	740	427	0.58	A	339	0.46	A	19.2%	12.7%
		WB/SB	740	347	0.47	A	297	0.40	A	0.6%	0.3%	740	427	0.58	A	339	0.46	A	19.2%	12.7%
Route 2A	Route 5 to Route 2	NB/EB	740	762	1.03	F	365	0.49	A	0.9%	0.5%	740	943	1.28	F	382	0.52	A	19.9%	5.0%
		WB/SB	740	376	0.51	A	631	0.85	D	0.3%	0.8%	740	387	0.52	A	731	0.99	E	3.1%	14.4%

Roadway			2030 Barrigada (Alternative D)									2030 No Action								
			Capacity	A.M. Peak			P.M. Peak			Contribution		Capacity	A.M. Peak			P.M. Peak			Contribution	
Route	Segment	Direction		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.		Volume	V/C	LOS	Volume	V/C	LOS	A.M.	P.M.
Route 4	Route 17 to Route 4A	NB/EB	720	726	1.01	F	408	0.57	A	1.5%	2.2%	720	865	1.20	F	482	0.67	B	17.3%	17.2%
		WB/SB	720	726	1.01	F	415	0.58	A	1.5%	2.2%	720	865	1.20	F	491	0.68	B	17.3%	17.3%
Route 4	Route 4A to Inarajan	NB/EB	720	320	0.44	A	270	0.38	A	2.2%	2.2%	720	403	0.56	A	328	0.46	A	22.3%	19.5%
		WB/SB	720	402	0.56	A	210	0.29	A	2.0%	2.9%	720	507	0.70	B	258	0.36	A	22.3%	20.9%
Route 4	Inarajan to Route 2	NB/EB	740	199	0.27	A	146	0.20	A	2.0%	0.0%	740	241	0.33	A	166	0.22	A	19.1%	12.0%
		WB/SB	740	199	0.27	A	107	0.15	A	2.0%	0.0%	740	241	0.33	A	117	0.16	A	19.1%	8.5%
Route 4A	Route 17 to Route 4	NB/EB	720	391	0.54	A	206	0.29	A	1.0%	0.5%	720	458	0.64	B	223	0.31	A	15.5%	8.1%
		WB/SB	720	232	0.32	A	303	0.42	A	0.4%	1.0%	720	248	0.34	A	327	0.45	A	6.9%	8.3%
Route 5	Route 2A to Route 17	NB/EB	720	262	0.37	A	450	0.63	B	1.9%	0.7%	720	262	0.36	A	505	0.70	B	1.9%	11.5%
		WB/SB	720	667	0.93	E	209	0.29	A	0.1%	0.0%	720	770	1.07	F	215	0.30	A	13.5%	2.8%
Route 5	Route 17 to Route 12	NB/EB	720	152	0.21	A	99	0.14	A	0.7%	1.0%	720	235	0.33	A	105	0.15	A	35.7%	6.7%
		WB/SB	720	136	0.19	A	104	0.15	A	0.0%	0.0%	720	140	0.20	A	127	0.18	A	2.9%	18.1%
Route 12	Route 5 to Route 2	NB/EB	720	360	0.50	A	391	0.54	A	0.0%	0.3%	720	363	0.51	A	413	0.57	A	0.8%	5.6%
		WB/SB	720	648	0.90	D	266	0.37	A	0.3%	0.4%	720	662	0.92	E	268	0.37	A	2.4%	1.1%
Route 17	Route 5 to Route 4A	NB/EB	720	167	0.23	A	396	0.55	A	0.0%	0.8%	720	171	0.24	A	437	0.61	B	2.3%	10.1%
		WB/SB	720	589	0.82	D	187	0.26	A	0.2%	0.5%	720	642	0.89	D	191	0.27	A	8.4%	2.6%
Route 17	Route 4A to Route 4	NB/EB	720	522	0.73	C	258	0.36	A	1.9%	0.8%	720	641	0.89	D	306	0.43	A	20.1%	16.3%
		WB/SB	720	285	0.40	A	351	0.49	A	0.4%	2.0%	720	338	0.47	A	409	0.57	A	16.0%	15.9%

Intersection Level of Service Summary

Intersection			Peak Hour	2030 No Build		2030 Finegayan (Alternative A)		
#	Location	Control		Delay[1,2]	LOS	Delay[1,2]	LOS	Impact?
1	Route 3 / Route 3A	TWSC	a.m.	16.1	C	32.6	D	N
			p.m.	11.5	B	18.6	C	N
2	Route 3/9 / Chalan Santa Anita	TWSC	a.m.	37.7	E	> 180.0	F	Y
			p.m.	15.0	B	34.5	D	N
3	Route 9 / Route 3A	TWSC	a.m.	14.7	B	21.4	C	N
			p.m.	13.6	B	24.7	C	N
4	Route 3 / Bullard Avenue	TWSC	a.m.	19.0	C	-	-	N
			p.m.	12.4	B	-	-	N
5	Route 3 / Route 28	Signalized	a.m.	33.7	C	40.4	D	N
			p.m.	23.2	C	26.4	C	N
6	Route 3 / Royal Palm Drive	TWSC	a.m.	36.4	E	57.8	F	Y
			p.m.	14.8	B	16.1	C	N
7	Route 1/9 / AAFB Entrance	Signalized	a.m.	10.4	B	11.3	B	N
			p.m.	11.6	B	14.1	B	N
8	Route 1 / Route 29	Signalized	a.m.	34.2	C	35.0	C	N
			p.m.	23.3	C	24.6	C	N
9	Route 15 / Route 29	TWSC	a.m.	102.0	F	113.0	F	N
			p.m.	31.2	D	31.6	D	N
10	Route 1 / Chalan Lajuna	Signalized	a.m.	19.9	B	20.5	C	N
			p.m.	13.8	B	14.1	B	N
11	Route 15 / Chalan Lajuna	TWSC	a.m.	75.8	F	86.0	F	N
			p.m.	82.6	F	92.7	F	N

Intersection			Peak Hour	2030 No Build		2030 Finegayan (Alternative A)		
#	Location	Control		Delay[1,2]	LOS	Delay[1,2]	LOS	Impact?
12	Route 1 / Route 3	Signalized	a.m.	> 180.0	F	> 180.0	F	Y
			p.m.	63.4	E	90.1	F	Y
13	Route 1 / Route 16	Signalized	a.m.	21.9	C	25.9	C	N
			p.m.	45.3	D	62.3	E	N
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	a.m.	32.4	C	37.6	D	N
			p.m.	43.2	D	47.0	D	N
15	Route 16 / Route 27A	Signalized	a.m.	24.0	C	24.1	C	N
			p.m.	18.8	B	18.9	B	N
16	Route 1 / Route 27A	Signalized	a.m.	37.3	D	37.9	D	N
			p.m.	46.4	D	46.7	D	N
17	Route 28 / Route 27A	AWSC	a.m.	11.7	B	12.1	B	N
			p.m.	65.0	F	65.0	F	N
18	Route 1 / Route 27	Signalized	a.m.	118.3	F	118.5	F	Y
			p.m.	50.2	D	54.6	D	N
19	Route 1 / Route 26	Signalized	a.m.	34.4	C	36.4	D	N
			p.m.	87.6	F	89.4	F	Y
20	Route 1 / Route 28	Signalized	a.m.	53.5	D	54.1	D	N
			p.m.	37.1	D	37.6	D	N
21	Route 16 / Route 27	Signalized	a.m.	> 180.0	F	> 180.0	F	Y
			p.m.	154.7	F	159.0	F	Y
61	Route 3 / Finegayan Main Gate	Signalized	a.m.	-	-	39.8	D	#N/A
			p.m.	-	-	25.5	C	#N/A
62	Route 3 / Finegayan Residential Gate	Signalized	a.m.	-	-	15.5	B	#N/A
			p.m.	-	-	7.3	A	#N/A

Intersection			Peak Hour	2030 No Build		2030 Finegayan (Alternative A)		
#	Location	Control		Delay[1,2]	LOS	Delay[1,2]	LOS	Impact?
63	Route 9 / AAFB North Gate	TWSC	a.m.	-	-	19.6	C	#N/A
			p.m.	-	-	13.5	B	#N/A
64	Route 16 / Barrigada Residential Gate	Signalized	a.m.	-	-	-	-	#N/A
			p.m.	-	-	-	-	#N/A
65	Route 15 / Barrigada Main Gate	Signalized	a.m.	-	-	-	-	#N/A
			p.m.	-	-	-	-	#N/A
22	Route 16 / Route 10A	Signalized	a.m.	> 180.0	F	> 180.0	F	Y
			p.m.	49.1	D	53.9	D	N
23	Route 26 / Route 25	Signalized	a.m.	26.2	C	26.3	C	N
			p.m.	9.6	A	9.7	A	N
24	Route 15 / Route 26	TWSC	a.m.	145.2	F	166.6	F	N
			p.m.	> 180.0	F	> 180.0	F	N
25	Route 10A / Sunset Blvd (Airport)	Signalized	a.m.	27.6	C	30.0	C	N
			p.m.	54.4	D	57.9	E	N
26	Route 1 / Route 14A	Signalized	a.m.	35.2	D	37.3	D	N
			p.m.	> 180.0	F	> 180.0	F	Y
27	Route 1 / Route 10A	Signalized	a.m.	53.0	D	54.5	D	N
			p.m.	139.3	F	144.7	F	Y
28	Route 1 / Route 14B	Signalized	a.m.	38.3	D	42.8	D	N
			p.m.	30.4	C	32.3	C	N
29	Route 1 / Route 14	Signalized	a.m.	73.4	E	77.3	E	N
			p.m.	50.8	D	53.2	D	N
30	Route 1 / Route 30	Signalized	a.m.	55.1	E	58.7	E	N
			p.m.	42.5	D	43.9	D	N

Intersection			Peak Hour	2030 No Build		2030 Finegayan (Alternative A)		
#	Location	Control		Delay[1,2]	LOS	Delay[1,2]	LOS	Impact?
31	Route 1 / Route 6 (Adelup)	Signalized	a.m.	18.3	B	18.7	B	N
			p.m.	25.6	C	25.8	C	N
32	Route 1 / Route 4	Signalized	a.m.	10.1	B	10.3	B	N
			p.m.	16.7	B	17.4	B	N
33	Route 1 / Route 8	Signalized	a.m.	14.9	B	14.6	B	N
			p.m.	19.6	B	19.2	B	N
34	Route 8 / Chalan Santo Papa	TWSC	a.m.	86.5	F	87.6	F	N
			p.m.	158.9	F	161.2	F	N
35	Route 8 / Route 7A	Signalized	a.m.	19.6	B	20.3	C	N
			p.m.	58.2	E	59.5	E	N
36	Route 4 / Chalan Santo Papa	Signalized	a.m.	31.3	C	31.1	C	N
			p.m.	37.6	D	37.7	D	N
37	Route 4 / Route 7A	Signalized	a.m.	50.1	D	52.1	D	N
			p.m.	53.4	D	54.8	D	N
38	Route 4 / Route 7B	TWSC	a.m.	32.3	D	39.9	E	N
			p.m.	161.3	F	159.5	F	N
39	Route 7A / Route 7	Signalized	a.m.	29.4	C	29.9	C	N
			p.m.	26.6	C	26.7	C	N
40	Route 8 / Sunset Blvd	TWSC	a.m.	-	-	-	-	#N/A
			p.m.	-	-	-	-	#N/A
41	Route 8 / Route 33	Signalized	a.m.	40.7	D	40.7	D	N
			p.m.	17.8	B	18.3	B	N
42	Route 8 / Route 10	Signalized	a.m.	24.8	C	24.9	C	N
			p.m.	24.7	C	25.2	C	N

Intersection			Peak Hour	2030 No Build		2030 Finegayan (Alternative A)		
#	Location	Control		Delay[1,2]	LOS	Delay[1,2]	LOS	Impact?
43	Route 16 / Route 8A	Signalized	a.m.	17.2	B	17.4	B	N
			p.m.	6.7	A	6.7	A	N
44	Route 10 / Route 15	Signalized	a.m.	43.7	D	43.8	D	N
			p.m.	33.4	C	34.6	C	N
45	Route 4 / Route 15	Signalized	a.m.	73.4	E	76.9	E	N
			p.m.	36.4	D	37.3	D	N
46	Route 4 / Route 10	Signalized	a.m.	50.5	D	51.6	D	N
			p.m.	42.2	D	44.0	D	N
47	Route 1 / Route 11	Signalized	a.m.	10.8	B	10.9	B	N
			p.m.	14.2	B	14.0	B	N
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	a.m.	10.0	A	9.9	A	N
			p.m.	12.8	B	12.6	B	N
49	Route 1 / Polaris Point	Signalized	a.m.	11.2	B	11.2	B	N
			p.m.	5.7	A	5.7	A	N
58	Tiyan Parkway / Route 10A	Signalized	a.m.	34.5	C	34.7	C	N
			p.m.	60.5	E	61.5	E	N
59	Tiyan Parkway / Route 8	Signalized	a.m.	58.2	E	60.1	E	N
			p.m.	47.0	D	49.0	D	N
60	Route 1 / Route 27 Extension	Signalized	a.m.	19.9	B	20.1	C	N
			p.m.	9.0	A	12.2	B	N
50	Route 1 / Route 2A	Signalized	a.m.	13.6	B	13.4	B	N
			p.m.	22.9	C	23.2	C	N
51	Route 2A / Route 5	Signalized	a.m.	20.9	C	20.9	C	N
			p.m.	18.4	B	18.4	B	N

Intersection			Peak Hour	2030 No Build		2030 Finegayan (Alternative A)		
#	Location	Control		Delay[1,2]	LOS	Delay[1,2]	LOS	Impact?
52	Route 2 / Route 12	Signalized	a.m.	26.1	C	26.1	C	N
			p.m.	14.6	B	14.6	B	N
53	Route 17 / Route 5	TWSC	a.m.	18.3	C	18.9	C	N
			p.m.	13.5	B	13.5	B	N
54	Route 12 / Naval Magazine Entrance	TWSC	a.m.	9.7	A	9.7	A	N
			p.m.	8.9	A	9.0	A	N
55	Route 17 / Route 4A	TWSC	a.m.	21.8	C	23.5	C	N
			p.m.	24.1	C	24.1	C	N
56	Route 4 / Route 17	Signalized	a.m.	62.6	E	67.2	E	N
			p.m.	21.5	C	22.1	C	N
57	Route 4 / Route 4A	TWSC	a.m.	22.8	C	22.8	C	N
			p.m.	12.3	B	12.3	B	N

Notes

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

Intersection Level of Service Summary

Intersection			Peak Hour	2030 Finegayan/South Finegayan (Alternative B)			2030 AAFB (Alternative C)		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
1	Route 3 / Route 3A	TWSC	a.m.	33.7	D	N	22.4	C	N
			p.m.	18.5	C	N	14.8	B	N
2	Route 3/9 / Chalan Santa Anita	TWSC	a.m.	> 180.0	F	Y	134.6	F	Y
			p.m.	35.9	E	N	22.7	C	N
3	Route 9 / Route 3A	TWSC	a.m.	22.2	C	N	17.5	C	N
			p.m.	25.0	C	N	19.2	C	N
4	Route 3 / Bullard Avenue	TWSC	a.m.	-	-	N	20.5	C	N
			p.m.	-	-	N	13.7	B	N
5	Route 3 / Route 28	Signalized	a.m.	79.8	E	N	36.0	D	N
			p.m.	25.1	C	N	24.0	C	N
6	Route 3 / Royal Palm Drive	TWSC	a.m.	> 180.0	F	Y	50.6	F	Y
			p.m.	34.4	D	N	14.9	B	N
7	Route 1/9 / AAFB Entrance	Signalized	a.m.	11.1	B	N	12.1	B	N
			p.m.	14.5	B	N	14.3	B	N
8	Route 1 / Route 29	Signalized	a.m.	35.5	D	N	36.3	D	N
			p.m.	24.5	C	N	25.7	C	N
9	Route 15 / Route 29	TWSC	a.m.	113.0	F	N	113.0	F	N
			p.m.	31.6	D	N	31.6	D	N
10	Route 1 / Chalan Lajuna	Signalized	a.m.	20.2	C	N	20.8	C	N
			p.m.	14.5	B	N	16.3	B	N
11	Route 15 / Chalan Lajuna	TWSC	a.m.	98.0	F	N	119.9	F	Y
			p.m.	96.1	F	Y	166.3	F	Y

Intersection			Peak Hour	2030 Finegayan/South Finegayan (Alternative B)			2030 AAFB (Alternative C)		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
12	Route 1 / Route 3	Signalized	a.m.	> 180.0	F	Y	> 180.0	F	Y
			p.m.	99.8	F	Y	73.9	E	N
13	Route 1 / Route 16	Signalized	a.m.	25.8	C	N	23.1	C	N
			p.m.	70.7	E	N	52.5	D	N
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	a.m.	38.4	D	N	35.9	D	N
			p.m.	47.1	D	N	45.6	D	N
15	Route 16 / Route 27A	Signalized	a.m.	24.1	C	N	24.0	C	N
			p.m.	19.4	B	N	18.6	B	N
16	Route 1 / Route 27A	Signalized	a.m.	37.6	D	N	38.2	D	N
			p.m.	46.5	D	N	46.9	D	N
17	Route 28 / Route 27A	AWSC	a.m.	12.1	B	N	11.7	B	N
			p.m.	65.0	F	N	65.0	F	N
18	Route 1 / Route 27	Signalized	a.m.	122.9	F	Y	123.6	F	Y
			p.m.	55.3	E	N	54.3	D	N
19	Route 1 / Route 26	Signalized	a.m.	37.8	D	N	36.0	D	N
			p.m.	88.1	F	Y	95.7	F	Y
20	Route 1 / Route 28	Signalized	a.m.	53.8	D	N	58.7	E	N
			p.m.	38.2	D	N	37.4	D	N
21	Route 16 / Route 27	Signalized	a.m.	> 180.0	F	Y	> 180.0	F	Y
			p.m.	166.2	F	Y	161.9	F	Y
61	Route 3 / Finegayan Main Gate	Signalized	a.m.	63.7	E	#N/A	-	-	#N/A
			p.m.	35.7	D	#N/A	-	-	#N/A
62	Route 3 / Finegayan Residential Gate	Signalized	a.m.	19.9	B	#N/A	-	-	#N/A
			p.m.	9.1	A	#N/A	-	-	#N/A

Intersection			Peak Hour	2030 Finegayan/South Finegayan (Alternative B)			2030 AAFB (Alternative C)		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
63	Route 9 / AAFB North Gate	TWSC	a.m.	19.9	C	#N/A	21.7	C	#N/A
			p.m.	13.4	B	#N/A	24.8	C	#N/A
64	Route 16 / Barrigada Residential Gate	Signalized	a.m.	-	-	#N/A	-	-	#N/A
			p.m.	-	-	#N/A	-	-	#N/A
65	Route 15 / Barrigada Main Gate	Signalized	a.m.	-	-	#N/A	-	-	#N/A
			p.m.	-	-	#N/A	-	-	#N/A
22	Route 16 / Route 10A	Signalized	a.m.	> 180.0	F	Y	> 180.0	F	Y
			p.m.	52.7	D	N	52.6	D	N
23	Route 26 / Route 25	Signalized	a.m.	26.3	C	N	26.3	C	N
			p.m.	9.7	A	N	9.7	A	N
24	Route 15 / Route 26	TWSC	a.m.	> 180.0	F	Y	> 180.0	F	Y
			p.m.	> 180.0	F	Y	> 180.0	F	Y
25	Route 10A / Sunset Blvd (Airport)	Signalized	a.m.	30.0	C	N	30.2	C	N
			p.m.	55.8	E	N	57.0	E	N
26	Route 1 / Route 14A	Signalized	a.m.	37.3	D	N	36.2	D	N
			p.m.	> 180.0	F	Y	> 180.0	F	Y
27	Route 1 / Route 10A	Signalized	a.m.	54.4	D	N	54.6	D	N
			p.m.	146.1	F	Y	141.6	F	Y
28	Route 1 / Route 14B	Signalized	a.m.	42.0	D	N	41.9	D	N
			p.m.	32.3	C	N	32.5	C	N
29	Route 1 / Route 14	Signalized	a.m.	77.3	E	N	78.7	E	N
			p.m.	52.2	D	N	51.7	D	N
30	Route 1 / Route 30	Signalized	a.m.	58.7	E	N	57.8	E	N
			p.m.	43.5	D	N	44.1	D	N

Intersection			Peak Hour	2030 Finegayan/South Finegayan (Alternative B)			2030 AAFB (Alternative C)		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
31	Route 1 / Route 6 (Adelup)	Signalized	a.m.	18.7	B	N	18.7	B	N
			p.m.	25.8	C	N	25.7	C	N
32	Route 1 / Route 4	Signalized	a.m.	10.2	B	N	10.3	B	N
			p.m.	17.0	B	N	16.8	B	N
33	Route 1 / Route 8	Signalized	a.m.	14.6	B	N	14.6	B	N
			p.m.	19.4	B	N	19.3	B	N
34	Route 8 / Chalan Santo Papa	TWSC	a.m.	86.5	F	N	83.4	F	N
			p.m.	168.8	F	N	168.8	F	N
35	Route 8 / Route 7A	Signalized	a.m.	20.2	C	N	20.4	C	N
			p.m.	59.5	E	N	60.4	E	N
36	Route 4 / Chalan Santo Papa	Signalized	a.m.	31.5	C	N	31.3	C	N
			p.m.	37.7	D	N	37.9	D	N
37	Route 4 / Route 7A	Signalized	a.m.	52.7	D	N	52.1	D	N
			p.m.	54.9	D	N	54.9	D	N
38	Route 4 / Route 7B	TWSC	a.m.	48.5	E	N	39.3	E	N
			p.m.	159.0	F	N	160.2	F	N
39	Route 7A / Route 7	Signalized	a.m.	29.7	C	N	29.9	C	N
			p.m.	26.7	C	N	26.7	C	N
40	Route 8 / Sunset Blvd	TWSC	a.m.	-	-	#N/A	-	-	#N/A
			p.m.	-	-	#N/A	-	-	#N/A
41	Route 8 / Route 33	Signalized	a.m.	40.7	D	N	40.7	D	N
			p.m.	18.3	B	N	18.3	B	N
42	Route 8 / Route 10	Signalized	a.m.	25.0	C	N	24.9	C	N
			p.m.	25.3	C	N	24.7	C	N

Intersection			Peak Hour	2030 Finegayan/South Finegayan (Alternative B)			2030 AAFB (Alternative C)		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
43	Route 16 / Route 8A	Signalized	a.m.	17.4	B	N	17.2	B	N
			p.m.	7.0	A	N	6.8	A	N
44	Route 10 / Route 15	Signalized	a.m.	43.8	D	N	44.2	D	N
			p.m.	35.1	D	N	36.2	D	N
45	Route 4 / Route 15	Signalized	a.m.	76.9	E	N	76.9	E	N
			p.m.	37.4	D	N	37.4	D	N
46	Route 4 / Route 10	Signalized	a.m.	50.5	D	N	52.6	D	N
			p.m.	42.9	D	N	44.5	D	N
47	Route 1 / Route 11	Signalized	a.m.	10.9	B	N	10.9	B	N
			p.m.	14.0	B	N	14.1	B	N
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	a.m.	9.9	A	N	9.9	A	N
			p.m.	12.6	B	N	12.6	B	N
49	Route 1 / Polaris Point	Signalized	a.m.	11.2	B	N	11.2	B	N
			p.m.	5.7	A	N	5.7	A	N
58	Tiyan Parkway / Route 10A	Signalized	a.m.	34.5	C	N	34.5	C	N
			p.m.	60.2	E	N	61.6	E	N
59	Tiyan Parkway / Route 8	Signalized	a.m.	60.1	E	N	61.5	E	N
			p.m.	49.0	D	N	49.0	D	N
60	Route 1 / Route 27 Extension	Signalized	a.m.	19.8	B	N	20.2	C	N
			p.m.	11.7	B	N	10.5	B	N
50	Route 1 / Route 2A	Signalized	a.m.	13.4	B	N	13.4	B	N
			p.m.	23.2	C	N	23.2	C	N
51	Route 2A / Route 5	Signalized	a.m.	20.9	C	N	20.9	C	N
			p.m.	18.4	B	N	18.4	B	N

Intersection			Peak Hour	2030 Finegayan/South Finegayan (Alternative B)			2030 AAFB (Alternative C)		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
52	Route 2 / Route 12	Signalized	a.m.	26.1	C	N	26.1	C	N
			p.m.	14.6	B	N	14.6	B	N
53	Route 17 / Route 5	TWSC	a.m.	18.9	C	N	18.9	C	N
			p.m.	13.6	B	N	13.5	B	N
54	Route 12 / Naval Magazine Entrance	TWSC	a.m.	9.7	A	N	9.7	A	N
			p.m.	9.0	A	N	9.0	A	N
55	Route 17 / Route 4A	TWSC	a.m.	23.5	C	N	23.5	C	N
			p.m.	24.1	C	N	24.1	C	N
56	Route 4 / Route 17	Signalized	a.m.	67.2	E	N	70.0	E	N
			p.m.	21.8	C	N	22.1	C	N
57	Route 4 / Route 4A	TWSC	a.m.	22.8	C	N	23.3	C	N
			p.m.	12.7	B	N	12.7	B	N

Notes

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized interse

Intersection Level of Service Summary

Intersection			Peak Hour	2030 Barrigada (Alternative D)			2030 No Action		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
1	Route 3 / Route 3A	TWSC	a.m.	18.2	C	N	> 180.0	F	Y
			p.m.	12.5	B	N	> 180.0	F	Y
2	Route 3/9 / Chalan Santa Anita	TWSC	a.m.	43.5	E	N	> 180.0	F	Y
			p.m.	15.7	C	N	> 180.0	F	Y
3	Route 9 / Route 3A	TWSC	a.m.	14.4	B	N	62.6	F	Y
			p.m.	15.3	C	N	> 180.0	F	Y
4	Route 3 / Bullard Avenue	TWSC	a.m.	19.3	C	N	-	-	Y
			p.m.	12.7	B	N	-	-	N
5	Route 3 / Route 28	Signalized	a.m.	35.8	D	N	137.4	F	Y
			p.m.	23.3	C	N	65.6	E	N
6	Route 3 / Royal Palm Drive	TWSC	a.m.	47.5	E	N	> 180.0	F	Y
			p.m.	14.4	B	N	> 180.0	F	Y
7	Route 1/9 / AAFB Entrance	Signalized	a.m.	10.8	B	N	27.2	C	N
			p.m.	12.9	B	N	34.6	C	N
8	Route 1 / Route 29	Signalized	a.m.	34.6	C	N	110.8	F	Y
			p.m.	23.8	C	N	30.9	C	N
9	Route 15 / Route 29	TWSC	a.m.	109.3	F	N	> 180.0	F	Y
			p.m.	33.7	D	N	44.0	E	N
10	Route 1 / Chalan Lajuna	Signalized	a.m.	22.5	C	N	28.4	C	N
			p.m.	16.4	B	N	19.0	B	N
11	Route 15 / Chalan Lajuna	TWSC	a.m.	> 180.0	F	Y	> 180.0	F	Y
			p.m.	> 180.0	F	Y	> 180.0	F	Y

Intersection			Peak Hour	2030 Barrigada (Alternative D)			2030 No Action		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
12	Route 1 / Route 3	Signalized	a.m.	> 180.0	F	N	> 180.0	F	Y
			p.m.	65.2	E	N	177.3	F	Y
13	Route 1 / Route 16	Signalized	a.m.	22.9	C	N	75.8	E	N
			p.m.	49.3	D	N	128.0	F	Y
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	a.m.	33.6	C	N	55.2	E	N
			p.m.	43.9	D	N	63.2	E	N
15	Route 16 / Route 27A	Signalized	a.m.	24.3	C	N	32.4	C	N
			p.m.	19.0	B	N	21.5	C	N
16	Route 1 / Route 27A	Signalized	a.m.	38.0	D	N	39.2	D	N
			p.m.	46.7	D	N	47.3	D	N
17	Route 28 / Route 27A	AWSC	a.m.	11.9	B	N	18.2	C	N
			p.m.	68.1	F	N	102.7	F	Y
18	Route 1 / Route 27	Signalized	a.m.	134.1	F	Y	132.3	F	Y
			p.m.	60.7	E	N	88.3	F	Y
19	Route 1 / Route 26	Signalized	a.m.	40.5	D	N	80.1	F	Y
			p.m.	94.9	F	Y	145.7	F	Y
20	Route 1 / Route 28	Signalized	a.m.	57.3	E	N	81.4	F	Y
			p.m.	38.8	D	N	63.6	E	N
21	Route 16 / Route 27	Signalized	a.m.	> 180.0	F	Y	> 180.0	F	Y
			p.m.	165.9	F	Y	> 180.0	F	Y
61	Route 3 / Finegayan Main Gate	Signalized	a.m.	-	-	#N/A	48.3	D	#N/A
			p.m.	-	-	#N/A	53.7	D	#N/A
62	Route 3 / Finegayan Residential Gate	Signalized	a.m.	-	-	#N/A	10.9	B	#N/A
			p.m.	-	-	#N/A	7.9	A	#N/A

Intersection			Peak Hour	2030 Barrigada (Alternative D)			2030 No Action		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
63	Route 9 / AAFB North Gate	TWSC	a.m.	12.3	B	#N/A	26.3	C	#N/A
			p.m.	10.7	B	#N/A	16.5	B	#N/A
64	Route 16 / Barrigada Residential Gate	Signalized	a.m.	4.6	A	#N/A	-	-	#N/A
			p.m.	2.7	A	#N/A	-	-	#N/A
65	Route 15 / Barrigada Main Gate	Signalized	a.m.	22.3	C	#N/A	-	-	#N/A
			p.m.	10.7	B	#N/A	-	-	#N/A
22	Route 16 / Route 10A	Signalized	a.m.	> 180.0	F	N	> 180.0	F	Y
			p.m.	50.3	D	N	91.0	F	Y
23	Route 26 / Route 25	Signalized	a.m.	27.1	C	N	62.4	E	N
			p.m.	9.9	A	N	12.1	B	N
24	Route 15 / Route 26	TWSC	a.m.	> 180.0	F	Y	> 180.0	F	Y
			p.m.	> 180.0	F	Y	> 180.0	F	Y
25	Route 10A / Sunset Blvd (Airport)	Signalized	a.m.	29.9	C	N	32.1	C	N
			p.m.	54.2	D	N	70.6	E	N
26	Route 1 / Route 14A	Signalized	a.m.	35.5	D	N	46.5	D	N
			p.m.	> 180.0	F	N	> 180.0	F	Y
27	Route 1 / Route 10A	Signalized	a.m.	54.9	D	N	82.2	F	Y
			p.m.	143.2	F	Y	174.7	F	Y
28	Route 1 / Route 14B	Signalized	a.m.	41.3	D	N	59.2	E	N
			p.m.	31.8	C	N	50.7	D	N
29	Route 1 / Route 14	Signalized	a.m.	79.8	E	N	105.9	F	Y
			p.m.	52.5	D	N	70.1	E	N
30	Route 1 / Route 30	Signalized	a.m.	63.5	E	N	73.7	E	N
			p.m.	45.7	D	N	75.3	E	N

Intersection			Peak Hour	2030 Barrigada (Alternative D)			2030 No Action		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
31	Route 1 / Route 6 (Adelup)	Signalized	a.m.	18.5	B	N	19.3	B	N
			p.m.	26.0	C	N	27.1	C	N
32	Route 1 / Route 4	Signalized	a.m.	10.7	B	N	11.5	B	N
			p.m.	17.4	B	N	18.0	B	N
33	Route 1 / Route 8	Signalized	a.m.	16.0	B	N	14.8	B	N
			p.m.	20.3	C	N	18.8	B	N
34	Route 8 / Chalan Santo Papa	TWSC	a.m.	127.7	F	Y	> 180.0	F	Y
			p.m.	> 180.0	F	Y	> 180.0	F	Y
35	Route 8 / Route 7A	Signalized	a.m.	22.1	C	N	26.6	C	N
			p.m.	74.6	E	N	75.5	E	N
36	Route 4 / Chalan Santo Papa	Signalized	a.m.	32.1	C	N	38.9	D	N
			p.m.	37.5	D	N	40.6	D	N
37	Route 4 / Route 7A	Signalized	a.m.	55.8	E	N	61.6	E	N
			p.m.	57.3	E	N	62.9	E	N
38	Route 4 / Route 7B	TWSC	a.m.	39.9	E	N	> 180.0	F	Y
			p.m.	171.6	F	Y	> 180.0	F	Y
39	Route 7A / Route 7	Signalized	a.m.	30.1	C	N	34.2	C	N
			p.m.	27.1	C	N	27.4	C	N
40	Route 8 / Sunset Blvd	TWSC	a.m.	-	-	#N/A	-	-	#N/A
			p.m.	-	-	#N/A	-	-	#N/A
41	Route 8 / Route 33	Signalized	a.m.	53.1	D	N	46.9	D	N
			p.m.	19.9	B	N	19.5	B	N
42	Route 8 / Route 10	Signalized	a.m.	28.6	C	N	26.9	C	N
			p.m.	28.4	C	N	34.7	C	N

Intersection			Peak Hour	2030 Barrigada (Alternative D)			2030 No Action		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
43	Route 16 / Route 8A	Signalized	a.m.	17.4	B	N	25.3	C	N
			p.m.	7.1	A	N	7.4	A	N
44	Route 10 / Route 15	Signalized	a.m.	72.2	E	N	64.3	E	N
			p.m.	64.2	E	N	47.6	D	N
45	Route 4 / Route 15	Signalized	a.m.	79.3	E	N	92.7	F	Y
			p.m.	39.2	D	N	46.2	D	N
46	Route 4 / Route 10	Signalized	a.m.	50.8	D	N	85.3	F	Y
			p.m.	44.4	D	N	71.4	E	N
47	Route 1 / Route 11	Signalized	a.m.	10.9	B	N	12.4	B	N
			p.m.	13.8	B	N	13.5	B	N
48	Route 1 / Route 6 (Veterans Cemetery)	Signalized	a.m.	9.7	A	N	10.9	B	N
			p.m.	12.2	B	N	12.6	B	N
49	Route 1 / Polaris Point	Signalized	a.m.	11.2	B	N	10.9	B	N
			p.m.	5.8	A	N	5.6	A	N
58	Tiyan Parkway / Route 10A	Signalized	a.m.	35.3	D	N	36.2	D	N
			p.m.	62.9	E	N	71.2	E	N
59	Tiyan Parkway / Route 8	Signalized	a.m.	72.0	E	N	71.8	E	N
			p.m.	56.0	E	N	66.3	E	N
60	Route 1 / Route 27 Extension	Signalized	a.m.	20.5	C	N	20.4	C	N
			p.m.	9.9	A	N	29.4	C	N
50	Route 1 / Route 2A	Signalized	a.m.	13.4	B	N	17.3	B	N
			p.m.	23.5	C	N	27.4	C	N
51	Route 2A / Route 5	Signalized	a.m.	20.9	C	N	23.0	C	N
			p.m.	18.4	B	N	18.8	B	N

Intersection			Peak Hour	2030 Barrigada (Alternative D)			2030 No Action		
#	Location	Control		Delay[1,2]	LOS	Impact?	Delay[1,2]	LOS	Impact?
52	Route 2 / Route 12	Signalized	a.m.	26.1	C	N	29.4	C	N
			p.m.	14.6	B	N	14.8	B	N
53	Route 17 / Route 5	TWSC	a.m.	18.3	C	N	31.0	D	N
			p.m.	13.5	B	N	15.1	C	N
54	Route 12 / Naval Magazine Entrance	TWSC	a.m.	9.7	A	N	10.5	B	N
			p.m.	9.0	A	N	9.0	A	N
55	Route 17 / Route 4A	TWSC	a.m.	22.9	C	N	34.8	D	N
			p.m.	24.1	C	N	37.6	E	N
56	Route 4 / Route 17	Signalized	a.m.	70.0	E	N	150.8	F	Y
			p.m.	22.5	C	N	33.0	C	N
57	Route 4 / Route 4A	TWSC	a.m.	24.8	C	N	40.0	E	N
			p.m.	12.3	B	N	13.5	B	N

Notes

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized interse

INTERSECTION ANALYSIS

Synchro Output

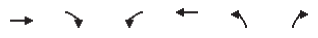
Existing Conditions

Weekday a.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	36	226	454	1	1	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	45	282	568	1	1	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	569				941	568
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	569				941	568
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				100	99
cM capacity (veh/h)	1004				279	522

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	45	282	569	9
Volume Left	45	0	0	1
Volume Right	0	0	1	8
cSH	1004	1700	1700	465
Volume to Capacity	0.04	0.17	0.33	0.02
Queue Length 95th (ft)	4	0	0	1
Control Delay (s)	8.8	0.0	0.0	12.9
Lane LOS	A			B
Approach Delay (s)	1.2		0.0	12.9
Approach LOS				B

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	39.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	212	31	10	295	159	31
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	265	39	12	369	199	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			304		678	284
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			304		678	284
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		52	95
cM capacity (veh/h)			1257		413	755

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	304	381	238
Volume Left	0	12	199
Volume Right	39	0	39
cSH	1700	1257	446
Volume to Capacity	0.18	0.01	0.53
Queue Length 95th (ft)	0	1	76
Control Delay (s)	0.0	0.4	21.9
Lane LOS		A	C
Approach Delay (s)	0.0	0.4	21.9
Approach LOS			C

Intersection Summary				
Average Delay	5.8			
Intersection Capacity Utilization	41.0%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	243	309	30	9	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	1	304	386	38	11	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	424				711	405
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	424				711	405
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1135				399	646

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	305	424	12
Volume Left	1	0	11
Volume Right	0	38	1
cSH	1135	1700	415
Volume to Capacity	0.00	0.25	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.0	0.0	13.9
Lane LOS	A		B
Approach Delay (s)	0.0	0.0	13.9
Approach LOS			B

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	28.1%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	151	312	704	31	13	49
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	170	351	791	35	15	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	826				1498	808
vC1, stage 1 conf vol					808	
vC2, stage 2 conf vol					690	
vCu, unblocked vol	826				1498	808
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	79				95	86
cM capacity (veh/h)	805				304	381

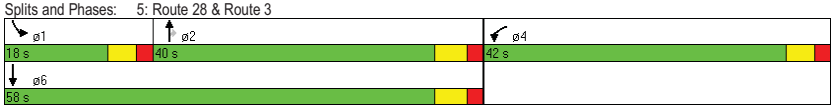
Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	170	351	826	70
Volume Left	170	0	0	15
Volume Right	0	0	35	55
cSH	805	1700	1700	482
Volume to Capacity	0.21	0.21	0.49	0.14
Queue Length 95th (ft)	20	0	0	13
Control Delay (s)	10.7	0.0	0.0	16.3
Lane LOS	B			C
Approach Delay (s)	3.5		0.0	16.3
Approach LOS				C

Intersection Summary			
Average Delay		2.1	
Intersection Capacity Utilization		60.6%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	775	357	280	108	774
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	42.0	40.0	40.0	18.0	58.0
Total Split (%)	42.0%	40.0%	40.0%	18.0%	58.0%
Maximum Green (s)	36.5	34.0	34.0	12.5	52.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 97.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	775	124	357	280	108	774
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1034	0	410	322	124	890
v/c Ratio	0.87		0.61	0.41	0.59	0.47
Control Delay	38.2		31.3	4.6	53.2	15.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	38.2		31.3	4.6	53.2	15.5
Queue Length 50th (ft)	299		219	0	76	182
Queue Length 95th (ft)	362		310	50	130	223
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1289		670	776	228	1895
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.80		0.61	0.41	0.54	0.47

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	775	124	357	280	108	774
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3393		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3393		1863	1583	1770	3539
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	891	143	410	322	124	890
RTOR Reduction (vph)	14	0	0	206	0	0
Lane Group Flow (vph)	1020	0	410	116	124	890
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	33.7		35.0	35.0	11.6	52.1
Effective Green, g (s)	33.7		35.0	35.0	11.6	52.1
Actuated g/C Ratio	0.35		0.36	0.36	0.12	0.54
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1175		670	569	211	1895
v/s Ratio Prot	c0.30		c0.22		0.07	c0.25
v/s Ratio Perm				0.07		
v/c Ratio	0.87		0.61	0.20	0.59	0.47
Uniform Delay, d1	29.7		25.6	21.5	40.6	14.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.2		4.1	0.8	4.4	0.8
Delay (s)	36.9		29.7	22.3	45.0	14.9
Level of Service	D		C	C	D	B
Approach Delay (s)	36.9		26.5			18.5
Approach LOS	D		C			B

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	97.3	Sum of lost time (s)	17.5
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	3	12	4	583	1619	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	3	14	5	678	1883	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2241	952	1903			
vC1, stage 1 conf vol	1893					
vC2, stage 2 conf vol	348					
vCu, unblocked vol	2241	952	1903			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	95	98			
cM capacity (veh/h)	101	260	309			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	17	5	339	339	1255	648
Volume Left	3	5	0	0	0	0
Volume Right	14	0	0	0	0	21
cSH	198	309	1700	1700	1700	1700
Volume to Capacity	0.09	0.02	0.20	0.20	0.74	0.38
Queue Length 95th (ft)	7	1	0	0	0	0
Control Delay (s)	25.0	16.8	0.0	0.0	0.0	0.0
Lane LOS	C	C				
Approach Delay (s)	25.0	0.1			0.0	
Approach LOS	C					

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		55.3%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	97	51	176	522	145	174
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	19.0	0.0	38.0	0.0	33.0	71.0
Total Split (%)	21.1%	0.0%	42.2%	0.0%	36.7%	78.9%
Maximum Green (s)	15.0		32.0		27.5	65.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 80.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	97	51	176	522	145	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	57	196	580	161	193
v/c Ratio	0.36	0.04	0.18	0.37	0.63	0.12
Control Delay	38.8	0.0	9.5	0.7	43.3	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	0.0	9.5	0.7	43.3	2.2
Queue Length 50th (ft)	27	0	43	0	79	16
Queue Length 95th (ft)	52	0	92	0	134	33
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	645	1583	1117	1583	609	1548
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.04	0.18	0.37	0.26	0.12

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	97	51	176	522	145	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	108	57	196	580	161	193
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	108	57	196	580	161	193
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	5.8	81.0	48.1	81.0	11.6	65.2
Effective Green, g (s)	5.8	81.0	48.1	81.0	11.6	65.2
Actuated g/C Ratio	0.07	1.00	0.59	1.00	0.14	0.80
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	246	1583	1106	1583	253	1500
v/s Ratio Prot	0.03		0.11		c0.09	0.10
v/s Ratio Perm		0.04		c0.37		
v/c Ratio	0.44	0.04	0.18	0.37	0.64	0.13
Uniform Delay, d1	36.0	0.0	7.5	0.0	32.7	1.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.0	0.4	0.7	3.8	0.2
Delay (s)	36.5	0.0	7.8	0.7	36.5	1.9
Level of Service	D	A	A	A	D	A
Approach Delay (s)	23.9		2.5			17.6
Approach LOS	C		A			B

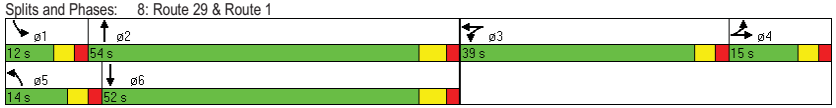
Intersection Summary			
HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	5.5
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	7	530	25	63	601	112	724
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	39.0	39.0	14.0	54.0	12.0	52.0
Total Split (%)	12.5%	32.5%	32.5%	11.7%	45.0%	10.0%	43.3%
Maximum Green (s)	10.0	34.0	34.0	9.0	48.0	7.0	46.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	7	47	530	25	37	63	601	265	112	724	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	0	81	0	319	318	0	68	931	0	120	840	0
v/c Ratio		0.55		0.83	0.82		0.57	0.61		0.62	0.48	
Control Delay		38.4		62.0	60.3		61.2	47.0		66.6	23.8	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		38.4		62.0	60.3		61.2	47.0		66.6	23.8	
Queue Length 50th (ft)		23		247	242		54	351		88	234	
Queue Length 95th (ft)		73		340	334		m100	422		#235	341	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		187		476	477		136	1523		195	1748	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.43		0.67	0.67		0.50	0.61		0.62	0.48	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	7	47	530	25	37	63	601	265	112	724	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.98		1.00	0.95		1.00	0.99	
Flt Protected		0.99		0.95	0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1682		1681	1670		1752	3344		1752	3466	
Flt Permitted		0.99		0.95	0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1682		1681	1670		1752	3344		1752	3466	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	8	51	570	27	40	68	646	285	120	778	62
RTOR Reduction (vph)	0	48	0	0	5	0	0	39	0	0	4	0
Lane Group Flow (vph)	0	33	0	319	313	0	68	892	0	120	836	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.0		27.4	27.4		7.2	52.3		13.3	58.4	
Effective Green, g (s)		6.0		27.4	27.4		7.2	52.3		13.3	58.4	
Actuated g/C Ratio		0.05		0.23	0.23		0.06	0.44		0.11	0.49	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		84		384	381		105	1457		194	1687	
v/s Ratio Prot		c0.02		c0.19	0.19		0.04	c0.27		c0.07	0.24	
v/s Ratio Perm												
v/c Ratio		0.39		0.83	0.82		0.65	0.61		0.62	0.50	
Uniform Delay, d1		55.2		44.1	44.0		55.2	26.0		50.9	20.8	
Progression Factor		1.00		1.00	1.00		0.84	1.83		1.00	1.00	
Incremental Delay, d2		1.1		13.6	12.8		8.5	1.6		4.1	1.0	
Delay (s)		56.3		57.6	56.7		55.0	49.2		55.0	21.9	
Level of Service		E		E	E		D	D		E	C	
Approach Delay (s)		56.3			57.2			49.6			26.0	
Approach LOS		E			E			D			C	

Intersection Summary				
HCM Average Control Delay	43.2	HCM Level of Service		D
HCM Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	67.8%	ICU Level of Service		C
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	144	16	30	39	37	8	22	328	18	4	268	175
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	158	18	33	43	41	9	24	360	20	4	295	192
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	847	828	391	860	914	370	487			380		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	847	828	391	860	914	370	487			380		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	34	94	95	83	85	99	98			100		
cM capacity (veh/h)	241	298	658	246	266	675	1071			1173		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	209	92	404	491
Volume Left	158	43	24	4
Volume Right	33	9	20	192
cSH	272	271	1071	1173
Volume to Capacity	0.77	0.34	0.02	0.00
Queue Length 95th (ft)	143	36	2	0
Control Delay (s)	51.3	25.0	0.7	0.1
Lane LOS	F	C	A	A
Approach Delay (s)	51.3	25.0	0.7	0.1
Approach LOS	F	C		

Intersection Summary			
Average Delay	11.2		
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	267	101	899	135	1393
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	31.0	31.0	72.0	17.0	89.0
Total Split (%)	25.8%	25.8%	60.0%	14.2%	74.2%
Maximum Green (s)	26.0	26.0	66.0	12.0	83.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 89.5 (75%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	267	101	899	132	135	1393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			40
Link Distance (ft)	608		965			525
Travel Time (s)	11.8		18.8			8.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	290	110	1120	0	147	1514
v/c Ratio	0.87	0.31	0.56		0.82	0.60
Control Delay	71.4	18.0	20.6		81.3	8.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	71.4	18.0	20.6		81.3	8.0
Queue Length 50th (ft)	216	24	372		116	315
Queue Length 95th (ft)	#334	73	458		m#220	384
Internal Link Dist (ft)	528		885			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	384	400	1986		184	2519
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.76	0.28	0.56		0.80	0.60

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	267	101	899	132	135	1393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3438		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3438		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	290	110	977	143	147	1514
RTOR Reduction (vph)	0	59	9	0	0	0
Lane Group Flow (vph)	290	51	1111	0	147	1514
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	22.7	22.7	69.1		12.2	86.3
Effective Green, g (s)	22.7	22.7	69.1		12.2	86.3
Actuated g/C Ratio	0.19	0.19	0.58		0.10	0.72
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	335	299	1980		178	2521
v/s Ratio Prot	c0.16		0.32		c0.08	c0.43
v/s Ratio Perm		0.03				
v/c Ratio	0.87	0.17	0.56		0.83	0.60
Uniform Delay, d1	47.2	40.8	15.9		52.9	8.3
Progression Factor	1.00	1.00	1.18		0.95	0.79
Incremental Delay, d2	19.6	0.1	1.2		22.6	1.0
Delay (s)	66.7	40.9	19.9		72.7	7.5
Level of Service	E	D	B		E	A
Approach Delay (s)	59.6		19.9			13.3
Approach LOS	E		B			B

Intersection Summary				
HCM Average Control Delay	21.4	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	64.7%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	89	134	76	141	247	149
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	122	184	104	193	338	204
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	842	440	542			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	842	440	542			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	59	70	90			
cM capacity (veh/h)	300	617	1021			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	305	297	542
Volume Left	122	104	0
Volume Right	184	0	204
cSH	434	1021	1700
Volume to Capacity	0.70	0.10	0.32
Queue Length 95th (ft)	134	8	0
Control Delay (s)	30.7	3.8	0.0
Lane LOS	D	A	
Approach Delay (s)	30.7	3.8	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	513	426	1872	243	1510	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	40.0	83.0	52.0	28.0	28.0	9.0
Total Split (%)	33.3%	69.2%	43.3%	23.3%	23.3%	8%
Maximum Green (s)	35.0	77.0	46.0	22.0	22.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 103 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	513	426	0	1872	263	243	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	558	463	0	2321	0	264	1641
v/c Ratio	1.09	0.13		1.21		0.81	1.46
Control Delay	117.0	3.1		128.9		67.2	232.4
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	117.0	3.1		128.9		67.2	232.4
Queue Length 50th (ft)	~476	23		~800		198	~702
Queue Length 95th (ft)	#728	23		m#890		#333	#855
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	511	3609		1911		325	1124
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.09	0.13		1.21		0.81	1.46

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	513	426	0	1872	263	243	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4943		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4943		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	558	463	0	2035	286	264	1641
RTOR Reduction (vph)	0	0	0	15	0	0	620
Lane Group Flow (vph)	558	463	0	2306	0	264	1021
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	35.0	86.0		46.0		22.0	22.0
Effective Green, g (s)	35.0	86.0		46.0		22.0	22.0
Actuated g/C Ratio	0.29	0.72		0.38		0.18	0.18
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	511	3609		1895		325	504
v/s Ratio Prot	c0.32	0.09		c0.47		0.15	
v/s Ratio Perm							c0.37
v/c Ratio	1.09	0.13		1.22		0.81	2.03
Uniform Delay, d1	42.5	5.3		37.0		47.0	49.0
Progression Factor	1.29	0.57		0.78		1.00	1.00
Incremental Delay, d2	67.0	0.1		101.7		13.6	468.7
Delay (s)	121.7	3.1		130.7		60.6	517.7
Level of Service	F	A		F		E	F
Approach Delay (s)		67.9		130.7		454.3	
Approach LOS		E		F		F	

Intersection Summary				
HCM Average Control Delay	236.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	8	772	488	2449	595	255
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	40.0	46.0	76.0	34.0	34.0
Total Split (%)	8.3%	33.3%	38.3%	63.3%	28.3%	28.3%
Maximum Green (s)	5.0	34.0	41.0	70.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	8	772	278	488	2449	595	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	0%	0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	9	1117	0	519	2605	633	271
v/c Ratio	0.12	0.73		0.86	0.77	0.85	0.49
Control Delay	50.4	28.0		49.8	17.5	44.7	5.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	50.4	28.0		49.8	17.5	44.7	5.2
Queue Length 50th (ft)	5	320		341	236	249	32
Queue Length 95th (ft)	m20	173		#559	738	294	17
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1524		600	3383	817	585
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.12	0.73		0.86	0.77	0.77	0.46

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	8	772	278	488	2449	595	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4836		1752	5036	3502	1615
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4836		1752	5036	3502	1615
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	9	821	296	519	2605	633	271
RTOR Reduction (vph)	0	55	0	0	0	0	214
Lane Group Flow (vph)	9	1062	0	519	2605	633	57
Heavy Vehicles (%)	0%	3%	3%	3%	3%	0%	0%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	32.5		45.1	76.6	25.4	25.4
Effective Green, g (s)	1.0	32.5		45.1	76.6	25.4	25.4
Actuated g/C Ratio	0.01	0.27		0.38	0.64	0.21	0.21
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1310		658	3215	741	342
v/s Ratio Prot	0.00	c0.22		0.30	c0.52	c0.18	
v/s Ratio Perm							0.04
v/c Ratio	0.60	0.81		0.79	0.81	0.85	0.17
Uniform Delay, d1	59.3	40.9		33.2	16.3	45.5	38.7
Progression Factor	0.85	0.71		0.95	1.08	0.75	0.54
Incremental Delay, d2	34.7	5.3		5.1	2.1	8.2	0.1
Delay (s)	84.9	34.1		36.7	19.6	42.2	20.8
Level of Service	F	C		D	B	D	C
Approach Delay (s)		34.5			22.4	35.8	
Approach LOS		C			C	D	

Intersection Summary				
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	288	85	139	777	6	2237
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	20.0	20.0	18.0	91.0	9.0	82.0
Total Split (%)	16.7%	16.7%	15.0%	75.8%	7.5%	68.3%
Maximum Green (s)	15.0	15.0	13.0	85.0	4.0	76.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 105 (88%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	288	85	139	777	6	2237	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	320	94	154	863	7	3280	0
v/c Ratio	0.80	0.35	0.85	0.22	0.12	1.03	
Control Delay	66.7	13.3	67.9	13.4	56.8	38.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	66.7	13.3	67.9	13.4	56.8	38.2	
Queue Length 50th (ft)	125	0	125	164	5	~992	
Queue Length 95th (ft)	#177	50	#239	209	m7	#1070	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	429	280	190	3910	60	3184	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.75	0.34	0.81	0.22	0.12	1.03	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	288	85	139	777	6	2237	715
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4853	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4853	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	320	94	154	863	7	2486	794
RTOR Reduction (vph)	0	83	0	0	0	46	0
Lane Group Flow (vph)	320	11	154	863	7	3234	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	14.0	14.0	12.4	89.2	0.8	77.6	
Effective Green, g (s)	14.0	14.0	12.4	89.2	0.8	77.6	
Actuated g/C Ratio	0.12	0.12	0.10	0.74	0.01	0.65	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	401	185	181	3743	12	3138	
v/s Ratio Prot	c0.09		c0.09	0.17	0.00	c0.67	
v/s Ratio Perm		0.01					
v/c Ratio	0.80	0.06	0.85	0.23	0.58	1.03	
Uniform Delay, d1	51.6	47.1	52.9	4.8	59.4	21.2	
Progression Factor	1.00	1.00	0.57	3.37	0.96	0.75	
Incremental Delay, d2	9.9	0.0	28.6	0.1	26.0	21.5	
Delay (s)	61.5	47.2	58.7	16.2	82.9	37.3	
Level of Service	E	D	E	B	F	D	
Approach Delay (s)	58.3			22.6		37.4	
Approach LOS	E			C		D	

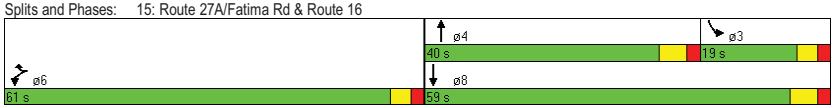
Intersection Summary				
HCM Average Control Delay	36.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	492	350	594	87	818
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	61.0	61.0	40.0	19.0	59.0
Total Split (%)	50.8%	50.8%	33.3%	15.8%	49.2%
Maximum Green (s)	56.0	56.0	34.0	14.0	53.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 56 (47%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	492	350	594	164	87	818
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		1570			763
Travel Time (s)	33.2		30.6			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	586	417	902	0	104	974
v/c Ratio	0.86	0.51	0.50		0.51	0.37
Control Delay	35.9	4.5	25.0		41.4	8.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.9	4.5	25.0		41.4	8.2
Queue Length 50th (ft)	416	68	58		74	101
Queue Length 95th (ft)	m454	m70	177		m94	135
Internal Link Dist (ft)	1623		1490			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	826	914	1819		204	2639
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.71	0.46	0.50		0.51	0.37

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	492	350	594	164	87	818
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4873		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4873		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	586	417	707	195	104	974
RTOR Reduction (vph)	0	203	37	0	0	0
Lane Group Flow (vph)	586	214	865	0	104	974
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	46.1	46.1	43.9		14.0	62.9
Effective Green, g (s)	46.1	46.1	43.9		14.0	62.9
Actuated g/C Ratio	0.38	0.38	0.37		0.12	0.52
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	680	608	1783		204	2640
v/s Ratio Prot	c0.33	0.14	c0.18		c0.06	0.19
v/s Ratio Perm						
v/c Ratio	0.86	0.35	0.49		0.51	0.37
Uniform Delay, d1	34.0	26.3	29.3		49.8	16.8
Progression Factor	0.70	0.45	0.83		0.68	0.43
Incremental Delay, d2	9.8	0.1	0.9		0.6	0.3
Delay (s)	33.6	11.9	25.3		34.5	7.6
Level of Service	C	B	C		C	A
Approach Delay (s)	24.6		25.3			10.2
Approach LOS	C		C			B

Intersection Summary

HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	161	476	190	1236	101	123	30	227	414
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	15.0	57.0	20.0	62.0	18.0	18.0	25.0	25.0	25.0
Total Split (%)	12.5%	47.5%	16.7%	51.7%	15.0%	15.0%	20.8%	20.8%	20.8%
Maximum Green (s)	10.0	51.0	15.0	56.0	13.0	13.0	20.0	20.0	20.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 84 (70%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	476	91	190	1236	6	101	123	84	30	227	414
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	623	0	209	1365	0	111	227	0	33	249	455
v/c Ratio	1.21	0.29		0.95	0.58		0.58	1.08		0.11	0.80	1.03
Control Delay	194.6	21.5		85.9	39.1		77.6	139.6		43.7	68.0	77.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	194.6	21.5		85.9	39.1		77.6	139.6		43.7	68.0	77.9
Queue Length 50th (ft)	~164	120		149	283		91	~184		22	188	~232
Queue Length 95th (ft)	m#285	172		#309	456		153	#354		53	#317	#440
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	146	2112		219	2348		192	210		295	311	441
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.21	0.29		0.95	0.58		0.58	1.08		0.11	0.80	1.03

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

16: Route 1 & Route 27A (St. Monica)

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	161	476	91	190	1236	6	101	123	84	30	227	414
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4915		1752	5032		1770	1750		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4915		1752	5032		1770	1750		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	177	523	100	209	1358	7	111	135	92	33	249	455
RTOR Reduction (vph)	0	24	0	0	1	0	0	21	0	0	0	177
Lane Group Flow (vph)	177	599	0	209	1364	0	111	206	0	33	249	278
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	10.0	51.0		15.0	56.0		13.0	13.0		20.0	20.0	20.0
Effective Green, g (s)	10.0	51.0		15.0	56.0		13.0	13.0		20.0	20.0	20.0
Actuated g/C Ratio	0.08	0.42		0.12	0.47		0.11	0.11		0.17	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	146	2089		219	2348		192	190		295	311	264
v/s Ratio Prot	c0.10	0.12		0.12	c0.27		0.06	c0.12		0.02	0.13	
v/s Ratio Perm												c0.18
v/c Ratio	1.21	0.29		0.95	0.58		0.58	1.09		0.11	0.80	1.05
Uniform Delay, d1	55.0	22.6		52.2	23.4		50.9	53.5		42.5	48.1	50.0
Progression Factor	1.21	1.00		0.73	1.62		1.29	1.34		1.00	1.00	1.00
Incremental Delay, d2	141.1	0.3		43.2	0.9		2.4	87.4		0.1	13.0	70.4
Delay (s)	207.9	22.9		81.1	38.8		67.9	158.9		42.5	61.1	120.4
Level of Service	F	C		F	D		E	F		D	E	F
Approach Delay (s)		63.9			44.4			129.0			96.9	
Approach LOS		E			D			F			F	

Intersection Summary				
HCM Average Control Delay	68.4	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	69.6%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

17: Route 27A & Route 28

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	64	33	150	18	27	10	53	170	13	14	200	110
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	73	38	170	20	31	11	60	193	15	16	227	125

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	73	208	63	60	208	243	125
Volume Left (vph)	73	0	20	60	0	16	0
Volume Right (vph)	0	170	11	0	15	0	125
Hadj (s)	0.53	-0.54	-0.01	0.53	-0.02	0.07	-0.67
Departure Headway (s)	6.8	5.7	6.6	6.6	6.0	6.0	5.2
Degree Utilization, x	0.14	0.33	0.11	0.11	0.35	0.40	0.18
Capacity (veh/h)	496	589	496	521	571	578	653
Control Delay (s)	9.7	10.3	10.4	9.2	10.9	11.8	8.2
Approach Delay (s)	10.1		10.4	10.5		10.5	
Approach LOS	B		B	B		B	

Intersection Summary				
Delay	10.4			
HCM Level of Service	B			
Intersection Capacity Utilization	48.7%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	74	571	610	1514	88	130	533	208	52
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.0	40.0	40.0	64.0	14.0	14.0	14.0	26.0	26.0
Total Split (%)	13.3%	33.3%	33.3%	53.3%	11.7%	11.7%	11.7%	21.7%	21.7%
Maximum Green (s)	11.0	34.0	35.0	58.0	8.0	8.0	8.0	21.0	21.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	571	54	610	1514	27	88	130	533	36	208	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	680	0	663	1675	0	96	141	579	0	265	57
v/c Ratio	0.60	0.46		1.30	0.63		0.81	1.14	0.80		0.88	0.21
Control Delay	87.3	34.5		175.3	38.6		99.6	172.2	13.7		78.2	30.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.3	34.5		175.3	38.6		99.6	172.2	13.7		78.2	30.0
Queue Length 50th (ft)	47	198		~664	492		75	~127	0		200	23
Queue Length 95th (ft)	m100	m237		m#890	550		#172	#259	60		#337	62
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	161	1479		511	2660		118	124	723		324	292
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.50	0.46		1.30	0.63		0.81	1.14	0.80		0.82	0.20

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	571	54	610	1514	27	88	130	533	36	208	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4964		1752	5023		1770	1863	2745		1849	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4964		1752	5023		1770	1863	2745		1849	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	621	59	663	1646	29	96	141	579	39	226	57
RTOR Reduction (vph)	0	9	0	0	1	0	0	0	540	0	0	19
Lane Group Flow (vph)	80	671	0	663	1674	0	96	141	39	0	265	38
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.0	35.5		35.0	62.5		8.0	8.0	8.0		19.5	19.5
Effective Green, g (s)	8.0	35.5		35.0	62.5		8.0	8.0	8.0		19.5	19.5
Actuated g/C Ratio	0.07	0.30		0.29	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	117	1469		511	2616		118	124	183		300	254
v/s Ratio Prot	0.05	0.14		c0.38	c0.33		0.05	c0.08			c0.14	
v/s Ratio Perm									0.01			0.02
v/c Ratio	0.68	0.46		1.30	0.64		0.81	1.14	0.21		0.88	0.15
Uniform Delay, d1	54.8	34.4		42.5	20.7		55.3	56.0	53.0		49.1	43.1
Progression Factor	1.31	0.98		0.82	1.78		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	11.7	1.0		143.9	0.9		31.8	122.4	0.2		24.3	0.1
Delay (s)	83.2	34.6		178.8	37.5		87.0	178.4	53.2		73.5	43.2
Level of Service	F	C		F	D		F	F	D		E	D
Approach Delay (s)		39.8			77.6			78.8			68.1	
Approach LOS		D			E			E			E	

Intersection Summary				
HCM Average Control Delay	70.3	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	94.2%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1	829	464	1778	446	272
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	10.0	42.0	53.0	85.0	25.0	25.0
Total Split (%)	8.3%	35.0%	44.2%	70.8%	20.8%	20.8%
Maximum Green (s)	5.0	36.0	47.0	79.0	19.0	19.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	1	829	257	464	1778	446	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1	1155	0	494	1891	474	289
v/c Ratio	0.01	0.76		0.72	0.51	0.90	0.59
Control Delay	59.0	30.4		18.5	2.2	70.4	10.5
Queue Delay	0.0	0.0		0.0	0.0	315.8	0.0
Total Delay	59.0	30.4		18.5	2.2	386.2	10.5
Queue Length 50th (ft)	0	306		251	53	187	0
Queue Length 95th (ft)	m5	364		m291	m68	#275	80
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	75	1525		686	3673	544	494
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	266	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.01	0.76		0.72	0.51	1.71	0.59

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	1	829	257	464	1778	446	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4857		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4857		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1	882	273	494	1891	474	289
RTOR Reduction (vph)	0	48	0	0	0	0	244
Lane Group Flow (vph)	1	1107	0	494	1891	474	45
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	32.5		51.0	83.5	18.5	18.5
Effective Green, g (s)	1.0	32.5		51.0	83.5	18.5	18.5
Actuated g/C Ratio	0.01	0.27		0.42	0.70	0.15	0.15
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1315		745	3504	529	244
v/s Ratio Prot	0.00	c0.23		c0.28	0.38	c0.14	
v/s Ratio Perm							0.03
v/c Ratio	0.07	0.84		0.66	0.54	0.90	0.18
Uniform Delay, d1	59.0	41.3		27.6	8.9	49.8	44.2
Progression Factor	1.05	0.75		0.51	0.27	1.00	1.00
Incremental Delay, d2	0.7	6.6		0.6	0.2	17.2	0.1
Delay (s)	62.9	37.5		14.7	2.6	67.0	44.3
Level of Service	E	D		B	A	E	D
Approach Delay (s)		37.6			5.1	58.4	
Approach LOS		D			A	E	

Intersection Summary

HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	158	838	20	1854	50	5	30	349
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	68.0	12.0	60.0	15.0	15.0	25.0	25.0
Total Split (%)	16.7%	56.7%	10.0%	50.0%	12.5%	12.5%	20.8%	20.8%
Maximum Green (s)	15.0	62.0	7.0	54.0	10.0	10.0	20.0	20.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	158	838	0	20	1854	105	47	50	5	163	30	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	882	0	21	2063	0	0	102	5	0	204	367
v/c Ratio	0.88	0.33		0.24	0.96			0.78	0.04		0.85	0.92
Control Delay	97.4	3.1		70.3	32.8			89.8	31.0		78.6	48.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	97.4	3.1		70.3	32.8			89.8	31.0		78.6	48.7
Queue Length 50th (ft)	135	27		17	~558			79	0		153	118
Queue Length 95th (ft)	m#212	30		m29	#699			#170	13		#267	#295
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2705		92	2143			137	123		268	420
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.84	0.33		0.23	0.96			0.74	0.04		0.76	0.87

Intersection Summary

Area Type: CBD
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	158	838	0	20	1854	105	47	50	5	163	30	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4496			1637	1425		1609	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4496			1637	1425		1609	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	166	882	0	21	1952	111	49	53	5	172	32	367
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	5	0	0	186
Lane Group Flow (vph)	166	882	0	21	2058	0	0	102	0	0	204	181
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	14.4	68.6		2.8	57.0			9.6	9.6		18.0	18.0
Effective Green, g (s)	14.4	68.6		2.8	57.0			9.6	9.6		18.0	18.0
Actuated g/C Ratio	0.12	0.57		0.02	0.48			0.08	0.08		0.15	0.15
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	189	2591		37	2136			131	114		241	214
v/s Ratio Prot	c0.11	0.19		0.01	c0.46			c0.06			0.13	
v/s Ratio Perm									0.00			c0.13
v/c Ratio	0.88	0.34		0.57	0.96			0.78	0.00		0.85	0.85
Uniform Delay, d1	51.9	13.7		58.0	30.5			54.2	50.8		49.7	49.6
Progression Factor	1.30	0.21		1.19	0.65			1.00	1.00		1.00	1.00
Incremental Delay, d2	24.8	0.2		9.9	11.4			22.8	0.0		22.2	24.2
Delay (s)	92.6	3.2		78.7	31.3			77.0	50.8		71.8	73.9
Level of Service	F	A		E	C			E	D		E	E
Approach Delay (s)		17.3			31.8			75.7			73.2	
Approach LOS		B			C			E			E	

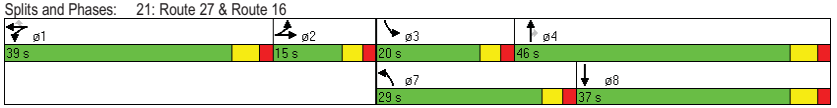
Intersection Summary				
HCM Average Control Delay	35.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	86.4%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	66	176	772	290	223	248	647	479	115	1012
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	15.0	15.0	39.0	39.0	39.0	29.0	46.0	46.0	20.0	37.0
Total Split (%)	12.5%	12.5%	32.5%	32.5%	32.5%	24.2%	38.3%	38.3%	16.7%	30.8%
Maximum Green (s)	10.0	10.0	33.0	33.0	33.0	24.0	40.0	40.0	15.0	31.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 118 (98%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	176	209	772	290	223	248	647	479	115	1012	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		453			1135			862			1421	
Travel Time (s)		10.3			25.8			16.8			27.7	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	442	0	887	333	256	285	744	551	132	1214	0
v/c Ratio	0.51	0.98		0.94	0.65	0.41	0.89	0.60	0.60	0.73	0.88	
Control Delay	65.6	68.5		60.8	45.4	6.2	76.4	34.7	5.6	77.1	44.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.6	68.5		60.8	45.4	6.2	76.4	34.7	5.6	77.1	44.2	
Queue Length 50th (ft)	57	103		346	228	0	213	250	0	108	328	
Queue Length 95th (ft)	106	#197		#442	316	55	#330	308	62	165	#400	
Internal Link Dist (ft)		373			1055			782			1341	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	148	451		944	512	621	350	1242	911	219	1381	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.51	0.98		0.94	0.65	0.41	0.81	0.60	0.60	0.60	0.88	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	176	209	772	290	223	248	647	479	115	1012	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3251		3433	1863	1583	1752	3505	1568	1752	5004	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3251		3433	1863	1583	1752	3505	1568	1752	5004	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	76	202	240	887	333	256	285	744	551	132	1163	51
RTOR Reduction (vph)	0	180	0	0	0	186	0	0	356	0	4	0
Lane Group Flow (vph)	76	262	0	887	333	70	285	744	195	132	1210	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	10.0	10.0		33.0	33.0	33.0	22.0	42.5	42.5	12.5	33.0	
Effective Green, g (s)	10.0	10.0		33.0	33.0	33.0	22.0	42.5	42.5	12.5	33.0	
Actuated g/C Ratio	0.08	0.08		0.28	0.28	0.28	0.18	0.35	0.35	0.10	0.28	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	148	271		944	512	435	321	1241	555	183	1376	
v/s Ratio Prot	0.04	c0.08		c0.26	0.18		c0.16	0.21		0.08	c0.24	
v/s Ratio Perm						0.04			0.12			
v/c Ratio	0.51	0.97		0.94	0.65	0.16	0.89	0.60	0.35	0.72	0.88	
Uniform Delay, d1	52.7	54.8		42.5	38.4	33.0	47.8	31.8	28.6	52.1	41.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.07	0.85	
Incremental Delay, d2	1.3	45.1		16.2	2.3	0.1	23.7	2.1	1.7	11.0	8.1	
Delay (s)	53.9	100.0		58.8	40.7	33.1	71.5	33.9	30.3	66.8	43.5	
Level of Service	D	F		E	D	C	E	C	C	E	D	
Approach Delay (s)		93.2			50.2			39.4			45.8	
Approach LOS		F			D			D			D	

Intersection Summary				
HCM Average Control Delay	50.1	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	86.2%	ICU Level of Service	E	
Analysis Period (min)	15			

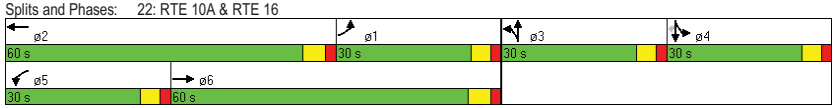
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	230	130	117	326	637	434	62	14	586
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	15.5	15.5	15.5	15.5
Total Split (s)	30.0	60.0	0.0	30.0	60.0	30.0	30.0	30.0	30.0
Total Split (%)	20.0%	40.0%	0.0%	20.0%	40.0%	20.0%	20.0%	20.0%	20.0%
Maximum Green (s)	24.5	54.0		24.5	54.0	24.5	24.5	24.5	24.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Minimum Gap (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		5			5	5	5	5	5

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 131.5
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	130	117	326	637	79	434	62	100	36	14	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		450	350		0	0		0	0		0
Storage Lanes	2		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		746			728			868			1242	
Travel Time (s)		14.5			14.2			16.9			24.2	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							30%					
Lane Group Flow (vph)	284	160	144	402	884	0	375	361	0	0	61	723
v/c Ratio	0.65	0.18	0.09	1.21	0.80		1.18	1.12			0.18	1.33
Control Delay	63.0	37.3	0.1	162.9	46.7		153.4	131.6			50.0	184.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	63.0	37.3	0.1	162.9	46.7		153.4	131.6			50.0	184.1
Queue Length 50th (ft)	118	55	0	~408	351		~398	~357			43	~573
Queue Length 95th (ft)	167	77	0	#652	415		#615	#570			89	#773
Internal Link Dist (ft)		666			648			788			1162	
Turn Bay Length (ft)			450	350								
Base Capacity (vph)	646	1468	1583	333	1449		319	323			341	545
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.44	0.11	0.09	1.21	0.61		1.18	1.12			0.18	1.33

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	130	117	326	637	79	434	62	100	36	14	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.95			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98			0.97	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3480		1665	1627			1780	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98			0.97	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3480		1665	1627			1780	1568
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	284	160	144	402	786	98	536	77	123	44	17	723
RTOR Reduction (vph)	0	0	0	0	7	0	0	12	0	0	0	244
Lane Group Flow (vph)	284	160	144	402	877	0	375	349	0	0	61	479
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	16.8	33.8	131.4	24.7	41.7		25.2	25.2			25.2	25.2
Effective Green, g (s)	16.8	33.8	131.4	24.7	41.7		25.2	25.2			25.2	25.2
Actuated g/C Ratio	0.13	0.26	1.00	0.19	0.32		0.19	0.19			0.19	0.19
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	3.5	4.0		3.5	4.0		3.5	3.5			3.5	3.5
Lane Grp Cap (vph)	439	910	1583	333	1104		319	312			341	301
v/s Ratio Prot	c0.08	0.05		c0.23	c0.25		c0.23	0.21			0.03	
v/s Ratio Perm			0.09									c0.31
v/c Ratio	0.65	0.18	0.09	1.21	0.79		1.18	1.12			0.18	1.59
Uniform Delay, d1	54.5	38.0	0.0	53.4	40.9		53.1	53.1			44.4	53.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.4	0.1	0.1	118.1	4.3		106.9	86.7			0.3	281.2
Delay (s)	57.9	38.1	0.1	171.5	45.2		160.0	139.8			44.7	334.3
Level of Service	E	D	A	F	D		F	F			D	F
Approach Delay (s)		38.4			84.7			150.1			311.8	
Approach LOS		D			F			F			F	

Intersection Summary				
HCM Average Control Delay	143.3	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.11			
Actuated Cycle Length (s)	131.4	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	87.3%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	43	1	142	1	1	30	440	368	2	8	303	420
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	49	1	161	1	1	34	500	418	2	9	344	477
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1815	1783	344	1862	2258	418	822			420		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1815	1783	344	1862	2258	418	822			420		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	96	77	95	93	95	38			99		
cM capacity (veh/h)	27	31	698	21	16	635	808			1139		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	211	36	918	2	353	477
Volume Left	49	1	500	0	9	0
Volume Right	161	34	0	2	0	477
cSH	112	201	808	1700	1139	1700
Volume to Capacity	1.88	0.18	0.62	0.00	0.01	0.28
Queue Length 95th (ft)	426	16	109	0	1	0
Control Delay (s)	494.4	26.8	15.1	0.0	0.3	0.0
Lane LOS	F	D	C		A	
Approach Delay (s)	494.4	26.8	15.0		0.1	
Approach LOS	F	D				

Intersection Summary				
Average Delay	59.7			
Intersection Capacity Utilization	83.1%	ICU Level of Service	E	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	114	1	323	1	2	1	206	262	1	11	385	197
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	133	1	376	1	2	1	240	305	1	13	448	229
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1259	1258	448	1258	1257	305	448			306		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1259	1258	448	1258	1257	305	448			306		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	99	39	98	98	100	78			99		
cM capacity (veh/h)	120	132	611	47	133	735	1107			1249		

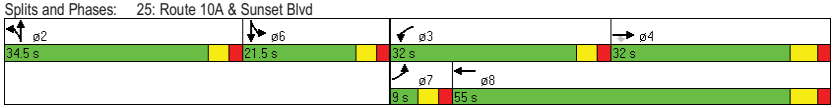
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	133	377	5	240	305	1	13	448	229
Volume Left	133	0	1	240	0	0	13	0	0
Volume Right	0	376	1	0	0	1	0	0	229
cSH	120	613	106	1107	1700	1700	1249	1700	1700
Volume to Capacity	1.10	0.61	0.04	0.22	0.18	0.00	0.01	0.26	0.13
Queue Length 95th (ft)	197	105	3	21	0	0	1	0	0
Control Delay (s)	182.3	19.9	40.6	9.1	0.0	0.0	7.9	0.0	0.0
Lane LOS	F	C	E	A			A		
Approach Delay (s)	62.1		40.6	4.0			0.1		
Approach LOS	F		E						

Intersection Summary					
Average Delay		19.5			
Intersection Capacity Utilization		54.7%	ICU Level of Service		A
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	3	287	3	345	1110	286	1	12
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	32.0	32.0	32.0	55.0	34.5	34.5	21.5
Total Split (%)	7.5%	26.7%	26.7%	26.7%	45.8%	28.8%	28.8%	17.9%
Maximum Green (s)	4.0	26.0	26.0	27.0	49.0	29.5	29.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 102.3
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	287	3	345	1110	26	286	1	107	3	12	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	420		0	0		90	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		735			892			650			525	
Travel Time (s)		16.7			20.3			14.8			11.9	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	346	4	416	1368	0	345	130	0	0	29	0
v/c Ratio	0.06	0.84	0.01	0.88	0.74		0.67	0.24			0.26	
Control Delay	53.3	57.8	21.0	59.4	23.8		41.5	6.9			41.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	53.3	57.8	21.0	59.4	23.8		41.5	6.9			41.1	
Queue Length 50th (ft)	3	228	0	287	367		219	1			12	
Queue Length 95th (ft)	14	311	8	#433	492		301	38			38	
Internal Link Dist (ft)		655			812			570			445	
Turn Bay Length (ft)	180		180	420								
Base Capacity (vph)	70	478	409	472	1847		515	553			295	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.06	0.72	0.01	0.88	0.74		0.67	0.24			0.10	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	287	3	345	1110	26	286	1	107	3	12	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1583	1770	3527		1770	1585			1755	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1583	1770	3527		1770	1585			1755	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	4	346	4	416	1337	31	345	1	129	4	14	11
RTOR Reduction (vph)	0	0	3	0	1	0	0	94	0	0	11	0
Lane Group Flow (vph)	4	346	1	416	1367	0	345	36	0	0	18	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.7	26.6	26.6	27.3	53.2		29.8	29.8			3.7	
Effective Green, g (s)	0.7	26.6	26.6	27.3	53.2		29.8	29.8			3.7	
Actuated g/C Ratio	0.01	0.25	0.25	0.25	0.49		0.27	0.27			0.03	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	11	457	388	446	1731		487	436			60	
v/s Ratio Prot	0.00	0.19		c0.24	c0.39		c0.19	0.02			c0.01	
v/s Ratio Perm			0.00									
v/c Ratio	0.36	0.76	0.00	0.93	0.79		0.71	0.08			0.31	
Uniform Delay, d1	53.6	37.9	30.9	39.7	22.9		35.4	29.2			51.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	7.3	6.3	0.0	26.2	2.3		8.4	0.4			1.1	
Delay (s)	60.9	44.2	30.9	65.9	25.2		43.8	29.5			52.2	
Level of Service	E	D	C	E	C		D	C			D	
Approach Delay (s)		44.2			34.7			39.9			52.2	
Approach LOS		D			C			D			D	

Intersection Summary					
HCM Average Control Delay	37.1	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.76				
Actuated Cycle Length (s)	108.4	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	70.7%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	201	925	121	1588	123	34	79	336	24	148
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	39.0	12.0	33.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	25.0	67.0	17.0	59.0	15.0	15.0	15.0	21.0	21.0	21.0
Total Split (%)	20.8%	55.8%	14.2%	49.2%	12.5%	12.5%	12.5%	17.5%	17.5%	17.5%
Maximum Green (s)	20.0	61.0	12.0	53.0	10.0	10.0	10.0	16.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 52 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	201	925	252	121	1588	343	123	34	79	336	24	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	150		150	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3056			1520			676			669	
Travel Time (s)		59.5			29.6			18.4			18.2	
Confl. Peds. (#/hr)						1			160			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							37%			47%		
Lane Group Flow (vph)	218	1279	0	132	2099	0	84	87	86	193	198	161
v/c Ratio	0.84	0.49		0.80	0.90		0.67	0.68	0.49	0.89	0.91	0.47
Control Delay	72.9	7.4		96.2	30.8		79.1	79.5	20.9	90.2	92.6	11.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	7.4		96.2	30.8		79.1	79.5	20.9	90.2	92.6	11.9
Queue Length 50th (ft)	177	74		102	620		67	69	0	155	161	0
Queue Length 95th (ft)	m204	m91		#207	#700		#135	#140	51	#294	#305	63
Internal Link Dist (ft)		2976			1440			596			589	
Turn Bay Length (ft)	630			350			150		150	360		250
Base Capacity (vph)	292	2612		175	2337		140	143	185	224	226	351
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.49		0.75	0.90		0.60	0.61	0.46	0.86	0.88	0.46

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	201	925	252	121	1588	343	123	34	79	336	24	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.81	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4874		1752	4890		1681	1720	1276	1681	1696	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4874		1752	4890		1681	1720	1276	1681	1696	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	1005	274	132	1726	373	134	37	86	365	26	161
RTOR Reduction (vph)	0	39	0	0	27	0	0	0	80	0	0	140
Lane Group Flow (vph)	218	1240	0	132	2072	0	84	87	6	193	198	21
Confl. Peds. (#/hr)						1			160			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	17.9	63.2		11.3	56.6		9.0	9.0	9.0	15.5	15.5	15.5
Effective Green, g (s)	17.9	63.2		11.3	56.6		9.0	9.0	9.0	15.5	15.5	15.5
Actuated g/C Ratio	0.15	0.53		0.09	0.47		0.08	0.08	0.08	0.13	0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	261	2567		165	2306		126	129	96	217	219	204
v/s Ratio Prot	c0.12	0.25		0.08	c0.42		0.05	c0.05		0.11	c0.12	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.84	0.48		0.80	0.90		0.67	0.67	0.07	0.89	0.90	0.10
Uniform Delay, d1	49.6	18.0		53.2	29.1		54.0	54.1	51.6	51.4	51.5	46.1
Progression Factor	1.23	0.41		1.22	0.84		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.0	0.3		21.5	5.8		9.9	10.4	0.1	31.9	35.1	0.1
Delay (s)	69.8	7.7		86.6	30.4		63.9	64.5	51.7	83.3	86.6	46.2
Level of Service	E	A		F	C		E	E	D	F	F	D
Approach Delay (s)		16.8			33.7			60.0			73.6	
Approach LOS		B			C			E			E	

Intersection Summary				
HCM Average Control Delay	34.5	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	88.6%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	827	489	19	1079	294	1434
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	35.0	35.0	9.0	33.0	12.0	22.0
Total Split (s)	44.0	44.0	11.0	44.0	32.0	65.0
Total Split (%)	36.7%	36.7%	9.2%	36.7%	26.7%	54.2%
Maximum Green (s)	39.0	39.0	6.0	38.0	27.0	59.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		5		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 113 (94%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	827	489	19	1079	457	294	1434
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	2507			1896			3056
Travel Time (s)	48.8			36.9			59.5
Confl. Peds. (#/hr)					11		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	929	549	21	1725	0	330	1611
v/c Ratio	0.89	0.72	0.26	0.99		0.90	0.56
Control Delay	51.2	15.2	65.1	47.7		78.0	3.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	51.2	15.2	65.1	47.7		78.0	3.9
Queue Length 50th (ft)	345	92	17	~323		222	52
Queue Length 95th (ft)	418	219	m38	m#583		m256	69
Internal Link Dist (ft)	2427			1816			2976
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	1116	787	90	1742		394	2859
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.83	0.70	0.23	0.99		0.84	0.56

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	827	489	19	1079	457	294	1434
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	0.96		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4747		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4747		1752	5036
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	929	549	21	1212	513	330	1611
RTOR Reduction (vph)	0	280	0	60	0	0	0
Lane Group Flow (vph)	929	269	21	1665	0	330	1611
Confl. Peds. (#/hr)					11		
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	36.5	36.5	2.4	42.5		25.0	65.1
Effective Green, g (s)	36.5	36.5	2.4	42.5		25.0	65.1
Actuated g/C Ratio	0.30	0.30	0.02	0.35		0.21	0.54
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1044	481	36	1681		365	2732
v/s Ratio Prot	c0.27		0.01	c0.35		c0.19	0.32
v/s Ratio Perm		0.17					
v/c Ratio	0.89	0.56	0.58	0.99		0.90	0.59
Uniform Delay, d1	39.8	35.0	58.3	38.5		46.3	18.5
Progression Factor	1.00	1.00	1.06	0.76		1.33	0.19
Incremental Delay, d2	9.2	0.8	12.8	18.3		14.5	0.5
Delay (s)	49.0	35.8	74.4	47.7		76.1	4.1
Level of Service	D	D	E	D		E	A
Approach Delay (s)	44.1			48.0			16.3
Approach LOS	D			D			B

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	212	1349	2	1830	281	199
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	20.0	20.0
Total Split (s)	26.0	80.0	14.0	68.0	26.0	26.0
Total Split (%)	21.7%	66.7%	11.7%	56.7%	21.7%	21.7%
Maximum Green (s)	21.0	74.0	9.0	62.0	21.0	21.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 14 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	212	1349	2	1830	212	281	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2658		1896		2759	
Travel Time (s)		51.8		36.9		75.2	
Confl. Peds. (#/hr)					4		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	233	1482	2	2244	0	309	219
v/c Ratio	0.85	0.41	0.02	0.85		1.00	0.57
Control Delay	56.1	7.6	46.5	23.4		100.2	25.3
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	56.1	7.6	46.5	23.4		100.2	25.3
Queue Length 50th (ft)	135	53	2	299		242	62
Queue Length 95th (ft)	m205	352	m2	268		#427	145
Internal Link Dist (ft)		2578		1816		2679	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	307	3576	135	2653		310	383
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.76	0.41	0.01	0.85		1.00	0.57

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

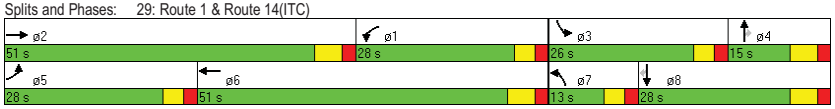
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	212	1349	2	1830	212	281	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4941		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4941		1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	233	1482	2	2011	233	309	219
RTOR Reduction (vph)	0	0	0	12	0	0	106
Lane Group Flow (vph)	233	1482	2	2232	0	309	113
Confl. Peds. (#/hr)					4		
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	18.8	81.2	1.8	64.2		21.0	21.0
Effective Green, g (s)	18.8	81.2	1.8	64.2		21.0	21.0
Actuated g/C Ratio	0.16	0.68	0.02	0.54		0.18	0.18
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	274	3408	27	2643		310	277
v/s Ratio Prot	c0.13	0.29	0.00	c0.45		c0.17	0.07
v/s Ratio Perm							
v/c Ratio	0.85	0.43	0.07	0.84		1.00	0.41
Uniform Delay, d1	49.2	8.9	58.3	23.7		49.5	44.0
Progression Factor	0.78	0.95	0.87	0.86		1.00	1.00
Incremental Delay, d2	13.6	0.2	0.3	2.7		49.9	0.4
Delay (s)	52.0	8.7	50.9	22.9		99.3	44.3
Level of Service	D	A	D	C		F	D
Approach Delay (s)		14.6		22.9		76.5	
Approach LOS		B		C		E	

Intersection Summary				
HCM Average Control Delay	26.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	307	1088	198	1327	55	125	82	408	84	320
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	15.0	15.0	12.0	18.0	18.0
Total Split (s)	28.0	51.0	28.0	51.0	13.0	15.0	15.0	26.0	28.0	28.0
Total Split (%)	23.3%	42.5%	23.3%	42.5%	10.8%	12.5%	12.5%	21.7%	23.3%	23.3%
Maximum Green (s)	23.0	45.0	23.0	45.0	8.0	9.0	9.0	21.0	22.0	22.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 50 (42%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	307	1088	149	198	1327	470	55	125	82	408	84	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		2690			2658			634			1131	
Travel Time (s)		52.4			51.8			14.4			25.7	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	370	1491	0	239	2165	0	66	151	99	492	101	386
v/c Ratio	1.10	0.79		0.68	1.12		0.35	0.61	0.49	0.87	0.28	0.62
Control Delay	112.9	34.5		33.3	77.2		59.4	65.1	19.0	65.2	44.1	9.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.9	34.5		33.3	77.2		59.4	65.1	19.0	65.2	44.1	9.1
Queue Length 50th (ft)	~336	436		172	~715		25	60	0	191	67	0
Queue Length 95th (ft)	#442	0		m195	#684		45	88	44	229	111	55
Internal Link Dist (ft)		2610			2578			554			1051	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	336	1892		354	1939		229	265	209	601	366	621
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.10	0.79		0.68	1.12		0.29	0.57	0.47	0.82	0.28	0.62

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	307	1088	149	198	1327	470	55	125	82	408	84	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4945		1752	4838		3433	3539	1562	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4945		1752	4838		3433	3539	1562	3433	1863	1583
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	370	1311	180	239	1599	566	66	151	99	492	101	386
RTOR Reduction (vph)	0	15	0	0	53	0	0	0	91	0	0	310
Lane Group Flow (vph)	370	1476	0	239	2112	0	66	151	8	492	101	76
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	23.0	44.6		24.2	45.8		5.6	9.4	9.4	19.8	23.6	23.6
Effective Green, g (s)	23.0	44.6		24.2	45.8		5.6	9.4	9.4	19.8	23.6	23.6
Actuated g/C Ratio	0.19	0.37		0.20	0.38		0.05	0.08	0.08	0.17	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	336	1838		353	1847		160	277	122	566	366	311
v/s Ratio Prot	c0.21	0.30		0.14	c0.44		0.02	c0.04		c0.14	0.05	
v/s Ratio Perm									0.00			0.05
v/c Ratio	1.10	0.80		0.68	1.14		0.41	0.55	0.06	0.87	0.28	0.24
Uniform Delay, d1	48.5	33.8		44.3	37.1		55.6	53.2	51.2	48.8	40.9	40.7
Progression Factor	0.79	0.96		0.58	0.48		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	75.3	3.2		2.5	69.2		0.6	1.2	0.1	13.0	0.1	0.1
Delay (s)	113.8	35.8		28.4	86.9		56.2	54.4	51.3	61.8	41.1	40.8
Level of Service	F	D		C	F		E	D	D	E	D	D
Approach Delay (s)		51.3			81.1			53.8			51.4	
Approach LOS		D			F			D			D	

Intersection Summary

HCM Average Control Delay	64.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	398	1461	45	1567	37	102	10	457
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	20.0	12.0	12.0	12.0
Total Split (s)	38.0	73.0	15.0	50.0	17.0	15.0	15.0	15.0
Total Split (%)	31.7%	60.8%	12.5%	41.7%	14.2%	12.5%	12.5%	12.5%
Maximum Green (s)	33.0	67.0	10.0	44.0	12.0	10.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	10	10	10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 15 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	398	1461	17	45	1567	66	26	37	14	102	10	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2690			238			2279	
Travel Time (s)		25.0			52.4			6.5			62.2	
Confl. Peds. (#/hr)												24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										45%		
Lane Group Flow (vph)	468	1739	0	53	1922	0	0	91	0	66	66	538
v/c Ratio	0.97	0.56		0.47	0.99			0.61		0.47	0.46	0.97
Control Delay	67.2	22.9		65.1	24.1			66.4		64.2	63.7	40.7
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	67.2	22.9		65.1	24.1			66.4		64.2	63.7	40.7
Queue Length 50th (ft)	390	345		43	454			64		52	52	52
Queue Length 95th (ft)	#536	397		m46	m406			110		96	96	#220
Internal Link Dist (ft)		1204			2610			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	482	3087		146	1949			185		140	142	555
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	0.97	0.56		0.36	0.99			0.49		0.47	0.46	0.97

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	398	1461	17	45	1567	66	26	37	14	102	10	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	0.96	1.00
Satd. Flow (prot)	1752	5027		1752	5005			1788		1681	1700	1503
Flt Permitted	0.95	1.00		0.95	1.00			0.98		0.95	0.96	1.00
Satd. Flow (perm)	1752	5027		1752	5005			1788		1681	1700	1503
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	468	1719	20	53	1844	78	31	44	16	120	12	538
RTOR Reduction (vph)	0	1	0	0	4	0	0	6	0	0	0	430
Lane Group Flow (vph)	468	1738	0	53	1918	0	0	85	0	66	66	108
Confl. Peds. (#/hr)												24
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	32.9	72.7		6.8	46.6			9.5		10.0	10.0	10.0
Effective Green, g (s)	32.9	72.7		6.8	46.6			9.5		10.0	10.0	10.0
Actuated g/C Ratio	0.27	0.61		0.06	0.39			0.08		0.08	0.08	0.08
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	480	3046		99	1944			142		140	142	125
v/s Ratio Prot	c0.27	0.35		0.03	c0.38			c0.05		0.04	0.04	
v/s Ratio Perm												c0.07
v/c Ratio	0.97	0.57		0.54	0.99			0.60		0.47	0.46	0.86
Uniform Delay, d1	43.1	14.2		55.1	36.4			53.4		52.5	52.4	54.3
Progression Factor	0.90	1.51		1.15	0.40			1.00		1.00	1.00	1.00
Incremental Delay, d2	26.4	0.5		0.6	7.2			4.4		0.9	0.9	41.1
Delay (s)	65.4	22.0		64.2	21.8			57.8		53.4	53.3	95.4
Level of Service	E	C		E	C			E		D	D	F
Approach Delay (s)		31.2			23.0			57.8			87.1	
Approach LOS		C			C			E			F	

Intersection Summary					
HCM Average Control Delay	36.0	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.93				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0	
Intersection Capacity Utilization	80.4%	ICU Level of Service		D	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	5	884	93	1236	30	236	7	144	3	1
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	10.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	13.0	64.0	15.0	66.0	66.0	20.0	20.0	20.0	21.0	21.0
Total Split (%)	10.8%	53.3%	12.5%	55.0%	55.0%	16.7%	16.7%	16.7%	17.5%	17.5%
Maximum Green (s)	8.0	58.0	10.0	60.0	60.0	15.0	15.0	15.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		17.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 91 (76%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 6 (Easterly Adelup) &

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	884	336	93	1236	30	236	7	144	5	3	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		722			5590			835			321	
Travel Time (s)		14.1			108.9			19.0			10.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							49%					
Lane Group Flow (vph)	5	1312	0	100	1329	32	130	132	155	0	8	1
v/c Ratio	0.07	0.40		0.74	0.49	0.03	0.73	0.74	0.51		0.10	0.01
Control Delay	56.8	9.5		90.5	10.9	1.7	75.3	75.9	13.6		57.4	42.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	56.8	9.5		90.5	10.9	1.7	75.3	75.9	13.6		57.4	42.0
Queue Length 50th (ft)	4	139		74	456	0	103	105	0		6	0
Queue Length 95th (ft)	18	228		#150	564	12	173	#176	62		23	6
Internal Link Dist (ft)		642			5510			755			241	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	117	3248		146	2685	1208	210	211	334		241	212
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.04	0.40		0.68	0.49	0.03	0.62	0.63	0.46		0.03	0.00

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	884	336	93	1236	30	236	7	144	5	3	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)	1752	4828		1752	3505	1568	1681	1690	1583		1806	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)	1752	4828		1752	3505	1568	1681	1690	1583		1806	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	5	951	361	100	1329	32	254	8	155	5	3	1
RTOR Reduction (vph)	0	41	0	0	0	9	0	0	139	0	0	1
Lane Group Flow (vph)	5	1271	0	100	1329	23	130	132	16	0	8	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	1.2	75.8		9.3	83.9	83.9	12.6	12.6	12.6		1.3	1.3
Effective Green, g (s)	1.2	75.8		9.3	83.9	83.9	12.6	12.6	12.6		1.3	1.3
Actuated g/C Ratio	0.01	0.63		0.08	0.70	0.70	0.10	0.10	0.10		0.01	0.01
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	18	3050		136	2451	1096	177	177	166		20	17
v/s Ratio Prot	0.00	0.26		c0.06	c0.38		0.08	c0.08			c0.00	
v/s Ratio Perm						0.01			0.01			0.00
v/c Ratio	0.28	0.42		0.74	0.54	0.02	0.73	0.75	0.10		0.40	0.00
Uniform Delay, d1	59.0	11.0		54.1	8.7	5.5	52.1	52.1	48.6		59.0	58.7
Progression Factor	1.00	1.00		1.13	1.47	0.58	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.0	0.4		15.9	0.9	0.0	12.7	13.8	0.1		4.7	0.0
Delay (s)	62.0	11.5		77.3	13.7	3.2	64.8	66.0	48.7		63.7	58.7
Level of Service	E	B		E	B	A	E	E	D		E	E
Approach Delay (s)		11.7			17.8			59.2			63.1	
Approach LOS		B			B			E			E	

Intersection Summary

HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	954	1725	360	694	410
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	80.0	80.0	40.0	40.0	40.0
Total Split (%)	66.7%	66.7%	33.3%	33.3%	33.3%
Maximum Green (s)	74.0	74.0	34.0	34.0	34.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	14.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 32: Route 1 & RTE 4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	954	48	0	1725	7	0	360	694	0	410	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			489			921			385	
Travel Time (s)		7.7			9.5			17.9			7.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1078	0	0	1863	0	0	760	373	0	441	0
v/c Ratio		0.33			0.57			0.86	0.82		0.49	
Control Delay		18.5			17.6			16.9	18.6		41.7	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		18.5			17.6			16.9	18.6		41.7	
Queue Length 50th (ft)		294			390			47	25		169	
Queue Length 95th (ft)		358			536			m67	m48		235	
Internal Link Dist (ft)		313			409			841			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3244			3260			976	495		1003	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.33			0.57			0.78	0.75		0.44	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	954	48	0	1725	7	0	360	694	0	410	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		4999			5033			3141	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		4999			5033			3141	1441		3539	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1026	52	0	1855	8	0	387	746	0	441	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	90	90	0	0	0
Lane Group Flow (vph)	0	1074	0	0	1863	0	0	670	283	0	441	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		77.7			77.7			30.3	30.3		30.3	
Effective Green, g (s)		77.7			77.7			30.3	30.3		30.3	
Actuated g/C Ratio		0.65			0.65			0.25	0.25		0.25	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3237			3259			793	364		894	
v/s Ratio Prot		0.21			c0.37			c0.21			0.12	
v/s Ratio Perm									0.20			
v/c Ratio		0.33			0.57			0.84	0.78		0.49	
Uniform Delay, d1		9.5			11.8			42.6	41.7		38.3	
Progression Factor		1.86			1.37			0.22	0.19		1.06	
Incremental Delay, d2		0.2			0.6			6.6	7.7		0.1	
Delay (s)		17.9			16.8			15.9	15.4		40.6	
Level of Service		B			B			B	B		D	
Approach Delay (s)		17.9			16.8			15.8			40.6	
Approach LOS		B			B			B			D	

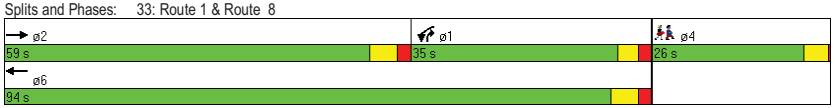
Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1415	436	1630	679	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	18.0	33.0	18.0	20.0
Total Split (s)	59.0	35.0	94.0	35.0	26.0
Total Split (%)	49.2%	29.2%	78.3%	29.2%	22%
Maximum Green (s)	53.0	30.0	88.0	30.0	22.0
Yellow Time (s)	4.0	3.0	4.0	3.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	5.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	C-Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 98 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 33: Route 1 & Route 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1415	161	436	1630	0	679
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	490			1938	458	
Travel Time (s)	9.5			37.8	8.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1854	0	513	1918	0	799
v/c Ratio	0.57		0.60	0.55		0.71
Control Delay	17.5		33.9	2.5		15.0
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	17.5		33.9	2.5		15.0
Queue Length 50th (ft)	525		172	78		86
Queue Length 95th (ft)	544		219	43		139
Internal Link Dist (ft)	410			1858	378	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3273		850	3505		1125
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.57		0.60	0.55		0.71

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1415	161	436	1630	0	679
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0		5.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.98		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4959		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4959		3400	3505		2787
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1665	189	513	1918	0	799
RTOR Reduction (vph)	7	0	0	0	0	428
Lane Group Flow (vph)	1847	0	513	1918	0	371
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	79.0		30.0	120.0		30.0
Effective Green, g (s)	79.0		30.0	120.0		30.0
Actuated g/C Ratio	0.66		0.25	1.00		0.25
Clearance Time (s)	6.0		5.0	6.0		5.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3265		850	3505		697
v/s Ratio Prot	0.37		0.15	c0.55		0.13
v/s Ratio Perm						
v/c Ratio	0.57		0.60	0.55		0.53
Uniform Delay, d1	11.2		39.7	0.0		38.9
Progression Factor	1.52		0.77	1.00		1.00
Incremental Delay, d2	0.6		0.7	0.6		0.4
Delay (s)	17.6		31.5	0.6		39.3
Level of Service	B		C	A		D
Approach Delay (s)	17.6			7.1	39.3	
Approach LOS	B			A	D	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	12	156	529	722	457	121
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	14	186	630	860	544	144
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1210	458	
pX, platoon unblocked						
vC, conflicting volume	2233	272	544			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2233	272	544			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	74	38			
cM capacity (veh/h)	14	726	1021			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	14	186	630	430	430	272	272	144
Volume Left	14	0	630	0	0	0	0	0
Volume Right	0	186	0	0	0	0	0	144
cSH	14	726	1021	1700	1700	1700	1700	1700
Volume to Capacity	1.03	0.26	0.62	0.25	0.25	0.16	0.16	0.08
Queue Length 95th (ft)	59	25	111	0	0	0	0	0
Control Delay (s)	619.4	11.7	14.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	B					
Approach Delay (s)	55.1		5.9			0.0		
Approach LOS	F							

Intersection Summary			
Average Delay		8.3	
Intersection Capacity Utilization		55.3%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	564	68	545	1090	207	472
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	20.5	31.0	16.0	
Total Split (s)	45.0	45.0	30.0	45.0	30.0	0.0
Total Split (%)	42.9%	42.9%	28.6%	42.9%	28.6%	0.0%
Maximum Green (s)	39.0	39.0	24.5	39.0	24.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	5	5			5	

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 85.9
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	564	68	545	1090	207	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1210			1375	661	
Travel Time (s)	23.6			26.8	12.9	
Confl. Peds. (#/hr)		5				5
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	680	82	657	1313	249	569
v/c Ratio	0.59	0.15	0.75	0.58	0.66	0.36
Control Delay	27.6	6.3	37.2	10.3	41.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	6.3	37.2	10.3	41.0	0.7
Queue Length 50th (ft)	163	0	158	182	121	0
Queue Length 95th (ft)	227	26	256	272	205	0
Internal Link Dist (ft)	1130			1295	581	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1637	764	997	2896	514	1562
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.11	0.66	0.45	0.48	0.36

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	564	68	545	1090	207	472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1557	3433	3539	1770	1562
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1557	3433	3539	1770	1562
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	680	82	657	1313	249	569
RTOR Reduction (vph)	0	55	0	0	0	0
Lane Group Flow (vph)	680	27	657	1313	249	569
Confl. Peds. (#/hr)		5				5
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	28.1	28.1	21.8	55.4	18.3	85.7
Effective Green, g (s)	28.1	28.1	21.8	55.4	18.3	85.7
Actuated g/C Ratio	0.33	0.33	0.25	0.65	0.21	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1160	511	873	2288	378	1562
v/s Ratio Prot	0.19		c0.19	c0.37	c0.14	
v/s Ratio Perm		0.02				0.36
v/c Ratio	0.59	0.05	0.75	0.57	0.66	0.36
Uniform Delay, d1	24.0	19.7	29.5	8.5	30.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.1	3.9	0.4	4.6	0.7
Delay (s)	24.9	19.8	33.4	8.9	35.4	0.7
Level of Service	C	B	C	A	D	A
Approach Delay (s)	24.3			17.1	11.2	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	85.7	Sum of lost time (s)	11.5
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

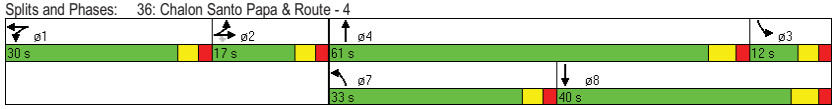
c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	119	84	256	180	868	38	402
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	26.0	12.0	28.0	12.0	28.0
Total Split (s)	17.0	17.0	30.0	33.0	61.0	12.0	40.0
Total Split (%)	14.2%	14.2%	25.0%	27.5%	50.8%	10.0%	33.3%
Maximum Green (s)	12.0	12.0	25.0	28.0	55.0	7.0	34.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 6 (5%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route - 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	119	84	131	256	161	180	868	100	38	402	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			780			850	
Travel Time (s)		28.3			11.8			15.2			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	232	95	0	623	0	205	1100	0	43	568	0
v/c Ratio		1.27	0.39		0.90		0.76	0.45		0.45	0.30	
Control Delay		200.1	14.8		60.2		40.7	15.2		48.3	7.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		200.1	14.8		60.2		40.7	15.2		48.3	7.7	
Queue Length 50th (ft)		~227	0		228		107	247		35	26	
Queue Length 95th (ft)		#377	49		#297		m119	197		73	35	
Internal Link Dist (ft)		1164			439			700			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		183	244		734		413	2466		103	1891	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.27	0.39		0.85		0.50	0.45		0.42	0.30	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	119	84	131	256	161	180	868	100	38	402	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.98		1.00	0.97	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1825	1583		3343		1770	5006		1770	4936	
Flt Permitted		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1825	1583		3343		1770	5006		1770	4936	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	97	135	95	149	291	183	205	986	114	43	457	111
RTOR Reduction (vph)	0	0	86	0	39	0	0	11	0	0	30	0
Lane Group Flow (vph)	0	232	10	0	584	0	205	1089	0	43	538	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		12.0	12.0		23.5		18.3	57.9		5.6	45.2	
Effective Green, g (s)		12.0	12.0		23.5		18.3	57.9		5.6	45.2	
Actuated g/C Ratio		0.10	0.10		0.20		0.15	0.48		0.05	0.38	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		183	158		655		270	2415		83	1859	
v/s Ratio Prot		c0.13			c0.17		c0.12	c0.22		c0.02	0.11	
v/s Ratio Perm			0.01									
v/c Ratio		1.27	0.06		0.89		0.76	0.45		0.52	0.29	
Uniform Delay, d1		54.0	48.9		47.0		48.7	20.5		55.9	26.2	
Progression Factor		1.00	1.00		1.00		0.57	0.72		0.62	0.29	
Incremental Delay, d2		156.4	0.1		14.1		7.4	0.4		2.2	0.4	
Delay (s)		210.4	49.0		61.1		35.4	15.3		36.9	8.0	
Level of Service		F	D		E		D	B		D	A	
Approach Delay (s)		163.5			61.1			18.4			10.0	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM Average Control Delay	42.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	67.0%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	193	269	207	412	288	967	42	345
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	29.5	29.5	28.0	28.0	13.0	28.0	12.0	21.0
Total Split (s)	33.0	33.0	35.0	35.0	31.0	40.0	12.0	21.0
Total Split (%)	27.5%	27.5%	29.2%	29.2%	25.8%	33.3%	10.0%	17.5%
Maximum Green (s)	28.0	28.0	30.0	30.0	26.0	34.0	7.0	15.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 53 (44%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route -4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	193	269	21	207	412	45	288	967	273	42	345	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	215		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		609			967			740			780	
Travel Time (s)		13.8			22.0			14.4			15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	214	322	0	207	531	0	320	1377	0	47	635	0
v/c Ratio	0.59	0.85		0.60	0.74		0.83	0.74		0.50	0.63	
Control Delay	49.5	65.4		49.8	49.8		64.4	36.7		65.6	32.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.5	65.4		49.8	49.8		64.4	36.7		65.6	32.2	
Queue Length 50th (ft)	147	234		158	207		239	350		38	134	
Queue Length 95th (ft)	225	#343		239	262		#389	#473		m70	m#210	
Internal Link Dist (ft)		529			887			660			700	
Turn Bay Length (ft)				215			250			200		
Base Capacity (vph)	413	432		403	840		384	1856		103	1002	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.52	0.75		0.51	0.63		0.83	0.74		0.46	0.63	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	193	269	21	207	412	45	288	967	273	42	345	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1843		1610	3335		1770	4917		1770	4783	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1843		1610	3335		1770	4917		1770	4783	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	214	299	23	230	458	50	320	1074	303	47	383	252
RTOR Reduction (vph)	0	2	0	0	6	0	0	38	0	0	93	0
Lane Group Flow (vph)	214	320	0	207	525	0	320	1339	0	47	542	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	24.6	24.6		25.5	25.5		27.1	43.4		5.5	21.8	
Effective Green, g (s)	24.6	24.6		25.5	25.5		27.1	43.4		5.5	21.8	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.23	0.36		0.05	0.18	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	363	378		342	709		400	1778		81	869	
v/s Ratio Prot	0.12	c0.17		0.13	c0.16		c0.18	c0.27		0.03	c0.11	
v/s Ratio Perm												
v/c Ratio	0.59	0.85		0.61	0.74		0.80	0.75		0.58	0.62	
Uniform Delay, d1	43.1	45.9		42.7	44.2		43.9	33.6		56.1	45.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.88	0.75	
Incremental Delay, d2	1.6	15.2		2.1	3.6		10.3	3.0		6.1	3.1	
Delay (s)	44.7	61.1		44.8	47.8		54.2	36.6		55.7	37.2	
Level of Service	D	E		D	D		D	D		E	D	
Approach Delay (s)		54.6			47.0			39.9			38.5	
Approach LOS		D			D			D			D	

Intersection Summary					
HCM Average Control Delay	43.2	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.83				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.0	
Intersection Capacity Utilization	73.9%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	58	135	130	1586	522	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	153	148	1802	593	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1031	
pX, platoon unblocked	0.92	0.92	0.92			
vC, conflicting volume	1809	315	631			
vC1, stage 1 conf vol	612					
vC2, stage 2 conf vol	1197					
vCu, unblocked vol	1699	68	412			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	67	83	86			
cM capacity (veh/h)	200	899	1047			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	219	148	901	901	395	235
Volume Left	66	148	0	0	0	0
Volume Right	153	0	0	0	0	38
cSH	439	1047	1700	1700	1700	1700
Volume to Capacity	0.50	0.14	0.53	0.53	0.23	0.14
Queue Length 95th (ft)	68	12	0	0	0	0
Control Delay (s)	21.1	9.0	0.0	0.0	0.0	0.0
Lane LOS	C	A				
Approach Delay (s)	21.1	0.7			0.0	
Approach LOS	C					

Intersection Summary				
Average Delay		2.1		
Intersection Capacity Utilization		62.0%	ICU Level of Service	B
Analysis Period (min)		15		

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	61	234	199	63
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	20.0	20.0
Total Split (s)	21.0	36.0	33.0	33.0
Total Split (%)	23.3%	40.0%	36.7%	36.7%
Maximum Green (s)	16.0	31.0	29.0	29.0
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	2.0	2.0	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 67.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	61	191	454	234	216	199	63	526	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		345			618			271			199	
Travel Time (s)		7.8			14.0			6.2			3.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	333	0	0	1063	0	234	693	0	0	0	0
v/c Ratio		0.61			0.80		0.48	0.86				
Control Delay		16.8			24.5		24.3	19.4				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		16.8			24.5		24.3	19.4				
Queue Length 50th (ft)		23			186		84	73				
Queue Length 95th (ft)		60			317		147	200				
Internal Link Dist (ft)		265			538			191			119	
Turn Bay Length (ft)												
Base Capacity (vph)		970			1659		813	1008				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.34			0.64		0.29	0.69				

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	61	191	454	234	216	199	63	526	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.90			0.96		1.00	0.87				
Flt Protected		0.99			0.98		0.95	1.00				
Satd. Flow (prot)		3163			3329		1770	1613				
Flt Permitted		0.99			0.98		0.95	1.00				
Satd. Flow (perm)		3163			3329		1770	1613				
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	36	72	225	534	275	254	234	74	619	0	0	0
RTOR Reduction (vph)	0	200	0	0	31	0	0	355	0	0	0	0
Lane Group Flow (vph)	0	133	0	0	1032	0	234	338	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		7.4			26.3		18.7	18.7				
Effective Green, g (s)		7.4			26.3		18.7	18.7				
Actuated g/C Ratio		0.11			0.40		0.28	0.28				
Clearance Time (s)		5.0			5.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		353			1319		498	454				
v/s Ratio Prot		c0.04			c0.31		0.13	c0.21				
v/s Ratio Perm												
v/c Ratio		0.38			0.78		0.47	0.74				
Uniform Delay, d1		27.4			17.5		19.7	21.7				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		0.2			2.9		0.3	5.7				
Delay (s)		27.6			20.4		20.0	27.4				
Level of Service		C			C		C	C				
Approach Delay (s)		27.6			20.4			25.5			0.0	
Approach LOS		C			C			C			A	

Intersection Summary					
HCM Average Control Delay	23.5	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.71				
Actuated Cycle Length (s)	66.4	Sum of lost time (s)		14.0	
Intersection Capacity Utilization	82.8%	ICU Level of Service		E	
Analysis Period (min)	15				
c Critical Lane Group					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	382	998	1374	35	0	290
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	424	1109	1527	39	0	322
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)			720			
pX, platoon unblocked	0.68				0.68	0.68
vC, conflicting volume	1566				2930	763
vC1, stage 1 conf vol					1527	
vC2, stage 2 conf vol					1403	
vCu, unblocked vol	905				2898	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	17				100	57
cM capacity (veh/h)	512				32	743

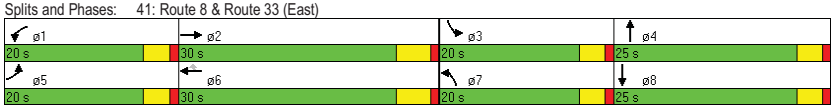
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	424	554	554	763	763	39	322
Volume Left	424	0	0	0	0	0	0
Volume Right	0	0	0	0	0	39	322
cSH	512	1700	1700	1700	1700	1700	743
Volume to Capacity	0.83	0.33	0.33	0.45	0.45	0.02	0.43
Queue Length 95th (ft)	207	0	0	0	0	0	55
Control Delay (s)	37.7	0.0	0.0	0.0	0.0	0.0	13.5
Lane LOS	E						B
Approach Delay (s)	10.4			0.0			13.5
Approach LOS							B

Intersection Summary				
Average Delay		5.9		
Intersection Capacity Utilization		65.8%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	8	502	238	1099	114	227	111	118	149
Turn Type	Prot		Prot		Perm	Prot		Prot	
Protected Phases	5	2	1	6		7	4	3	8
Permitted Phases					6				
Detector Phase	5	2	1	6	6	7	4	3	8
Switch Phase									
Minimum Initial (s)	4.0	7.0	4.0	7.0	7.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	12.0	8.0	12.0	12.0	8.0	8.0	8.0	8.0
Total Split (s)	20.0	30.0	20.0	30.0	30.0	20.0	25.0	20.0	25.0
Total Split (%)	21.1%	31.6%	21.1%	31.6%	31.6%	21.1%	26.3%	21.1%	26.3%
Maximum Green (s)	16.0	25.0	16.0	25.0	25.0	16.0	21.0	16.0	21.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	4.0	5.0	5.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	4.0	2.0	4.0	4.0	2.0	2.5	2.0	2.5
Minimum Gap (s)	0.5	2.0	0.5	2.0	2.0	0.5	1.5	0.5	1.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0		7.0
Flash Dont Walk (s)		15.0		15.0	15.0		15.0		15.0
Pedestrian Calls (#/hr)		5		5	5		5		5

Intersection Summary
Cycle Length: 95
Actuated Cycle Length: 85.2
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	502	114	238	1099	114	227	111	189	118	149	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		150	150		100	0		75
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		720			2384			2961			419	
Travel Time (s)		14.0			46.4			57.7			8.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	717	0	277	1278	133	264	349	0	137	174	0
v/c Ratio	0.08	0.77		0.85	0.76	0.17	0.84	0.80		0.60	0.55	
Control Delay	43.5	34.9		61.5	24.3	9.1	59.5	40.0		48.1	39.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	43.5	34.9		61.5	24.3	9.1	59.5	40.0		48.1	39.9	
Queue Length 50th (ft)	5	185		154	282	17	146	143		75	91	
Queue Length 95th (ft)	20	258		#301	#516	60	#282	#260		128	145	
Internal Link Dist (ft)		640			2304			2881			339	
Turn Bay Length (ft)	150			150		150	150					
Base Capacity (vph)	338	1047		338	1682	789	338	488		338	471	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.03	0.68		0.82	0.76	0.17	0.78	0.72		0.41	0.37	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	502	114	238	1099	114	227	111	189	118	149	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0	5.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.91		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3441		1770	3539	1583	1770	1687		1770	1861	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3441		1770	3539	1583	1770	1687		1770	1861	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	9	584	133	277	1278	133	264	129	220	137	173	1
RTOR Reduction (vph)	0	20	0	0	0	38	0	65	0	0	0	0
Lane Group Flow (vph)	9	697	0	277	1278	95	264	284	0	137	174	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6						
Actuated Green, G (s)	1.1	26.0		15.6	40.5	40.5	15.2	18.7		10.9	14.4	
Effective Green, g (s)	1.1	26.0		15.6	40.5	40.5	15.2	18.7		10.9	14.4	
Actuated g/C Ratio	0.01	0.29		0.18	0.46	0.46	0.17	0.21		0.12	0.16	
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.5		2.0	2.5	
Lane Grp Cap (vph)	22	1014		313	1625	727	305	358		219	304	
v/s Ratio Prot	0.01	0.20		c0.16	c0.36		c0.15	c0.17		0.08	0.09	
v/s Ratio Perm						0.06						
v/c Ratio	0.41	0.69		0.88	0.79	0.13	0.87	0.79		0.63	0.57	
Uniform Delay, d1	43.2	27.5		35.4	20.2	13.7	35.5	32.9		36.7	34.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.5	2.1		23.8	2.7	0.1	21.1	11.0		4.0	2.1	
Delay (s)	47.7	29.6		59.2	22.9	13.8	56.6	43.9		40.7	36.2	
Level of Service	D	C		E	C	B	E	D		D	D	
Approach Delay (s)		29.9			28.2			49.4			38.2	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	561	248	635	953	726	1002
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	33.0	28.0	29.0	62.0	28.0	29.0
Total Split (%)	36.7%	31.1%	32.2%	68.9%	31.1%	32.2%
Maximum Green (s)	27.0	22.0	23.0	56.0	22.0	23.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	561	248	635	953	726	1002
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			454	789	
Travel Time (s)	14.8			8.8	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	616	273	698	1047	798	1101
v/c Ratio	0.58	0.28	0.80	0.48	0.95	0.68
Control Delay	29.4	8.2	37.6	8.1	56.4	14.5
Queue Delay	18.8	0.0	0.0	0.2	0.0	0.2
Total Delay	48.2	8.2	37.6	8.2	56.4	14.7
Queue Length 50th (ft)	155	59	195	105	230	205
Queue Length 95th (ft)	211	100	m248	m137	#346	281
Internal Link Dist (ft)	682			374	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	1054	949	869	2183	839	1631
Starvation Cap Reductn	0	0	0	392	0	0
Spillback Cap Reductn	437	0	0	0	0	110
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.29	0.80	0.58	0.95	0.72

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	561	248	635	953	726	1002
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	616	273	698	1047	798	1101
RTOR Reduction (vph)	0	12	0	0	0	62
Lane Group Flow (vph)	616	261	698	1047	798	1039
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	27.1	49.0	23.0	56.1	21.9	44.9
Effective Green, g (s)	27.1	49.0	23.0	56.1	21.9	44.9
Actuated g/C Ratio	0.30	0.54	0.26	0.62	0.24	0.50
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	1055	958	869	2185	835	1576
v/s Ratio Prot	c0.18	0.07	c0.21	0.30	c0.23	0.17
v/s Ratio Perm		0.10				0.20
v/c Ratio	0.58	0.27	0.80	0.48	0.96	0.66
Uniform Delay, d1	26.7	11.0	31.4	9.1	33.6	16.8
Progression Factor	1.00	1.00	0.97	0.80	1.00	1.00
Incremental Delay, d2	2.4	0.1	4.3	0.6	20.7	0.8
Delay (s)	29.0	11.0	34.7	7.9	54.3	17.6
Level of Service	C	B	C	A	D	B
Approach Delay (s)	23.5			18.6	33.0	
Approach LOS	C			B	C	

Intersection Summary				
HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1286	120	1229	163	92
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	8.0	8.0
Minimum Split (s)	26.0	16.0	26.0	14.0	14.0
Total Split (s)	51.0	25.0	76.0	14.0	14.0
Total Split (%)	56.7%	27.8%	84.4%	15.6%	15.6%
Maximum Green (s)	45.0	19.0	70.0	8.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	Min	Max	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 10 (11%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1286	180	120	1229	163	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	454			482	431	
Travel Time (s)	8.8			9.4	8.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1704	0	140	1429	190	107
v/c Ratio	0.98		0.38	0.52	1.21	0.45
Control Delay	40.5		34.0	4.6	177.3	14.7
Queue Delay	7.4		0.0	0.0	0.0	0.0
Total Delay	47.9		34.0	4.6	177.3	14.7
Queue Length 50th (ft)	536		69	123	~133	0
Queue Length 95th (ft)	#624		117	145	#248	43
Internal Link Dist (ft)	374			402	351	
Turn Bay Length (ft)			200			200
Base Capacity (vph)	1733		370	2726	157	238
Starvation Cap Reductn	54		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.01		0.38	0.52	1.21	0.45

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1286	180	120	1229	163	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3440		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3440		1752	3505	1770	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1495	209	140	1429	190	107
RTOR Reduction (vph)	12	0	0	0	0	97
Lane Group Flow (vph)	1692	0	140	1429	190	10
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	45.0		19.0	70.0	8.0	8.0
Effective Green, g (s)	45.0		19.0	70.0	8.0	8.0
Actuated g/C Ratio	0.50		0.21	0.78	0.09	0.09
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	1720		370	2726	157	141
v/s Ratio Prot	c0.49		0.08	c0.41	c0.11	
v/s Ratio Perm						0.01
v/c Ratio	0.98		0.38	0.52	1.21	0.07
Uniform Delay, d1	22.1		30.4	3.8	41.0	37.6
Progression Factor	1.11		1.00	1.00	1.00	1.00
Incremental Delay, d2	15.5		0.2	0.7	139.4	0.1
Delay (s)	40.1		30.7	4.5	180.4	37.7
Level of Service	D		C	A	F	D
Approach Delay (s)	40.1			6.8	129.0	
Approach LOS	D			A	F	

Intersection Summary			
HCM Average Control Delay	32.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	192	33	104	290	74	303	215	1134	198	99	693	104
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	8.0	21.0	21.0	8.0	36.0	36.0
Total Split (s)	15.0	15.0	15.0	31.0	31.0	31.0	31.0	59.0	59.0	15.0	43.0	43.0
Total Split (%)	12.5%	12.5%	12.5%	25.8%	25.8%	25.8%	25.8%	49.2%	49.2%	12.5%	35.8%	35.8%
Maximum Green (s)	10.0	10.0	10.0	26.0	26.0	26.0	26.0	53.0	53.0	10.0	37.0	37.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	192	33	104	290	74	303	215	1134	198	99	693	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		575			1964			2453			773	
Travel Time (s)		11.2			38.3			47.8			15.1	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	42%											
Lane Group Flow (vph)	125	128	117	326	83	340	242	1274	222	111	779	117
v/c Ratio	0.87	0.88	0.48	0.91	0.22	0.73	0.81	0.79	0.27	0.79	0.60	0.18
Control Delay	100.8	101.6	16.4	76.9	40.8	30.3	71.1	17.1	0.9	89.5	34.6	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.8	101.6	16.4	76.9	40.8	30.3	71.1	17.1	0.9	89.5	34.6	6.0
Queue Length 50th (ft)	103	105	0	245	53	114	167	349	0	86	261	0
Queue Length 95th (ft)	#223	#228	55	#395	98	220	m215	m243	m3	#176	348	41
Internal Link Dist (ft)		495			1884			2373			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	144	146	243	380	400	482	384	1612	823	148	1294	653
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.88	0.48	0.86	0.21	0.71	0.63	0.79	0.27	0.75	0.60	0.18

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	192	33	104	290	74	303	215	1134	198	99	693	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1692	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1692	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	216	37	117	326	83	340	242	1274	222	111	779	117
RTOR Reduction (vph)	0	0	107	0	0	144	0	0	102	0	0	74
Lane Group Flow (vph)	125	128	10	326	83	196	242	1274	120	111	779	43
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	10.4	10.4	10.4	24.4	24.4	24.4	20.3	54.7	54.7	9.5	43.9	43.9
Effective Green, g (s)	10.4	10.4	10.4	24.4	24.4	24.4	20.3	54.7	54.7	9.5	43.9	43.9
Actuated g/C Ratio	0.09	0.09	0.09	0.20	0.20	0.20	0.17	0.46	0.46	0.08	0.37	0.37
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	144	147	136	356	375	319	299	1613	722	140	1295	579
v/s Ratio Prot	0.08	c0.08		c0.19	0.04		c0.14	c0.36		0.06	0.22	
v/s Ratio Perm			0.01			0.12			0.08			0.03
v/c Ratio	0.87	0.87	0.07	0.92	0.22	0.61	0.81	0.79	0.17	0.79	0.60	0.07
Uniform Delay, d1	54.1	54.1	50.4	46.8	39.9	43.5	48.0	27.8	19.2	54.3	30.9	24.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.24	0.52	0.10	1.00	1.00	1.00
Incremental Delay, d2	37.6	38.2	0.1	26.9	0.1	2.5	8.3	2.3	0.3	24.2	2.1	0.2
Delay (s)	91.8	92.3	50.5	73.7	40.0	46.0	67.9	16.6	2.3	78.5	33.0	25.0
Level of Service	F	F	D	E	D	D	E	B	A	E	C	C
Approach Delay (s)		78.9			57.4			21.9			37.1	
Approach LOS		E			E			C			D	

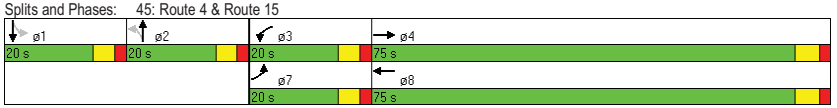
Intersection Summary				
HCM Average Control Delay	38.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	72.9%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	97	573	6	1631	36	1	41	4
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	20.0	75.0	20.0	75.0	20.0	20.0	20.0	20.0
Total Split (%)	14.8%	55.6%	14.8%	55.6%	14.8%	14.8%	14.8%	14.8%
Maximum Green (s)	14.5	69.0	14.5	69.0	14.5	14.5	14.5	14.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0	3.5	4.0	3.5	3.5	0.5	0.5
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 135
Actuated Cycle Length: 130.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	573	10	6	1631	32	36	1	37	41	4	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			548			338			351	
Travel Time (s)		12.5			10.7			6.6			6.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	110	662	0	7	1889	0	0	84	0	0	351	0
v/c Ratio	0.64	0.33		0.06	1.01			0.64			1.12	
Control Delay	74.6	15.8		61.3	53.9			60.1			112.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	74.6	15.8		61.3	53.9			60.1			112.8	
Queue Length 50th (ft)	91	151		6	~903			45			~207	
Queue Length 95th (ft)	155	193		22	#1041			101			#396	
Internal Link Dist (ft)		561			468			258			271	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	197	1998		197	1873			158			314	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.56	0.33		0.04	1.01			0.53			1.12	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	573	10	6	1631	32	36	1	37	41	4	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.93			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3530		1770	3529			1696			1638	
Flt Permitted	0.95	1.00		0.95	1.00			0.68			0.88	
Satd. Flow (perm)	1770	3530		1770	3529			1174			1448	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	110	651	11	7	1853	36	41	1	42	47	5	299
RTOR Reduction (vph)	0	1	0	0	1	0	0	27	0	0	153	0
Lane Group Flow (vph)	110	661	0	7	1888	0	0	57	0	0	198	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	12.6	73.7		8.0	69.1			11.5			14.5	
Effective Green, g (s)	12.6	73.7		8.0	69.1			11.5			14.5	
Actuated g/C Ratio	0.10	0.57		0.06	0.53			0.09			0.11	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	3.5	4.0		3.5	4.0			3.5			0.5	
Lane Grp Cap (vph)	171	1998		109	1873			104			161	
v/s Ratio Prot	c0.06	c0.19		0.00	c0.53							
v/s Ratio Perm								c0.05			c0.14	
v/c Ratio	0.64	0.33		0.06	1.01			0.54			1.23	
Uniform Delay, d1	56.6	15.1		57.6	30.5			56.8			57.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	8.4	0.1		0.3	22.8			6.3			146.2	
Delay (s)	65.0	15.2		57.9	53.3			63.2			204.1	
Level of Service	E	B		E	D			E			F	
Approach Delay (s)		22.3			53.3			63.2			204.1	
Approach LOS		C			D			E			F	

Intersection Summary					
HCM Average Control Delay	62.9	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.00				
Actuated Cycle Length (s)	130.2	Sum of lost time (s)		28.5	
Intersection Capacity Utilization	86.0%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	28	2	1	809	3	609	666	578	174
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	10.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	14.0	14.0	15.5	9.5	14.0	16.0
Total Split (s)	10.0	10.0	32.0	45.0	14.0	33.0	32.0	45.0	64.0
Total Split (%)	8.3%	8.3%	26.7%	37.5%	11.7%	27.5%	26.7%	37.5%	53.3%
Maximum Green (s)	4.0	4.0	26.5	39.0	8.0	27.5	26.5	39.0	58.0
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	5.5	5.5	6.0	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		20.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 115.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	28	2	271	1	809	3	609	666	578	174	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			759			914	
Travel Time (s)		7.3			12.6			14.8			17.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	2	0	296	879	3	662	724	628	206	0
v/c Ratio		0.86	0.04		0.79	0.98	0.02	0.88	0.90	0.54	0.19	
Control Delay		136.0	40.5		59.2	44.1	53.0	58.0	38.5	33.7	13.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		136.0	40.5		59.2	44.1	53.0	58.0	38.5	33.7	13.2	
Queue Length 50th (ft)		43	0		216	409	2	257	419	206	66	
Queue Length 95th (ft)		#128	9		#339	#929	13	329	#677	265	138	
Internal Link Dist (ft)		295			565			679			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		64	57		410	899	123	848	835	1167	1065	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.86	0.04		0.72	0.98	0.02	0.78	0.87	0.54	0.19	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	28	2	271	1	809	3	609	666	578	174	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	5.5	5.5	6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1821	1583		1774	1583	1770	3539	1583	3433	1840	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1821	1583		1774	1583	1770	3539	1583	3433	1840	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	30	2	295	1	879	3	662	724	628	189	17
RTOR Reduction (vph)	0	0	2	0	0	34	0	0	61	0	2	0
Lane Group Flow (vph)	0	55	0	0	296	845	3	662	663	628	204	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		4.0	4.0		24.4	63.6	1.5	29.3	53.7	39.2	66.5	
Effective Green, g (s)		4.0	4.0		24.4	63.6	1.5	29.3	53.7	39.2	66.5	
Actuated g/C Ratio		0.03	0.03		0.20	0.53	0.01	0.24	0.45	0.33	0.55	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	5.5	5.5	6.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		61	53		361	840	22	865	782	1122	1021	
v/s Ratio Prot		c0.03			0.17	c0.33	0.00	0.19	c0.17	0.18	0.11	
v/s Ratio Perm			0.00			0.20			0.25			
v/c Ratio		0.90	0.00		0.82	1.01	0.14	0.77	0.85	0.56	0.20	
Uniform Delay, d1		57.8	56.0		45.6	28.2	58.6	42.1	29.5	33.2	13.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		79.4	0.0		12.9	32.6	1.0	3.7	8.1	0.3	0.0	
Delay (s)		137.1	56.0		58.5	60.7	59.6	45.8	37.6	33.6	13.4	
Level of Service		F	E		E	E	E	D	D	C	B	
Approach Delay (s)		134.3			60.2			41.5			28.6	
Approach LOS		F			E			D			C	

Intersection Summary				
HCM Average Control Delay	46.3	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	23.5	
Intersection Capacity Utilization	84.8%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	45	39	101	980	1076	275
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	24.0	24.0	13.0	22.0	33.0	33.0
Total Split (s)	25.0	25.0	25.0	95.0	70.0	70.0
Total Split (%)	20.8%	20.8%	20.8%	79.2%	58.3%	58.3%
Maximum Green (s)	20.0	20.0	20.0	89.0	64.0	64.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	45	39	101	980	1076	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	438			286	526	
Travel Time (s)	11.9			5.6	10.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	44	115	1114	1223	312
v/c Ratio	0.42	0.40	0.64	0.37	0.49	0.28
Control Delay	62.9	63.4	57.1	4.6	9.9	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	63.4	57.1	4.6	9.9	8.5
Queue Length 50th (ft)	39	33	89	144	209	82
Queue Length 95th (ft)	76	70	144	166	317	154
Internal Link Dist (ft)	358			206	446	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	264	236	292	3025	2482	1110
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.19	0.39	0.37	0.49	0.28

Intersection Summary	
Area Type:	Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	45	39	101	980	1076	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	51	44	115	1114	1223	312
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	51	44	115	1114	1223	312
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	7.6	7.6	12.4	101.4	84.0	84.0
Effective Green, g (s)	7.6	7.6	12.4	101.4	84.0	84.0
Actuated g/C Ratio	0.06	0.06	0.10	0.85	0.70	0.70
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	100	90	181	2962	2454	1098
v/s Ratio Prot	c0.03		c0.07	0.32	c0.35	
v/s Ratio Perm		0.03				0.20
v/c Ratio	0.51	0.49	0.64	0.38	0.50	0.28
Uniform Delay, d1	54.4	54.3	51.6	2.1	8.3	6.7
Progression Factor	1.00	1.00	0.83	1.87	1.00	1.00
Incremental Delay, d2	1.8	1.5	4.9	0.3	0.7	0.6
Delay (s)	56.2	55.8	47.8	4.3	9.0	7.4
Level of Service	E	E	D	A	A	A
Approach Delay (s)	56.0			8.4	8.7	
Approach LOS	E			A	A	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	83	97	987	71	1020
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	23.0	23.0	28.0	13.0	22.0
Total Split (s)	26.0	26.0	79.0	15.0	94.0
Total Split (%)	21.7%	21.7%	65.8%	12.5%	78.3%
Maximum Green (s)	21.0	21.0	73.0	10.0	88.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6(V.Cementary) & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	83	97	987	88	71	1020
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		550			1355
Travel Time (s)	16.0		10.7			26.4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	104	1156	0	76	1097
v/c Ratio	0.53	0.42	0.47		0.57	0.39
Control Delay	62.7	14.8	9.9		73.4	2.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	62.7	14.8	9.9		73.4	2.4
Queue Length 50th (ft)	68	0	231		63	54
Queue Length 95th (ft)	119	52	304		115	85
Internal Link Dist (ft)	506		470			1275
Turn Bay Length (ft)					200	
Base Capacity (vph)	310	363	2486		146	2848
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.29	0.29	0.47		0.52	0.39

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	83	97	987	88	71	1020
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3462		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3462		1752	3505
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	89	104	1061	95	76	1097
RTOR Reduction (vph)	0	94	4	0	0	0
Lane Group Flow (vph)	89	10	1152	0	76	1097
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	11.5	11.5	85.0		7.5	97.5
Effective Green, g (s)	11.5	11.5	85.0		7.5	97.5
Actuated g/C Ratio	0.10	0.10	0.71		0.06	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	170	152	2452		110	2848
v/s Ratio Prot	c0.05		c0.33		c0.04	0.31
v/s Ratio Perm		0.01				
v/c Ratio	0.52	0.07	0.47		0.69	0.39
Uniform Delay, d1	51.6	49.4	7.6		55.1	3.1
Progression Factor	1.00	1.00	1.16		1.09	0.64
Incremental Delay, d2	1.3	0.1	0.6		12.6	0.4
Delay (s)	53.0	49.4	9.5		72.5	2.3
Level of Service	D	D	A		E	A
Approach Delay (s)	51.1		9.5			6.9
Approach LOS	D		A			A

Intersection Summary				
HCM Average Control Delay	11.5	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	58.4%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	12	211	1057	1068
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	20.0	13.0	22.0	30.0
Total Split (s)	21.0	40.0	99.0	59.0
Total Split (%)	17.5%	33.3%	82.5%	49.2%
Maximum Green (s)	16.0	35.0	93.0	53.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	12	26	211	1057	1068	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2159			1944	7258	
Travel Time (s)	42.1			37.9	141.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	227	1137	1238	0
v/c Ratio	0.29		0.77	0.37	0.55	
Control Delay	31.4		61.7	2.2	8.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	31.4		61.7	2.2	8.9	
Queue Length 50th (ft)	10		173	80	160	
Queue Length 95th (ft)	46		250	95	204	
Internal Link Dist (ft)	2079			1864	7178	
Turn Bay Length (ft)			125			
Base Capacity (vph)	246		511	3058	2268	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.17		0.44	0.37	0.55	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	12	26	211	1057	1068	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.91		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1665		1752	3505	3467	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1665		1752	3505	3467	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	13	28	227	1137	1148	90
RTOR Reduction (vph)	26	0	0	0	3	0
Lane Group Flow (vph)	15	0	227	1137	1235	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.5		20.1	102.5	77.4	
Effective Green, g (s)	6.5		20.1	102.5	77.4	
Actuated g/C Ratio	0.05		0.17	0.85	0.65	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	90		293	2994	2236	
v/s Ratio Prot	c0.01		c0.13	0.32	c0.36	
v/s Ratio Perm						
v/c Ratio	0.16		0.77	0.38	0.55	
Uniform Delay, d1	54.1		47.8	1.9	11.7	
Progression Factor	1.00		0.99	0.99	0.63	
Incremental Delay, d2	0.3		9.4	0.3	0.9	
Delay (s)	54.5		56.5	2.2	8.3	
Level of Service	D		E	A	A	
Approach Delay (s)	54.5			11.2	8.3	
Approach LOS	D			B	A	

Intersection Summary			
HCM Average Control Delay	10.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	95	912	266	61	495	708
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	25.0		33.0	33.0	22.0	21.0
Total Split (s)	39.0	0.0	39.0	39.0	42.0	81.0
Total Split (%)	32.5%	0.0%	32.5%	32.5%	35.0%	67.5%
Maximum Green (s)	34.0		33.0	33.0	37.0	75.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	95	912	266	61	495	708
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	531		795			527
Travel Time (s)	10.3		15.5			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	112	1073	313	72	582	833
v/c Ratio	0.63	0.68	0.17	0.08	0.72	0.29
Control Delay	66.8	2.4	16.4	4.6	56.0	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.8	2.4	16.4	4.6	56.0	1.7
Queue Length 50th (ft)	85	0	63	0	181	10
Queue Length 95th (ft)	131	0	102	24	272	41
Internal Link Dist (ft)	451		715			447
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	502	1583	1856	864	1048	2832
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.68	0.17	0.08	0.56	0.29

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	95	912	266	61	495	708
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3505	1568	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3505	1568	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	112	1073	313	72	582	833
RTOR Reduction (vph)	0	0	0	34	0	0
Lane Group Flow (vph)	112	1073	313	38	582	833
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	12.0	120.0	63.6	63.6	28.4	97.0
Effective Green, g (s)	12.0	120.0	63.6	63.6	28.4	97.0
Actuated g/C Ratio	0.10	1.00	0.53	0.53	0.24	0.81
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	177	1583	1858	831	805	2833
v/s Ratio Prot	0.06		0.09		0.17	0.24
v/s Ratio Perm		c0.68		0.02		
v/c Ratio	0.63	0.68	0.17	0.05	0.72	0.29
Uniform Delay, d1	51.9	0.0	14.6	13.6	42.2	2.9
Progression Factor	1.00	1.00	1.00	1.00	1.22	0.47
Incremental Delay, d2	5.3	2.4	0.2	0.1	3.6	0.2
Delay (s)	57.2	2.4	14.7	13.7	55.1	1.6
Level of Service	E	A	B	B	E	A
Approach Delay (s)	7.5		14.6			23.6
Approach LOS	A		B			C

Intersection Summary				
HCM Average Control Delay	16.1	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0	
Intersection Capacity Utilization	45.2%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	143	359	563	36	197	179
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	32.0	32.0	39.0	39.0	29.0	68.0
Total Split (%)	32.0%	32.0%	39.0%	39.0%	29.0%	68.0%
Maximum Green (s)	26.5	26.5	33.0	33.0	23.5	62.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 74.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	143	359	563	36	197	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1169		1253			870
Travel Time (s)	22.8		24.4			16.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	374	586	38	205	186
v/c Ratio	0.56	0.68	0.37	0.05	0.67	0.08
Control Delay	39.0	10.4	15.7	6.8	40.1	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.0	10.4	15.7	6.8	40.1	4.1
Queue Length 50th (ft)	64	0	88	1	88	11
Queue Length 95th (ft)	129	74	164	21	165	25
Internal Link Dist (ft)	1089		1173			790
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	635	808	1581	726	563	2970
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.46	0.37	0.05	0.36	0.06

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	143	359	563	36	197	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	149	374	586	38	205	186
RTOR Reduction (vph)	0	318	0	18	0	0
Lane Group Flow (vph)	149	56	586	20	205	186
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.1	11.1	33.3	33.3	13.0	51.8
Effective Green, g (s)	11.1	11.1	33.3	33.3	13.0	51.8
Actuated g/C Ratio	0.15	0.15	0.45	0.45	0.17	0.70
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	264	236	1584	709	309	2464
v/s Ratio Prot	c0.08		c0.17		c0.12	0.05
v/s Ratio Perm		0.04		0.01		
v/c Ratio	0.56	0.24	0.37	0.03	0.66	0.08
Uniform Delay, d1	29.4	27.9	13.6	11.5	28.7	3.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.2	0.7	0.1	4.1	0.0
Delay (s)	31.1	28.1	14.3	11.6	32.8	3.6
Level of Service	C	C	B	B	C	A
Approach Delay (s)	28.9		14.1			18.9
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	74.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	239	300	565	242	86	212
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	35.0	35.0	60.0	60.0	25.0	85.0
Total Split (%)	29.2%	29.2%	50.0%	50.0%	20.8%	70.8%
Maximum Green (s)	29.5	29.5	54.0	54.0	19.5	79.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 111.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	239	300	565	242	86	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	665		412			515
Travel Time (s)	13.0		8.0			10.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	269	337	635	272	97	238
v/c Ratio	0.81	0.59	0.61	0.28	0.56	0.18
Control Delay	61.8	8.5	21.3	4.9	61.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	8.5	21.3	4.9	61.4	6.6
Queue Length 50th (ft)	186	0	285	19	68	50
Queue Length 95th (ft)	275	71	508	73	125	100
Internal Link Dist (ft)	585		332			435
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	468	666	1046	981	310	1320
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.51	0.61	0.28	0.31	0.18

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	239	300	565	242	86	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	269	337	635	272	97	238
RTOR Reduction (vph)	0	273	0	92	0	0
Lane Group Flow (vph)	269	64	635	180	97	238
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	21.1	21.1	62.8	62.8	10.9	79.2
Effective Green, g (s)	21.1	21.1	62.8	62.8	10.9	79.2
Actuated g/C Ratio	0.19	0.19	0.56	0.56	0.10	0.71
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	334	299	1046	889	173	1320
v/s Ratio Prot	c0.15		c0.34		c0.05	0.13
v/s Ratio Perm		0.04		0.11		
v/c Ratio	0.81	0.21	0.61	0.20	0.56	0.18
Uniform Delay, d1	43.4	38.3	16.3	12.1	48.2	5.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.5	0.1	0.7	0.0	2.5	0.3
Delay (s)	55.9	38.5	17.0	12.2	50.6	5.7
Level of Service	E	D	B	B	D	A
Approach Delay (s)	46.2		15.5			18.7
Approach LOS	D		B			B

Intersection Summary				
HCM Average Control Delay	26.2	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	111.8	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	63.8%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	126	63	109	21	26	471
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	154	77	133	26	32	574
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	133				517	133
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	133				517	133
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				93	37
cM capacity (veh/h)	1452				464	916

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	230	133	26	32	574
Volume Left	154	0	0	32	0
Volume Right	0	0	26	0	574
cSH	1452	1700	1700	464	916
Volume to Capacity	0.11	0.08	0.02	0.07	0.63
Queue Length 95th (ft)	9	0	0	5	114
Control Delay (s)	5.5	0.0	0.0	13.3	15.3
Lane LOS	A			B	C
Approach Delay (s)	5.5	0.0		15.2	
Approach LOS				C	

Intersection Summary				
Average Delay	10.5			
Intersection Capacity Utilization	41.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	8	34	36	19	95	28
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	12	51	54	28	142	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	393	68			82	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	393	68			82	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	95			91	
cM capacity (veh/h)	554	995			1515	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	63	82	184
Volume Left	12	0	142
Volume Right	51	28	0
cSH	864	1700	1515
Volume to Capacity	0.07	0.05	0.09
Queue Length 95th (ft)	6	0	8
Control Delay (s)	9.5	0.0	6.1
Lane LOS	A		A
Approach Delay (s)	9.5	0.0	6.1
Approach LOS	A		

Intersection Summary				
Average Delay		5.2		
Intersection Capacity Utilization		23.4%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	85	45	55	159	221	114
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	93	49	60	175	243	125
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			143		414	118
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			143		414	118
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		57	87
cM capacity (veh/h)			1440		570	934

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	143	235	368
Volume Left	0	60	243
Volume Right	49	0	125
cSH	1700	1440	657
Volume to Capacity	0.08	0.04	0.56
Queue Length 95th (ft)	0	3	87
Control Delay (s)	0.0	2.2	17.2
Lane LOS		A	C
Approach Delay (s)	0.0	2.2	17.2
Approach LOS			C

Intersection Summary				
Average Delay		9.2		
Intersection Capacity Utilization		47.8%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	429	15	26	598	214
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	25.0	25.0	10.0	40.0	40.0
Total Split (%)	33.3%	33.3%	13.3%	53.3%	53.3%
Maximum Green (s)	19.5	19.5	4.5	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 65.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	429	15	26	598	214	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	456	
Travel Time (s)	16.3			14.6	8.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	550	19	33	767	545	0
v/c Ratio	1.02	0.04	0.26	0.89	0.64	
Control Delay	71.5	10.3	38.0	32.2	15.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	71.5	10.3	38.0	32.2	15.8	
Queue Length 50th (ft)	~223	0	13	227	111	
Queue Length 95th (ft)	#402	12	36	#377	203	
Internal Link Dist (ft)	758			671	376	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	541	497	125	993	967	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.02	0.04	0.26	0.77	0.56	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	429	15	26	598	214	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.93	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1738	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1738	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	550	19	33	767	274	271
RTOR Reduction (vph)	0	13	0	0	49	0
Lane Group Flow (vph)	550	6	33	767	496	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	19.9	19.9	1.6	30.0	30.0	
Effective Green, g (s)	19.9	19.9	1.6	30.0	30.0	
Actuated g/C Ratio	0.29	0.29	0.02	0.44	0.44	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	514	460	41	816	761	
v/s Ratio Prot	c0.31		c0.02	c0.41	0.29	
v/s Ratio Perm		0.00				
v/c Ratio	1.07	0.01	0.80	0.94	0.65	
Uniform Delay, d1	24.3	17.3	33.3	18.4	15.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	59.7	0.0	66.1	18.1	1.5	
Delay (s)	84.0	17.3	99.4	36.5	16.7	
Level of Service	F	B	F	D	B	
Approach Delay (s)	81.8			39.1	16.7	
Approach LOS	F			D	B	

Intersection Summary				
HCM Average Control Delay	45.4	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	64.8%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	95	231	72	79	129	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	113	275	86	94	154	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	180				634	133
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	180				634	133
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				62	95
cM capacity (veh/h)	1396				407	916

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	388	180	199
Volume Left	113	0	154
Volume Right	0	94	45
cSH	1396	1700	466
Volume to Capacity	0.08	0.11	0.43
Queue Length 95th (ft)	7	0	52
Control Delay (s)	2.8	0.0	18.3
Lane LOS	A		C
Approach Delay (s)	2.8	0.0	18.3
Approach LOS			C

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

INTERSECTION ANALYSIS

Synchro Output

Existing Conditions

Weekday p.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	308	265	1	1	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	342	294	1	1	42
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	296				648	295
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	296				648	295
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	94
cM capacity (veh/h)	1266				433	744

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	6	342	296	43
Volume Left	6	0	0	1
Volume Right	0	0	1	42
cSH	1266	1700	1700	731
Volume to Capacity	0.00	0.20	0.17	0.06
Queue Length 95th (ft)	0	0	0	5
Control Delay (s)	7.9	0.0	0.0	10.2
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	10.2
Approach LOS				B

Intersection Summary				
Average Delay		0.7		
Intersection Capacity Utilization		26.2%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	190	78	20	208	57	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	211	87	22	231	63	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			298		530	254
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			298		530	254
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		87	98
cM capacity (veh/h)			1263		501	784

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	298	253	78
Volume Left	0	22	63
Volume Right	87	0	14
cSH	1700	1263	537
Volume to Capacity	0.18	0.02	0.14
Queue Length 95th (ft)	0	1	13
Control Delay (s)	0.0	0.8	12.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	12.8
Approach LOS			B

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	38.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	203	202	2	47	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1	226	224	2	52	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	227				453	226
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	227				453	226
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				91	100
cM capacity (veh/h)	1342				564	814

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	227	227	53
Volume Left	1	0	52
Volume Right	0	2	1
cSH	1342	1700	568
Volume to Capacity	0.00	0.13	0.09
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.0	0.0	12.0
Lane LOS	A		B
Approach Delay (s)	0.0	0.0	12.0
Approach LOS			B

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	21.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	46	336	346	21	29	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	52	382	393	24	33	88
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	417				891	405
vC1, stage 1 conf vol					405	
vC2, stage 2 conf vol					486	
vCu, unblocked vol	417				891	405
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	95				93	86
cM capacity (veh/h)	1142				504	646

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	52	382	417	120
Volume Left	52	0	0	33
Volume Right	0	0	24	88
cSH	1142	1700	1700	889
Volume to Capacity	0.05	0.22	0.25	0.14
Queue Length 95th (ft)	4	0	0	12
Control Delay (s)	8.3	0.0	0.0	11.8
Lane LOS	A			B
Approach Delay (s)	1.0		0.0	11.8
Approach LOS				B

Intersection Summary				
Average Delay			1.9	
Intersection Capacity Utilization			36.1%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	262	496	501	108	373
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	28.0	53.0	53.0	19.0	72.0
Total Split (%)	28.0%	53.0%	53.0%	19.0%	72.0%
Maximum Green (s)	22.5	47.0	47.0	13.5	66.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 92.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	262	83	496	501	108	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1701			3058
Travel Time (s)	38.0		33.1			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	375	0	539	545	117	405
v/c Ratio	0.65		0.55	0.50	0.52	0.16
Control Delay	37.8		18.1	3.0	47.0	4.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	37.8		18.1	3.0	47.0	4.8
Queue Length 50th (ft)	95		199	0	65	34
Queue Length 95th (ft)	141		340	53	124	58
Internal Link Dist (ft)	1870		1621			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	848		984	1093	259	2527
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.44		0.55	0.50	0.45	0.16

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	262	83	496	501	108	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3356		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3356		1863	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	285	90	539	545	117	405
RTOR Reduction (vph)	34	0	0	257	0	0
Lane Group Flow (vph)	341	0	539	288	117	405
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	14.9		48.9	48.9	11.7	66.1
Effective Green, g (s)	14.9		48.9	48.9	11.7	66.1
Actuated g/C Ratio	0.16		0.53	0.53	0.13	0.71
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	541		985	837	224	2529
v/s Ratio Prot	c0.10		c0.29		c0.07	0.11
v/s Ratio Perm				0.18		
v/c Ratio	0.63		0.55	0.34	0.52	0.16
Uniform Delay, d1	36.2		14.5	12.6	37.8	4.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4		2.2	1.1	2.5	0.1
Delay (s)	38.6		16.6	13.7	40.3	4.4
Level of Service	D		B	B	D	A
Approach Delay (s)	38.6		15.2			12.4
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	92.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	5	4	9	1083	695	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	5	4	9	1128	724	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1311	366	732			
vC1, stage 1 conf vol	728					
vC2, stage 2 conf vol	583					
vCu, unblocked vol	1311	366	732			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	99			
cM capacity (veh/h)	355	631	868			

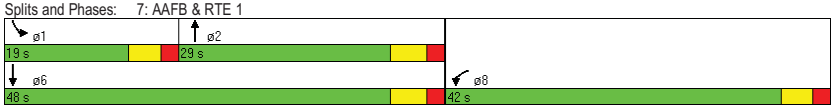
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	9	9	564	564	483	250
Volume Left	5	9	0	0	0	0
Volume Right	4	0	0	0	0	8
cSH	441	868	1700	1700	1700	1700
Volume to Capacity	0.02	0.01	0.33	0.33	0.28	0.15
Queue Length 95th (ft)	2	1	0	0	0	0
Control Delay (s)	13.3	9.2	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	13.3	0.1			0.0	
Approach LOS	B					

Intersection Summary				
Average Delay		0.1		
Intersection Capacity Utilization		39.9%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	608	128	134	195	67	102
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	42.0	0.0	29.0	0.0	19.0	48.0
Total Split (%)	46.7%	0.0%	32.2%	0.0%	21.1%	53.3%
Maximum Green (s)	36.5		23.0		13.5	42.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 42.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	608	128	134	195	67	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	715	151	158	229	79	120
v/c Ratio	0.44	0.10	0.26	0.14	0.17	0.13
Control Delay	14.3	0.1	19.7	0.2	21.5	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	0.1	19.7	0.2	21.5	9.3
Queue Length 50th (ft)	93	0	40	0	20	18
Queue Length 95th (ft)	149	0	94	0	58	47
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	2753	1583	1094	1583	744	1607
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.10	0.14	0.14	0.11	0.07

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	608	128	134	195	67	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	715	151	158	229	79	120
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	715	151	158	229	79	120
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	16.7	45.5	7.8	45.5	4.0	17.3
Effective Green, g (s)	16.7	45.5	7.8	45.5	4.0	17.3
Actuated g/C Ratio	0.37	1.00	0.17	1.00	0.09	0.38
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1260	1583	319	1583	156	708
v/s Ratio Prot	c0.21		c0.08		c0.04	0.06
v/s Ratio Perm		0.10		0.14		
v/c Ratio	0.57	0.10	0.50	0.14	0.51	0.17
Uniform Delay, d1	11.5	0.0	17.1	0.0	19.8	9.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.4	0.2	0.9	0.0
Delay (s)	11.9	0.1	17.5	0.2	20.8	9.4
Level of Service	B	A	B	A	C	A
Approach Delay (s)	9.8		7.3			13.9
Approach LOS	A		A			B

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	45.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	11	285	10	9	801	35	924
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	15.0	31.0	31.0	14.0	70.0	14.0	70.0
Total Split (%)	11.5%	23.8%	23.8%	10.8%	53.8%	10.8%	53.8%
Maximum Green (s)	10.0	26.0	26.0	9.0	64.0	9.0	64.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 77 (59%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	11	25	285	10	40	9	801	323	35	924	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				40%								
Lane Group Flow (vph)	0	48	0	188	180	0	10	1235	0	38	1019	0
v/c Ratio		0.42		0.77	0.73		0.14	0.59		0.39	0.43	
Control Delay		43.3		73.4	65.8		86.3	12.4		70.1	12.4	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		43.3		73.4	65.8		86.3	12.4		70.1	12.4	
Queue Length 50th (ft)		17		163	145		9	206		32	183	
Queue Length 95th (ft)		58		236	217		m18	568		68	365	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		156		336	338		121	2096		122	2374	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.31		0.56	0.53		0.08	0.59		0.31	0.43	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	11	25	285	10	40	9	801	323	35	924	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.96		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1705		1681	1648		1752	3354		1752	3503	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1705		1681	1648		1752	3354		1752	3503	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	9	12	27	313	11	44	10	880	355	38	1015	4
RTOR Reduction (vph)	0	26	0	0	9	0	0	26	0	0	0	0
Lane Group Flow (vph)	0	22	0	188	171	0	10	1209	0	38	1019	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		5.6		18.9	18.9		1.3	78.3		6.2	83.2	
Effective Green, g (s)		5.6		18.9	18.9		1.3	78.3		6.2	83.2	
Actuated g/C Ratio		0.04		0.15	0.15		0.01	0.60		0.05	0.64	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		73		244	240		18	2020		84	2242	
v/s Ratio Prot		c0.01		c0.11	0.10		0.01	c0.36		c0.02	c0.29	
v/s Ratio Perm												
v/c Ratio		0.30		0.77	0.71		0.56	0.60		0.45	0.45	
Uniform Delay, d1		60.3		53.5	52.9		64.1	16.1		60.2	11.9	
Progression Factor		1.00		1.00	1.00		1.39	0.66		1.00	1.00	
Incremental Delay, d2		0.9		12.8	8.0		17.3	1.2		1.4	0.7	
Delay (s)		61.2		66.2	60.9		106.3	11.8		61.7	12.5	
Level of Service		E		E	E		F	B		E	B	
Approach Delay (s)		61.2			63.6			12.6			14.3	
Approach LOS		E			E			B			B	

Intersection Summary				
HCM Average Control Delay	21.0	HCM Level of Service		C
HCM Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		27.0
Intersection Capacity Utilization	57.7%	ICU Level of Service		B
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	121	40	28	15	18	7	39	127	22	10	261	122
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	127	42	29	16	19	7	41	134	23	11	275	128
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	604	599	339	638	652	145	403			157		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	604	599	339	638	652	145	403			157		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	66	89	96	95	95	99	96			99		
cM capacity (veh/h)	378	397	703	332	371	902	1150			1417		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	199	42	198	414
Volume Left	127	16	41	11
Volume Right	29	7	23	128
cSH	411	394	1150	1417
Volume to Capacity	0.48	0.11	0.04	0.01
Queue Length 95th (ft)	64	9	3	1
Control Delay (s)	21.7	15.2	2.0	0.3
Lane LOS	C	C	A	A
Approach Delay (s)	21.7	15.2	2.0	0.3
Approach LOS	C	C		

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	52.9%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	139	120	1048	91	1042
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	31.0	31.0	85.0	14.0	99.0
Total Split (%)	23.8%	23.8%	65.4%	10.8%	76.2%
Maximum Green (s)	26.0	26.0	79.0	9.0	93.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 18 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	139	120	1048	127	91	1042
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1265			393
Travel Time (s)	8.4		24.6			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	145	125	1224	0	95	1085
v/c Ratio	0.71	0.43	0.53		0.60	0.39
Control Delay	73.4	12.8	13.6		83.1	5.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.4	12.8	13.6		83.1	5.4
Queue Length 50th (ft)	120	0	180		84	122
Queue Length 95th (ft)	184	56	481		145	139
Internal Link Dist (ft)	349		1185			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	354	417	2322		162	2804
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.41	0.30	0.53		0.59	0.39

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	139	120	1048	127	91	1042
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3448		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3448		1752	3505
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	145	125	1092	132	95	1085
RTOR Reduction (vph)	0	111	6	0	0	0
Lane Group Flow (vph)	145	14	1218	0	95	1085
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	15.0	15.0	87.3		11.7	104.0
Effective Green, g (s)	15.0	15.0	87.3		11.7	104.0
Actuated g/C Ratio	0.12	0.12	0.67		0.09	0.80
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	204	183	2315		158	2804
v/s Ratio Prot	c0.08		c0.35		c0.05	0.31
v/s Ratio Perm		0.01				
v/c Ratio	0.71	0.08	0.53		0.60	0.39
Uniform Delay, d1	55.4	51.3	10.8		56.9	3.8
Progression Factor	1.00	1.00	1.09		1.21	1.22
Incremental Delay, d2	9.3	0.1	0.8		4.0	0.4
Delay (s)	64.7	51.4	12.7		73.1	4.9
Level of Service	E	D	B		E	A
Approach Delay (s)	58.6		12.7			10.4
Approach LOS	E		B			B

Intersection Summary				
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	105	73	139	206	262	80
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	114	79	151	224	285	87
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	854	328	372			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	854	328	372			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	60	89	87			
cM capacity (veh/h)	287	713	1181			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	193	375	372
Volume Left	114	151	0
Volume Right	79	0	87
cSH	380	1181	1700
Volume to Capacity	0.51	0.13	0.22
Queue Length 95th (ft)	70	11	0
Control Delay (s)	23.9	4.2	0.0
Lane LOS	C	A	
Approach Delay (s)	23.9	4.2	0.0
Approach LOS	C		

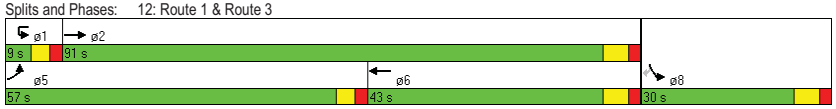
Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	961	1312	946	130	607	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	57.0	91.0	43.0	30.0	30.0	9.0
Total Split (%)	43.8%	70.0%	33.1%	23.1%	23.1%	7%
Maximum Green (s)	52.0	85.0	37.0	24.0	24.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 70 (54%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	961	1312	0	946	153	130	607
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1012	1381	0	1157	0	137	639
v/c Ratio	1.44	0.35		0.66		0.67	0.72
Control Delay	232.9	2.8		20.4		69.7	8.7
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	232.9	2.8		20.4		69.7	8.7
Queue Length 50th (ft)	~1148	68		334		112	0
Queue Length 95th (ft)	#1403	78		410		173	56
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	701	3984		1755		327	1036
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.44	0.35		0.66		0.42	0.62

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	961	1312	0	946	153	130	607
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4931		1770	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4931		1770	2787
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1012	1381	0	996	161	137	639
RTOR Reduction (vph)	0	0	0	16	0	0	565
Lane Group Flow (vph)	1012	1381	0	1141	0	137	74
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	52.0	102.9		45.9		15.1	15.1
Effective Green, g (s)	52.0	102.9		45.9		15.1	15.1
Actuated g/C Ratio	0.40	0.79		0.35		0.12	0.12
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	701	3986		1741		206	324
v/s Ratio Prot	c0.58	0.27		c0.23		c0.08	
v/s Ratio Perm							0.03
v/c Ratio	1.44	0.35		0.66		0.67	0.23
Uniform Delay, d1	39.0	3.9		35.4		55.0	52.2
Progression Factor	0.72	0.62		0.52		1.00	1.00
Incremental Delay, d2	206.6	0.2		1.8		6.1	0.1
Delay (s)	234.8	2.6		20.2		61.2	52.3
Level of Service	F	A		C		E	D
Approach Delay (s)		100.8		20.2		53.9	
Approach LOS		F		C		D	

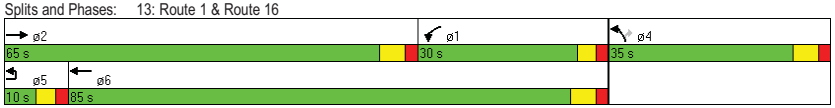
Intersection Summary			
HCM Average Control Delay	70.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	7	1950	189	1396	523	362
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	65.0	30.0	85.0	35.0	35.0
Total Split (%)	7.7%	50.0%	23.1%	65.4%	26.9%	26.9%
Maximum Green (s)	5.0	59.0	25.0	79.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 108 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	7	1950	685	189	1396	523	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	7	2745	0	197	1454	545	377
v/c Ratio	0.10	1.16		0.58	0.41	0.82	0.66
Control Delay	76.7	99.4		43.8	4.9	34.4	13.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	76.7	99.4		43.8	4.9	34.4	13.8
Queue Length 50th (ft)	6	~983		164	67	251	213
Queue Length 95th (ft)	m7	#606		243	146	m262	m234
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2370		337	3512	758	606
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.10	1.16		0.58	0.41	0.72	0.62

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	7	1950	685	189	1396	523	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4822		1752	5036	3400	1544
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4822		1752	5036	3400	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	7	2031	714	197	1454	545	377
RTOR Reduction (vph)	0	49	0	0	0	0	271
Lane Group Flow (vph)	7	2696	0	197	1454	545	106
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	58.7		29.0	86.7	25.3	25.3
Effective Green, g (s)	1.0	58.7		29.0	86.7	25.3	25.3
Actuated g/C Ratio	0.01	0.45		0.22	0.67	0.19	0.19
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2177		391	3359	662	300
v/s Ratio Prot	0.00	c0.56		c0.11	0.29	c0.16	
v/s Ratio Perm							0.07
v/c Ratio	0.50	1.24		0.50	0.43	0.82	0.35
Uniform Delay, d1	64.3	35.6		44.2	10.1	50.2	45.3
Progression Factor	1.24	0.75		0.76	0.49	0.58	1.54
Incremental Delay, d2	5.5	109.6		0.4	0.4	3.8	0.1
Delay (s)	85.0	136.4		33.8	5.4	32.9	69.9
Level of Service	F	F		C	A	C	E
Approach Delay (s)		136.3			8.8	48.0	
Approach LOS		F			A	D	

Intersection Summary

HCM Average Control Delay	81.5	HCM Level of Service	F
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	740	109	177	2272	27	1311
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	47.0	47.0	17.0	74.0	9.0	66.0
Total Split (%)	36.2%	36.2%	13.1%	56.9%	6.9%	50.8%
Maximum Green (s)	42.0	42.0	12.0	68.0	4.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 56 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	740	109	177	2272	27	1311	688
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	822	121	197	2524	30	2221	0
v/c Ratio	0.85	0.23	1.22	0.85	0.54	0.90	
Control Delay	52.9	9.1	186.0	30.1	90.6	28.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.9	9.1	186.0	30.1	90.6	28.8	
Queue Length 50th (ft)	336	10	~200	805	26	424	
Queue Length 95th (ft)	393	54	#362	#882	m#64	#753	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	1109	583	162	2979	56	2465	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.74	0.21	1.22	0.85	0.54	0.90	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	740	109	177	2272	27	1311	688
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4776	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4776	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	822	121	197	2524	30	1457	764
RTOR Reduction (vph)	0	75	0	0	0	67	0
Lane Group Flow (vph)	822	46	197	2524	30	2154	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	36.7	36.7	12.0	74.9	2.4	65.3	
Effective Green, g (s)	36.7	36.7	12.0	74.9	2.4	65.3	
Actuated g/C Ratio	0.28	0.28	0.09	0.58	0.02	0.50	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	969	447	162	2902	33	2399	
v/s Ratio Prot	c0.24		c0.11	c0.50	0.02	0.45	
v/s Ratio Perm		0.03					
v/c Ratio	0.85	0.10	1.22	0.87	0.91	0.90	
Uniform Delay, d1	44.0	34.5	59.0	23.4	63.7	29.3	
Progression Factor	1.00	1.00	0.98	1.15	0.98	0.81	
Incremental Delay, d2	6.7	0.0	138.3	3.6	110.4	5.4	
Delay (s)	50.8	34.5	196.0	30.6	172.6	29.2	
Level of Service	D	C	F	C	F	C	
Approach Delay (s)	48.7			42.6		31.1	
Approach LOS	D			D		C	

Intersection Summary				
HCM Average Control Delay	39.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	351	176	867	285	816
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	46.0	46.0	45.0	39.0	84.0
Total Split (%)	35.4%	35.4%	34.6%	30.0%	64.6%
Maximum Green (s)	41.0	41.0	39.0	34.0	78.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 127 (98%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	351	176	867	519	285	816
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		1563			771
Travel Time (s)	39.5		30.4			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	377	189	1490	0	306	877
v/c Ratio	0.68	0.30	0.99		0.67	0.29
Control Delay	31.3	3.5	41.7		37.4	4.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	31.3	3.5	41.7		37.4	4.5
Queue Length 50th (ft)	299	22	420		226	60
Queue Length 95th (ft)	m390	m44	#557		m238	m50
Internal Link Dist (ft)	1946		1483			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	558	629	1510		458	3022
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.68	0.30	0.99		0.67	0.29

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	351	176	867	519	285	816
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.94		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4753		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4753		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	377	189	932	558	306	877
RTOR Reduction (vph)	0	129	83	0	0	0
Lane Group Flow (vph)	377	60	1407	0	306	877
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	41.0	41.0	39.0		34.0	78.0
Effective Green, g (s)	41.0	41.0	39.0		34.0	78.0
Actuated g/C Ratio	0.32	0.32	0.30		0.26	0.60
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	558	499	1426		458	3022
v/s Ratio Prot	c0.21	0.04	c0.30		c0.17	0.17
v/s Ratio Perm						
v/c Ratio	0.68	0.12	0.99		0.67	0.29
Uniform Delay, d1	38.7	31.7	45.2		43.0	12.6
Progression Factor	0.65	0.55	0.49		0.75	0.35
Incremental Delay, d2	5.8	0.4	20.6		1.7	0.1
Delay (s)	30.9	17.8	42.7		34.0	4.5
Level of Service	C	B	D		C	A
Approach Delay (s)	26.5		42.7			12.1
Approach LOS	C		D			B

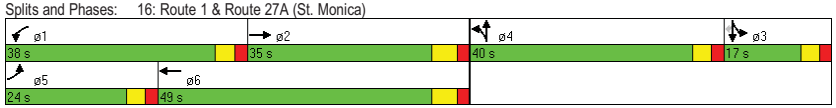
Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	260	1041	176	767	92	183	24	144	145
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	24.0	35.0	38.0	49.0	40.0	40.0	17.0	17.0	17.0
Total Split (%)	18.5%	26.9%	29.2%	37.7%	30.8%	30.8%	13.1%	13.1%	13.1%
Maximum Green (s)	19.0	29.0	33.0	43.0	35.0	35.0	12.0	12.0	12.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	1041	83	176	767	8	92	183	225	24	144	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	274	1183	0	185	815	0	97	430	0	25	152	153
v/c Ratio	1.07	0.66		0.76	0.46		0.22	0.93		0.16	0.89	0.54
Control Delay	136.7	37.5		49.7	29.0		52.1	70.6		56.9	104.3	15.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	136.7	37.5		49.7	29.0		52.1	70.6		56.9	104.3	15.8
Queue Length 50th (ft)	~255	263		110	235		62	250		20	129	0
Queue Length 95th (ft)	#438	361		120	280		m73	m281		49	#257	66
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	256	1792		445	1772		477	494		163	172	285
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.07	0.66		0.42	0.46		0.20	0.87		0.15	0.88	0.54

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

16: Route 1 & Route 27A (St. Monica)

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	1041	83	176	767	8	92	183	225	24	144	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4980		1752	5029		1770	1709		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4980		1752	5029		1770	1709		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	274	1096	87	185	807	8	97	193	237	25	152	153
RTOR Reduction (vph)	0	6	0	0	1	0	0	35	0	0	0	139
Lane Group Flow (vph)	274	1177	0	185	814	0	97	395	0	25	152	14
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	19.0	46.6		18.2	45.8		32.4	32.4		11.8	11.8	11.8
Effective Green, g (s)	19.0	46.6		18.2	45.8		32.4	32.4		11.8	11.8	11.8
Actuated g/C Ratio	0.15	0.36		0.14	0.35		0.25	0.25		0.09	0.09	0.09
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	256	1785		245	1772		441	426		161	169	144
v/s Ratio Prot	c0.16	c0.24		0.11	0.16		0.05	c0.23		0.01	c0.08	
v/s Ratio Perm												0.01
v/c Ratio	1.07	0.66		0.76	0.46		0.22	0.93		0.16	0.90	0.10
Uniform Delay, d1	55.5	35.0		53.8	32.5		38.8	47.6		54.5	58.5	54.2
Progression Factor	1.23	0.98		0.58	0.85		1.35	1.30		1.00	1.00	1.00
Incremental Delay, d2	74.8	1.8		10.9	0.8		0.0	14.5		0.2	40.4	0.1
Delay (s)	143.1	36.0		42.1	28.4		52.5	76.4		54.7	98.9	54.3
Level of Service	F	D		D	C		D	E		D	F	D
Approach Delay (s)		56.2			30.9			72.0			74.9	
Approach LOS		E			C			E			E	

Intersection Summary				
HCM Average Control Delay	52.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	76.8%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

17: Route 27A & Route 28

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	34	79	211	32	68	4	20	316	23	11	289	321
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	44	103	274	42	88	5	26	410	30	14	375	417

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	44	377	135	26	440	390	417
Volume Left (vph)	44	0	42	26	0	14	0
Volume Right (vph)	0	274	5	0	30	0	417
Hadj (s)	0.53	-0.48	0.07	0.53	-0.01	0.05	-0.67
Departure Headway (s)	8.8	7.8	9.3	8.8	8.2	8.0	7.2
Degree Utilization, x	0.11	0.82	0.35	0.06	1.00	0.86	0.84
Capacity (veh/h)	399	451	363	396	440	443	490
Control Delay (s)	11.7	36.5	17.1	11.2	71.5	42.4	36.5
Approach Delay (s)	33.9		17.1	68.2		39.3	
Approach LOS	D		C	F		E	

Intersection Summary				
Delay	43.8			
HCM Level of Service	E			
Intersection Capacity Utilization	56.8%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	114	1221	381	856	119	228	768	90	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	23.0	44.0	42.0	63.0	20.0	20.0	20.0	24.0	24.0
Total Split (%)	17.7%	33.8%	32.3%	48.5%	15.4%	15.4%	15.4%	18.5%	18.5%
Maximum Green (s)	18.0	38.0	37.0	57.0	14.0	14.0	14.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 97 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	1221	72	381	856	27	119	228	768	44	90	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			2745			740	
Travel Time (s)		29.5			27.3			53.5			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	1376	0	405	940	0	127	243	817	0	143	43
v/c Ratio	0.68	0.77		0.91	0.37		0.66	1.21	0.80		0.71	0.22
Control Delay	83.0	20.0		79.1	11.1		73.2	179.3	10.2		74.5	26.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	83.0	20.0		79.1	11.1		73.2	179.3	10.2		74.5	26.5
Queue Length 50th (ft)	109	105		357	122		105	~250	0		118	11
Queue Length 95th (ft)	m173	m#331		#488	173		#189	#420	64		184	46
Internal Link Dist (ft)		1435			1321			2665			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	243	1796		499	2569		191	201	1025		268	256
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.50	0.77		0.81	0.37		0.66	1.21	0.80		0.53	0.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

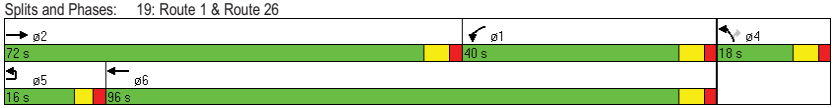
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	1221	72	381	856	27	119	228	768	44	90	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (prot)	1752	4989		1752	5013		1770	1863	2745		1833	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (perm)	1752	4989		1752	5013		1770	1863	2745		1833	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	121	1299	77	405	911	29	127	243	817	47	96	43
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	729	0	0	26
Lane Group Flow (vph)	121	1372	0	405	938	0	127	243	88	0	143	17
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	13.2	46.6		33.1	66.5		14.0	14.0	14.0		14.3	14.3
Effective Green, g (s)	13.2	46.6		33.1	66.5		14.0	14.0	14.0		14.3	14.3
Actuated g/C Ratio	0.10	0.36		0.25	0.51		0.11	0.11	0.11		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	178	1788		446	2564		191	201	296		202	174
v/s Ratio Prot	0.07	c0.27		c0.23	0.19		0.07	c0.13			c0.08	
v/s Ratio Perm									0.03			0.01
v/c Ratio	0.68	0.77		0.91	0.37		0.66	1.21	0.30		0.71	0.10
Uniform Delay, d1	56.4	36.9		47.0	19.1		55.7	58.0	53.5		55.8	52.1
Progression Factor	1.17	0.43		1.18	0.53		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	7.2	2.9		20.7	0.4		6.6	131.2	0.2		8.9	0.1
Delay (s)	73.3	18.7		76.3	10.5		62.3	189.2	53.7		64.7	52.1
Level of Service	E	B		E	B		E	F	D		E	D
Approach Delay (s)		23.1			30.4			82.3			61.8	
Approach LOS		C			C			F			E	

Intersection Summary				
HCM Average Control Delay	43.8	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	84.4%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	19	1683	382	1058	288	412
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	16.0	72.0	40.0	96.0	18.0	18.0
Total Split (%)	12.3%	55.4%	30.8%	73.8%	13.8%	13.8%
Maximum Green (s)	11.0	66.0	34.0	90.0	12.0	12.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 26 (20%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	19	1683	360	382	1058	288	412
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	20	2173	0	406	1126	306	438
v/c Ratio	0.24	0.86		0.89	0.29	0.97	0.87
Control Delay	87.7	21.7		40.8	1.6	101.0	26.4
Queue Delay	0.0	0.4		0.0	0.0	0.0	0.0
Total Delay	87.7	22.1		40.8	1.6	101.0	26.4
Queue Length 50th (ft)	17	620		357	31	134	34
Queue Length 95th (ft)	47	700		m#521	47	#227	#210
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	153	2516		458	3830	317	506
Starvation Cap Reductn	0	73		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.13	0.89		0.89	0.29	0.97	0.87

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	19	1683	360	382	1058	288	412
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4903		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4903		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	20	1790	383	406	1126	306	438
RTOR Reduction (vph)	0	26	0	0	0	0	359
Lane Group Flow (vph)	20	2147	0	406	1126	306	79
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	4.1	64.0		36.0	96.9	12.0	12.0
Effective Green, g (s)	4.1	64.0		36.0	96.9	12.0	12.0
Actuated g/C Ratio	0.03	0.49		0.28	0.75	0.09	0.09
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	57	2414		485	3754	317	146
v/s Ratio Prot	0.01	c0.44		c0.23	0.22	c0.09	
v/s Ratio Perm							0.05
v/c Ratio	0.35	0.89		0.84	0.30	0.97	0.54
Uniform Delay, d1	61.6	29.8		44.2	5.4	58.8	56.4
Progression Factor	1.37	0.63		0.52	0.29	1.00	1.00
Incremental Delay, d2	1.3	5.3		7.8	0.1	40.7	1.9
Delay (s)	85.7	24.1		30.7	1.7	99.5	58.3
Level of Service	F	C		C	A	F	E
Approach Delay (s)		24.7			9.4	75.2	
Approach LOS		C			A	E	

Intersection Summary

HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	399	1601	13	1149	97	42	16	246
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	41.0	74.0	12.0	45.0	20.0	20.0	24.0	24.0
Total Split (%)	31.5%	56.9%	9.2%	34.6%	15.4%	15.4%	18.5%	18.5%
Maximum Green (s)	36.0	68.0	7.0	39.0	15.0	15.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 36 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	399	1601	0	13	1149	112	63	97	42	143	16	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	424	1703	0	14	1341	0	0	170	45	0	169	262
v/c Ratio	0.93	0.55		0.19	0.77			0.85	0.21		0.78	0.63
Control Delay	82.7	6.9		58.1	48.4			91.1	17.1		78.8	14.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	82.7	6.9		58.1	48.4			91.1	17.1		78.8	14.6
Queue Length 50th (ft)	333	69		11	371			142	0		139	8
Queue Length 95th (ft)	m#385	159		m29	482			#262	38		216	91
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	485	3075		94	1740			211	222		261	446
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.87	0.55		0.15	0.77			0.81	0.20		0.65	0.59

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	399	1601	0	13	1149	112	63	97	42	143	16	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4969			1827	1583		1783	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4969			1827	1583		1783	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	424	1703	0	14	1222	119	67	103	45	152	17	262
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	40	0	0	220
Lane Group Flow (vph)	424	1703	0	14	1333	0	0	170	5	0	169	42
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	33.7	76.4		2.6	45.3			14.2	14.2		15.8	15.8
Effective Green, g (s)	33.7	76.4		2.6	45.3			14.2	14.2		15.8	15.8
Actuated g/C Ratio	0.26	0.59		0.02	0.35			0.11	0.11		0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	454	2960		35	1732			200	173		217	192
v/s Ratio Prot	c0.24	0.34		0.01	c0.27			c0.09			c0.09	
v/s Ratio Perm									0.00			0.03
v/c Ratio	0.93	0.58		0.40	0.77			0.85	0.03		0.78	0.22
Uniform Delay, d1	47.1	16.7		62.9	37.7			56.9	51.7		55.4	51.5
Progression Factor	1.43	0.40		0.89	1.16			1.00	1.00		1.00	1.00
Incremental Delay, d2	15.3	0.4		2.6	3.2			26.2	0.0		14.8	0.2
Delay (s)	82.4	7.0		58.3	47.1			83.0	51.8		70.2	51.7
Level of Service	F	A		E	D			F	D		E	D
Approach Delay (s)		22.0			47.2			76.5			58.9	
Approach LOS		C			D			E			E	

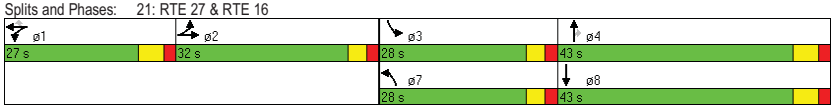
Intersection Summary				
HCM Average Control Delay	37.0	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	75.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	134	381	466	180	263	226	945	767	263	889
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	32.0	32.0	27.0	27.0	27.0	28.0	43.0	43.0	28.0	43.0
Total Split (%)	24.6%	24.6%	20.8%	20.8%	20.8%	21.5%	33.1%	33.1%	21.5%	33.1%
Maximum Green (s)	27.0	27.0	21.0	21.0	21.0	23.0	37.0	37.0	23.0	37.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 63 (48%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	381	255	466	180	263	226	945	767	263	889	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		463			1139			820			1417	
Travel Time (s)		10.5			25.9			16.0			27.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	669	0	491	189	277	238	995	807	277	972	0
v/c Ratio	0.38	0.85		0.90	0.64	0.57	0.86	0.97	1.09	0.93	0.64	
Control Delay	47.7	52.2		74.2	61.9	10.5	80.8	68.6	83.4	102.6	32.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.7	52.2		74.2	61.9	10.5	80.8	68.6	83.4	102.6	32.4	
Queue Length 50th (ft)	103	244		211	151	0	194	441	~517	211	261	
Queue Length 95th (ft)	169	#340		#304	233	81	#315	#591	#767	#403	312	
Internal Link Dist (ft)		383			1059			740			1337	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	373	789		555	301	488	310	1021	739	310	1522	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.38	0.85		0.88	0.63	0.57	0.77	0.97	1.09	0.89	0.64	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	381	255	466	180	263	226	945	767	263	889	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3327		3433	1863	1583	1752	3505	1568	1752	5008	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3327		3433	1863	1583	1752	3505	1568	1752	5008	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	141	401	268	491	189	277	238	995	807	277	936	36
RTOR Reduction (vph)	0	88	0	0	0	233	0	0	283	0	3	0
Lane Group Flow (vph)	141	581	0	491	189	44	238	995	524	277	969	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	27.4	27.4		20.6	20.6	20.6	20.5	37.8	37.8	22.2	39.5	
Effective Green, g (s)	27.4	27.4		20.6	20.6	20.6	20.5	37.8	37.8	22.2	39.5	
Actuated g/C Ratio	0.21	0.21		0.16	0.16	0.16	0.16	0.29	0.29	0.17	0.30	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	373	701		544	295	251	276	1019	456	299	1522	
v/s Ratio Prot	0.08	c0.17		c0.14	0.10		0.14	0.28		c0.16	0.19	
v/s Ratio Perm						0.03			c0.33			
v/c Ratio	0.38	0.83		0.90	0.64	0.17	0.86	0.98	1.15	0.93	0.64	
Uniform Delay, d1	44.0	49.1		53.7	51.2	47.3	53.4	45.7	46.1	53.1	39.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.28	0.77	
Incremental Delay, d2	2.9	10.9		17.9	3.5	0.1	22.4	23.1	89.8	32.2	2.0	
Delay (s)	46.9	59.9		71.6	54.8	47.5	75.8	68.7	135.9	100.0	31.9	
Level of Service	D	E		E	D	D	E	E	F	F	C	
Approach Delay (s)		57.6			61.3			96.1			47.0	
Approach LOS		E			E			F			D	

Intersection Summary

HCM Average Control Delay	71.2	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		

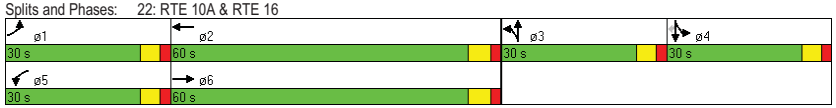
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	517	426	197	184	199	297	77	12	346
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	32.5	32.5	16.0	16.0
Total Split (s)	30.0	60.0	0.0	30.0	60.0	30.0	30.0	30.0	30.0
Total Split (%)	20.0%	40.0%	0.0%	20.0%	40.0%	20.0%	20.0%	20.0%	20.0%
Maximum Green (s)	24.5	54.0		24.5	54.0	24.5	24.5	24.5	24.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 97.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	517	426	197	184	199	40	297	77	308	103	12	346
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		450	350		0	400		0	0		400
Storage Lanes	2		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		740			717			868			1242	
Travel Time (s)		14.4			14.0			16.9			24.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	2%
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	574	473	219	204	265	0	297	461	0	0	127	384
v/c Ratio	0.67	0.59	0.14	0.71	0.54		0.71	1.02			0.56	0.72
Control Delay	38.7	38.5	0.2	53.1	40.8		45.4	78.7			51.1	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	38.7	38.5	0.2	53.1	40.8		45.4	78.7			51.1	12.6
Queue Length 50th (ft)	157	135	0	117	75		168	246			73	0
Queue Length 95th (ft)	267	221	0	212	121		#367	#580			147	90
Internal Link Dist (ft)		660			637			788			1162	
Turn Bay Length (ft)			450	350			400					400
Base Capacity (vph)	866	1968	1583	447	1926		420	453			445	687
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.66	0.24	0.14	0.46	0.14		0.71	1.02			0.29	0.56

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	517	426	197	184	199	40	297	77	308	103	12	346
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.89			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3451		1665	1552			1765	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3451		1665	1552			1765	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	574	473	219	204	221	44	330	86	342	114	13	384
RTOR Reduction (vph)	0	0	0	0	15	0	0	61	0	0	0	335
Lane Group Flow (vph)	574	473	219	204	250	0	297	400	0	0	127	49
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	2%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	24.4	22.1	97.6	15.8	13.5		24.7	24.7			12.5	12.5
Effective Green, g (s)	24.4	22.1	97.6	15.8	13.5		24.7	24.7			12.5	12.5
Actuated g/C Ratio	0.25	0.23	1.00	0.16	0.14		0.25	0.25			0.13	0.13
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	858	801	1583	287	477		421	393			226	203
v/s Ratio Prot	c0.17	c0.13		0.12	0.07		0.18	c0.26			c0.07	
v/s Ratio Perm			0.14									0.03
v/c Ratio	0.67	0.59	0.14	0.71	0.52		0.71	1.02			0.56	0.24
Uniform Delay, d1	33.0	33.7	0.0	38.7	39.1		33.1	36.4			40.0	38.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.5	0.8	0.2	6.7	0.5		4.4	49.8			1.9	0.2
Delay (s)	34.5	34.5	0.2	45.5	39.6		37.5	86.3			41.9	38.5
Level of Service	C	C	A	D	D		D	F			D	D
Approach Delay (s)		28.6			42.1			67.2			39.4	
Approach LOS		C			D			E			D	

Intersection Summary				
HCM Average Control Delay	42.3	HCM Level of Service		D
HCM Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	97.6	Sum of lost time (s)		16.5
Intersection Capacity Utilization	69.8%	ICU Level of Service		C
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	170	2	325	1	1	13	207	377	1	18	395	201
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	177	2	339	1	1	14	216	393	1	19	411	209
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1287	1274	411	1443	1482	393	621			394		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1287	1274	411	1443	1482	393	621			394		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	98	47	98	99	98	78			98		
cM capacity (veh/h)	112	127	640	42	95	656	960			1165		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	518	16	608	1	430	209
Volume Left	177	1	216	0	19	0
Volume Right	339	14	0	1	0	209
cSH	276	277	960	1700	1165	1700
Volume to Capacity	1.88	0.06	0.22	0.00	0.02	0.12
Queue Length 95th (ft)	892	4	22	0	1	0
Control Delay (s)	439.1	18.8	5.3	0.0	0.5	0.0
Lane LOS	F	C	A		A	
Approach Delay (s)	439.1	18.8	5.3		0.3	
Approach LOS	F	C				

Intersection Summary				
Average Delay	129.7			
Intersection Capacity Utilization	79.3%	ICU Level of Service		D
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	112	1	229	1	1	1	317	296	1	1	285	126
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	133	1	273	1	1	1	377	352	1	1	339	150
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1451	1450	339	1449	1449	352	339			354		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1451	1450	339	1449	1449	352	339			354		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	99	61	98	99	100	69			100		
cM capacity (veh/h)	82	90	703	50	90	691	1214			1200		

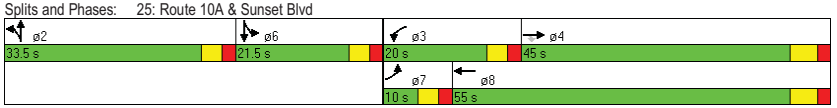
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	133	274	4	377	352	1	1	339	150
Volume Left	133	0	1	377	0	0	1	0	0
Volume Right	0	273	1	0	0	1	0	0	150
cSH	82	706	92	1214	1700	1700	1200	1700	1700
Volume to Capacity	1.64	0.39	0.04	0.31	0.21	0.00	0.00	0.20	0.09
Queue Length 95th (ft)	275	46	3	33	0	0	0	0	0
Control Delay (s)	422.2	13.5	45.6	9.3	0.0	0.0	8.0	0.0	0.0
Lane LOS	F	B	E	A			A		
Approach Delay (s)	147.3		45.6	4.8			0.0		
Approach LOS	F		E						

Intersection Summary					
Average Delay		39.0			
Intersection Capacity Utilization		55.4%	ICU Level of Service		B
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	9	561	1	293	718	254	1	15
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	10.0	45.0	45.0	20.0	55.0	33.5	33.5	21.5
Total Split (%)	8.3%	37.5%	37.5%	16.7%	45.8%	27.9%	27.9%	17.9%
Maximum Green (s)	5.0	39.0	39.0	15.0	49.0	28.5	28.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 105
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	561	1	293	718	24	254	1	279	9	15	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		165	420		0	0		90	0		0
Storage Lanes	1		1	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		737			925			632			353	
Travel Time (s)		16.8			21.0			14.4			8.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	597	1	312	790	0	270	298	0	0	39	0
v/c Ratio	0.12	0.88	0.00	1.23	0.42		0.56	0.46			0.33	
Control Delay	54.7	48.6	18.0	172.0	16.7		39.5	6.5			44.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	54.7	48.6	18.0	172.0	16.7		39.5	6.5			44.1	
Queue Length 50th (ft)	7	394	0	~280	165		166	1			18	
Queue Length 95th (ft)	25	#631	4	#467	271		263	68			52	
Internal Link Dist (ft)		657			845			552			273	
Turn Bay Length (ft)	180		165	420								
Base Capacity (vph)	85	696	592	254	1893		483	649			288	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.12	0.86	0.00	1.23	0.42		0.56	0.46			0.14	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	561	1	293	718	24	254	1	279	9	15	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1583	1770	3522		1770	1584			1756	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1583	1770	3522		1770	1584			1756	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	597	1	312	764	26	270	1	297	10	16	13
RTOR Reduction (vph)	0	0	1	0	1	0	0	221	0	0	13	0
Lane Group Flow (vph)	10	597	0	312	789	0	270	77	0	0	26	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.9	42.2	42.2	15.1	56.4		28.6	28.6			4.2	
Effective Green, g (s)	0.9	42.2	42.2	15.1	56.4		28.6	28.6			4.2	
Actuated g/C Ratio	0.01	0.38	0.38	0.14	0.51		0.26	0.26			0.04	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	14	708	601	241	1788		456	408			66	
v/s Ratio Prot	0.01	c0.32		c0.18	0.22		c0.15	0.05			c0.02	
v/s Ratio Perm			0.00									
v/c Ratio	0.71	0.84	0.00	1.29	0.44		0.59	0.19			0.40	
Uniform Delay, d1	55.0	31.4	21.4	48.0	17.4		36.1	32.2			52.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	87.8	8.7	0.0	159.8	0.1		5.6	1.0			1.5	
Delay (s)	142.8	40.1	21.4	207.8	17.4		41.7	33.2			53.7	
Level of Service	F	D	C	F	B		D	C			D	
Approach Delay (s)		41.8			71.3			37.3			53.7	
Approach LOS		D			E			D			D	

Intersection Summary					
HCM Average Control Delay	54.9	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.82				
Actuated Cycle Length (s)	111.1	Sum of lost time (s)		21.0	
Intersection Capacity Utilization	79.8%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	396	1658	290	1844	370	74	205	713	65	190
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	43.0	12.0	33.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (s)	28.0	65.0	20.0	57.0	18.0	18.0	18.0	27.0	27.0	27.0
Total Split (%)	21.5%	50.0%	15.4%	43.8%	13.8%	13.8%	13.8%	20.8%	20.8%	20.8%
Maximum Green (s)	23.0	59.0	15.0	51.0	13.0	13.0	13.0	22.0	22.0	22.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		5		0	0	0	0	10	10	10

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 9 (7%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	396	1658	518	290	1844	332	370	74	205	713	65	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	200		200	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3050			1520			526			415	
Travel Time (s)		59.4			29.6			14.3			11.3	
Confl. Peds. (#/hr)			5									142
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							41%			46%		
Lane Group Flow (vph)	435	2391	0	319	2391	0	240	248	225	423	432	209
v/c Ratio	1.40	1.07		1.58	1.23		1.43	1.45	0.70	1.49	1.50	0.57
Control Delay	232.9	64.1		318.0	142.9		264.8	272.8	25.4	275.6	279.7	17.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	232.9	64.1		318.0	142.9		264.8	272.8	25.4	275.6	279.7	17.4
Queue Length 50th (ft)	~485	~818		~389	~909		~287	~298	33	~517	~531	23
Queue Length 95th (ft)	m#507	m#742		#584	#973		#466	#480	123	#734	#750	105
Internal Link Dist (ft)		2970			1440			446			335	
Turn Bay Length (ft)	630			350			200		200	360		250
Base Capacity (vph)	310	2237		202	1950		168	171	323	284	288	366
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.40	1.07		1.58	1.23		1.43	1.45	0.70	1.49	1.50	0.57

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

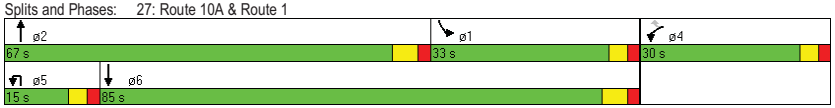
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	396	1658	518	290	1844	332	370	74	205	713	65	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4835		1752	4921		1681	1712	1583	1681	1699	1296
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4835		1752	4921		1681	1712	1583	1681	1699	1296
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	435	1822	569	319	2026	365	407	81	225	784	71	209
RTOR Reduction (vph)	0	43	0	0	20	0	0	0	165	0	0	147
Lane Group Flow (vph)	435	2348	0	319	2371	0	240	248	60	423	432	62
Confl. Peds. (#/hr)			5									142
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	23.0	59.0		15.0	51.0		13.0	13.0	13.0	22.0	22.0	22.0
Effective Green, g (s)	23.0	59.0		15.0	51.0		13.0	13.0	13.0	22.0	22.0	22.0
Actuated g/C Ratio	0.18	0.45		0.12	0.39		0.10	0.10	0.10	0.17	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	310	2194		202	1931		168	171	158	284	288	219
v/s Ratio Prot	c0.25	0.49		0.18	c0.48		0.14	c0.14		0.25	c0.25	
v/s Ratio Perm									0.04			0.05
v/c Ratio	1.40	1.07		1.58	1.23		1.43	1.45	0.38	1.49	1.50	0.28
Uniform Delay, d1	53.5	35.5		57.5	39.5		58.5	58.5	54.7	54.0	54.0	47.1
Progression Factor	1.05	0.78		0.93	1.06		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	192.2	37.5		282.7	107.3		223.7	232.2	0.6	238.1	242.4	0.3
Delay (s)	248.3	65.2		335.9	149.2		282.2	290.7	55.3	292.1	296.4	47.4
Level of Service	F	E		F	F		F	F	E	F	F	D
Approach Delay (s)		93.4			171.2			213.5			245.8	
Approach LOS		F			F			F			F	

Intersection Summary				
HCM Average Control Delay	156.1	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.35			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	106.4%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	564	366	49	1714	348	1495
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	18.0	18.0	9.0	35.0	12.0	25.0
Total Split (s)	30.0	30.0	15.0	67.0	33.0	85.0
Total Split (%)	23.1%	23.1%	11.5%	51.5%	25.4%	65.4%
Maximum Green (s)	25.0	25.0	10.0	61.0	28.0	79.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lead	Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 59 (45%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	564	366	49	1714	784	348	1495
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	2511			1905			3050
Travel Time (s)	48.9			37.1			59.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	594	385	52	2629	0	366	1574
v/c Ratio	0.92	0.65	0.48	1.12		0.97	0.49
Control Delay	72.9	12.2	67.9	87.0		55.4	6.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	72.9	12.2	67.9	87.0		55.4	6.4
Queue Length 50th (ft)	254	19	40	~916		329	96
Queue Length 95th (ft)	#356	121	m65	#1006		m270	m75
Internal Link Dist (ft)	2431			1825			2970
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	660	594	139	2339		377	3245
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.90	0.65	0.37	1.12		0.97	0.49

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	564	366	49	1714	784	348	1495
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	1.00	0.95		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4799		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4799		1752	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	594	385	52	1804	825	366	1574
RTOR Reduction (vph)	0	291	0	64	0	0	0
Lane Group Flow (vph)	594	94	52	2565	0	366	1574
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	24.4	24.4	6.9	60.5		29.1	82.7
Effective Green, g (s)	24.4	24.4	6.9	60.5		29.1	82.7
Actuated g/C Ratio	0.19	0.19	0.05	0.47		0.22	0.64
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	644	297	96	2233		392	3204
v/s Ratio Prot	c0.17		0.03	c0.53		c0.21	0.31
v/s Ratio Perm		0.06					
v/c Ratio	0.92	0.32	0.54	1.15		0.93	0.49
Uniform Delay, d1	51.9	45.6	60.0	34.8		49.5	12.5
Progression Factor	1.00	1.00	0.96	0.79		0.91	0.50
Incremental Delay, d2	18.6	0.2	2.6	71.4		4.4	0.0
Delay (s)	70.4	45.8	60.4	98.8		49.7	6.3
Level of Service	E	D	E	F		D	A
Approach Delay (s)	60.8			98.0			14.5
Approach LOS	E			F			B

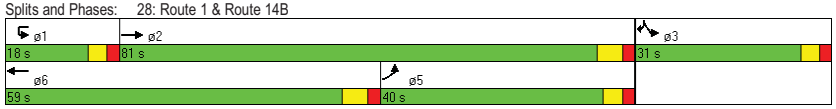
Intersection Summary			
HCM Average Control Delay	62.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	288	2108	1	1652	318	176
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	28.0	28.0
Total Split (s)	40.0	81.0	18.0	59.0	31.0	31.0
Total Split (%)	30.8%	62.3%	13.8%	45.4%	23.8%	23.8%
Maximum Green (s)	35.0	75.0	13.0	53.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 114 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	288	2108	1	1652	222	318	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2667		1905		583	
Travel Time (s)		52.0		37.1		15.9	
Confl. Peds. (#/hr)							3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	300	2196	1	1952	0	331	183
v/c Ratio	0.64	0.62	0.02	0.95		0.95	0.47
Control Delay	33.1	3.3	61.0	38.8		89.6	26.0
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	33.1	3.3	61.0	38.8		89.6	26.0
Queue Length 50th (ft)	194	68	1	635		277	63
Queue Length 95th (ft)	m256	m99	m1	#710		#459	138
Internal Link Dist (ft)		2587		1825		503	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	472	3545	181	2049		354	393
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.64	0.62	0.01	0.95		0.94	0.47

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

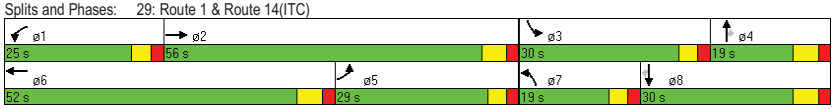
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	288	2108	1	1652	222	318	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4947		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4947		1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	300	2196	1	1721	231	331	183
RTOR Reduction (vph)	0	0	0	14	0	0	77
Lane Group Flow (vph)	300	2196	1	1938	0	331	106
Confl. Peds. (#/hr)							3
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	39.0	87.5	1.0	49.5		25.5	25.5
Effective Green, g (s)	39.0	87.5	1.0	49.5		25.5	25.5
Actuated g/C Ratio	0.30	0.67	0.01	0.38		0.20	0.20
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	526	3390	14	1884		347	311
v/s Ratio Prot	0.17	c0.44	0.00	c0.39		c0.19	0.07
v/s Ratio Perm							
v/c Ratio	0.57	0.65	0.07	1.03		0.95	0.34
Uniform Delay, d1	38.4	12.3	64.0	40.2		51.7	45.0
Progression Factor	0.68	0.26	1.01	0.78		1.00	1.00
Incremental Delay, d2	0.6	0.6	0.6	26.5		35.8	0.2
Delay (s)	26.8	3.8	65.2	57.7		87.5	45.2
Level of Service	C	A	E	E		F	D
Approach Delay (s)		6.6		57.7		72.4	
Approach LOS		A		E		E	

Intersection Summary				
HCM Average Control Delay	33.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	286	1278	198	1113	205	209	275	627	159	413
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	18.0	18.0	12.0	25.0	25.0
Total Split (s)	29.0	56.0	25.0	52.0	19.0	19.0	19.0	30.0	30.0	30.0
Total Split (%)	22.3%	43.1%	19.2%	40.0%	14.6%	14.6%	14.6%	23.1%	23.1%	23.1%
Maximum Green (s)	24.0	50.0	20.0	46.0	14.0	13.0	13.0	25.0	24.0	24.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 45 (35%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	286	1278	181	198	1113	538	205	209	275	627	159	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		2679			2667			634			1132	
Travel Time (s)		52.2			52.0			12.4			25.7	
Confl. Peds. (#/hr)			3						4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	301	1536	0	208	1738	0	216	220	289	660	167	435
v/c Ratio	0.95	0.76		0.85	0.96		0.68	0.68	0.75	1.00	0.47	0.75
Control Delay	71.5	20.4		57.8	22.7		67.9	67.9	21.6	87.4	51.9	20.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.5	20.4		57.8	22.7		67.9	67.9	21.6	87.4	51.9	20.6
Queue Length 50th (ft)	264	348		138	550		91	95	17	289	125	69
Queue Length 95th (ft)	m#425	447		m160	m#605		133	139	114	#418	202	206
Internal Link Dist (ft)		2599			2587			554			1052	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	323	2021		270	1817		370	354	396	660	356	579
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.76		0.77	0.96		0.58	0.62	0.73	1.00	0.47	0.75

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	286	1278	181	198	1113	538	205	209	275	627	159	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4932		1752	4790		3433	3539	1554	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4932		1752	4790		3433	3539	1554	3433	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	301	1345	191	208	1172	566	216	220	289	660	167	435
RTOR Reduction (vph)	0	14	0	0	66	0	0	0	242	0	0	276
Lane Group Flow (vph)	301	1522	0	208	1672	0	216	220	47	660	167	159
Confl. Peds. (#/hr)			3						4			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	23.5	52.9		18.1	47.5		12.1	12.0	12.0	25.0	24.9	24.9
Effective Green, g (s)	23.5	52.9		18.1	47.5		12.1	12.0	12.0	25.0	24.9	24.9
Actuated g/C Ratio	0.18	0.41		0.14	0.37		0.09	0.09	0.09	0.19	0.19	0.19
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	317	2007		244	1750		320	327	143	660	357	303
v/s Ratio Prot	c0.17	0.31		0.12	c0.35		0.06	c0.06		c0.19	0.09	
v/s Ratio Perm									0.03			0.10
v/c Ratio	0.95	0.76		0.85	0.96		0.68	0.67	0.33	1.00	0.47	0.53
Uniform Delay, d1	52.7	33.1		54.6	40.2		57.0	57.1	55.2	52.5	46.7	47.2
Progression Factor	0.70	0.55		0.78	0.37		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	30.8	2.1		11.6	7.1		4.4	4.2	0.5	35.0	0.4	0.8
Delay (s)	67.5	20.2		54.0	22.1		61.4	61.3	55.7	87.5	47.0	48.0
Level of Service	E	C		D	C		E	E	E	F	D	D
Approach Delay (s)		28.0			25.5			59.1			68.5	
Approach LOS		C			C			E			E	

Intersection Summary

HCM Average Control Delay	39.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

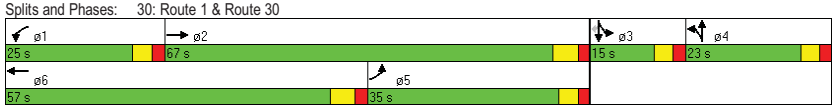
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	386	1651	86	1580	80	186	20	521
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	15.0	10.0	10.0	10.0
Total Split (s)	35.0	67.0	25.0	57.0	23.0	15.0	15.0	15.0
Total Split (%)	26.9%	51.5%	19.2%	43.8%	17.7%	11.5%	11.5%	11.5%
Maximum Green (s)	30.0	61.0	20.0	51.0	18.0	10.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 110 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	386	1651	25	86	1580	157	26	80	19	186	20	521
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2679			238			2279	
Travel Time (s)		25.0			52.2			6.5			62.2	
Confl. Peds. (#/hr)			4									4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										45%		
Lane Group Flow (vph)	415	1802	0	92	1868	0	0	134	0	110	112	560
v/c Ratio	1.03	0.63		0.61	0.88			0.70		0.85	0.85	0.96
Control Delay	89.7	19.1		69.6	27.5			72.6		106.5	106.4	36.0
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	89.7	19.1		69.6	27.5			72.6		106.5	106.4	36.0
Queue Length 50th (ft)	~369	210		69	575			106		97	100	45
Queue Length 95th (ft)	#567	349		m80	m#653			171		#214	#218	#276
Internal Link Dist (ft)		1204			2599			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	404	2878		270	2134			255		129	131	586
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.03	0.63		0.34	0.88			0.53		0.85	0.85	0.96

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

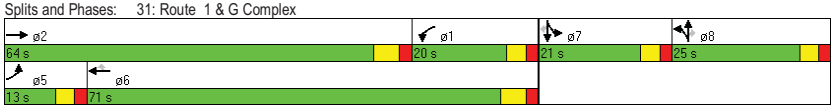
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	386	1651	25	86	1580	157	26	80	19	186	20	521
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5022		1752	4968			1806		1681	1701	1553
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5022		1752	4968			1806		1681	1701	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	415	1775	27	92	1699	169	28	86	20	200	22	560
RTOR Reduction (vph)	0	1	0	0	9	0	0	5	0	0	0	466
Lane Group Flow (vph)	415	1801	0	92	1859	0	0	129	0	110	112	94
Confl. Peds. (#/hr)			4									4
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	30.0	74.5		11.2	55.7			13.3		10.0	10.0	10.0
Effective Green, g (s)	30.0	74.5		11.2	55.7			13.3		10.0	10.0	10.0
Actuated g/C Ratio	0.23	0.57		0.09	0.43			0.10		0.08	0.08	0.08
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	404	2878		151	2129			185		129	131	119
v/s Ratio Prot	c0.24	0.36		0.05	c0.37			c0.07		0.07	c0.07	
v/s Ratio Perm												0.06
v/c Ratio	1.03	0.63		0.61	0.87			0.70		0.85	0.85	0.79
Uniform Delay, d1	50.0	18.5		57.3	33.9			56.4		59.3	59.3	59.0
Progression Factor	0.83	0.93		1.05	0.69			1.00		1.00	1.00	1.00
Incremental Delay, d2	48.3	0.9		2.7	3.1			8.8		37.6	37.5	26.5
Delay (s)	89.6	18.0		63.1	26.7			65.2		96.9	96.8	85.4
Level of Service	F	B		E	C			E		F	F	F
Approach Delay (s)		31.4			28.4			65.2			88.7	
Approach LOS		C			C			E			F	

Intersection Summary				
HCM Average Control Delay	39.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	86.9%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	7	980	137	788	30	199	14	86	24	9
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	6.5	10.0	6.5	10.0	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	28.0	12.0	24.0	24.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	13.0	64.0	20.0	71.0	71.0	25.0	25.0	25.0	21.0	21.0
Total Split (%)	10.0%	49.2%	15.4%	54.6%	54.6%	19.2%	19.2%	19.2%	16.2%	16.2%
Maximum Green (s)	8.0	58.0	15.0	65.0	65.0	20.0	20.0	20.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		15.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 25 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 1 & G Complex



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	980	369	137	788	30	199	14	86	37	24	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		1343			5039			848			380	
Travel Time (s)		26.2			98.2			19.3			13.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							47%					
Lane Group Flow (vph)	8	1587	0	161	927	35	124	126	101	0	72	11
v/c Ratio	0.09	0.57		0.85	0.38	0.03	0.69	0.69	0.39		0.51	0.08
Control Delay	61.4	19.8		78.7	5.3	0.5	74.1	74.3	13.7		70.1	26.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	61.4	19.8		78.7	5.3	0.5	74.1	74.3	13.7		70.1	26.2
Queue Length 50th (ft)	7	301		141	61	0	107	109	0		60	0
Queue Length 95th (ft)	22	375		#231	196	2	161	163	44		101	18
Internal Link Dist (ft)		1263			4959			768			300	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	108	2768		202	2432	1099	259	261	329		222	204
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.07	0.57		0.80	0.38	0.03	0.48	0.48	0.31		0.32	0.05

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	980	369	137	788	30	199	14	86	37	24	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)	1752	4829		1752	3505	1568	1681	1696	1583		1808	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)	1752	4829		1752	3505	1568	1681	1696	1583		1808	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	8	1153	434	161	927	35	234	16	101	44	28	11
RTOR Reduction (vph)	0	45	0	0	0	12	0	0	90	0	0	10
Lane Group Flow (vph)	8	1542	0	161	927	23	124	126	11	0	72	1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	1.3	68.4		18.1	85.2	85.2	14.0	14.0	14.0		8.5	8.5
Effective Green, g (s)	1.3	68.4		18.1	85.2	85.2	14.0	14.0	14.0		8.5	8.5
Actuated g/C Ratio	0.01	0.53		0.14	0.66	0.66	0.11	0.11	0.11		0.07	0.07
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	18	2541		244	2297	1028	181	183	170		118	104
v/s Ratio Prot	0.00	c0.32		c0.09	0.26		0.07	c0.07			c0.04	
v/s Ratio Perm						0.01			0.01			0.00
v/c Ratio	0.44	0.61		0.66	0.40	0.02	0.69	0.69	0.06		0.61	0.01
Uniform Delay, d1	64.0	21.4		53.0	10.5	7.8	55.9	55.9	52.1		59.1	56.8
Progression Factor	1.00	1.00		0.77	0.47	0.11	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	6.2	1.1		4.7	0.5	0.0	8.3	8.3	0.1		6.4	0.0
Delay (s)	70.2	22.5		45.7	5.4	0.9	64.1	64.2	52.2		65.5	56.8
Level of Service	E	C		D	A	A	E	E	D		E	E
Approach Delay (s)		22.8			11.0			60.7			64.4	
Approach LOS		C			B			E			E	

Intersection Summary

HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1260	1402	243	591	663
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	15.0	15.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	80.0	80.0	50.0	50.0	50.0
Total Split (%)	61.5%	61.5%	38.5%	38.5%	38.5%
Maximum Green (s)	74.0	74.0	44.0	44.0	44.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	15.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 22 (17%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 32: RTE 1 & Route 4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1260	37	0	1402	31	0	243	591	0	663	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		115	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			979			889			385	
Travel Time (s)		7.7			19.1			17.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1410	0	0	1558	0	0	585	321	0	721	0
v/c Ratio		0.43			0.48			0.71	0.80		0.80	
Control Delay		6.5			3.4			29.8	38.5		53.9	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		6.5			3.4			29.8	38.5		53.9	
Queue Length 50th (ft)		59			68			259	278		335	
Queue Length 95th (ft)		109			97			281	m70		394	
Internal Link Dist (ft)		313			899			809			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3270			3274			1082	516		1198	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.43			0.48			0.54	0.62		0.60	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1260	37	0	1402	31	0	243	591	0	663	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		1.00			1.00			0.92	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		5014			5019			3111	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		5014			5019			3111	1441		3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1370	40	0	1524	34	0	264	642	0	721	0
RTOR Reduction (vph)	0	2	0	0	1	0	0	32	32	0	0	0
Lane Group Flow (vph)	0	1408	0	0	1557	0	0	553	289	0	721	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		84.7			84.7			33.3	33.3		33.3	
Effective Green, g (s)		84.7			84.7			33.3	33.3		33.3	
Actuated g/C Ratio		0.65			0.65			0.26	0.26		0.26	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3267			3270			797	369		907	
v/s Ratio Prot		0.28			c0.31			0.18			c0.20	
v/s Ratio Perm									0.20			
v/c Ratio		0.43			0.48			0.69	0.78		0.79	
Uniform Delay, d1		11.0			11.4			43.7	45.0		45.2	
Progression Factor		0.54			0.24			0.64	0.65		1.06	
Incremental Delay, d2		0.2			0.5			1.9	8.6		4.3	
Delay (s)		6.1			3.2			29.8	37.6		52.0	
Level of Service		A			A			C	D		D	
Approach Delay (s)		6.1			3.2			32.5			52.0	
Approach LOS		A			A			C			D	

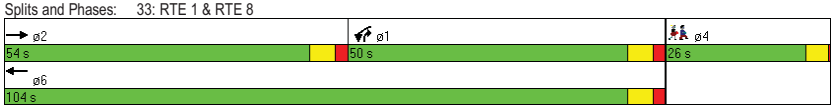
Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1671	737	1375	498	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	35.0	22.0	35.0	20.0
Total Split (s)	54.0	50.0	104.0	50.0	26.0
Total Split (%)	41.5%	38.5%	80.0%	38.5%	20%
Maximum Green (s)	48.0	44.0	98.0	44.0	22.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 37 (28%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 33: RTE 1 & RTE 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1671	250	737	1375	0	498
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	979			927	469	
Travel Time (s)	19.1			18.1	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2135	0	819	1528	0	553
v/c Ratio	0.76		0.71	0.44		0.41
Control Delay	19.9		41.4	0.3		2.2
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	19.9		41.4	0.3		2.2
Queue Length 50th (ft)	328		223	0		0
Queue Length 95th (ft)	393		313	0		25
Internal Link Dist (ft)	899			847	389	
Turn Bay Length (ft)			300			
Base Capacity (vph)	2819		1151	3505		1343
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.76		0.71	0.44		0.41

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1671	250	737	1375	0	498
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0		6.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.98		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4938		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4938		3400	3505		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1857	278	819	1528	0	553
RTOR Reduction (vph)	10	0	0	0	0	366
Lane Group Flow (vph)	2125	0	819	1528	0	187
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	74.0		44.0	130.0		44.0
Effective Green, g (s)	74.0		44.0	130.0		44.0
Actuated g/C Ratio	0.57		0.34	1.00		0.34
Clearance Time (s)	6.0		6.0	6.0		6.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	2811		1151	3505		943
v/s Ratio Prot	c0.43		c0.24	0.44		0.07
v/s Ratio Perm						
v/c Ratio	0.76		0.71	0.44		0.20
Uniform Delay, d1	21.2		37.5	0.0		30.5
Progression Factor	0.86		1.01	1.00		1.00
Incremental Delay, d2	1.8		1.5	0.3		0.0
Delay (s)	19.9		39.3	0.3		30.5
Level of Service	B		D	A		C
Approach Delay (s)	19.9			13.9	30.5	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	37	438	296	497	816	133
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	40	471	318	534	877	143
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1157	469	
pX, platoon unblocked						
vC, conflicting volume	1781	439	877			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1781	439	877			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	7	17	58			
cM capacity (veh/h)	43	566	765			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	40	471	318	267	267	439	439	143
Volume Left	40	0	318	0	0	0	0	0
Volume Right	0	471	0	0	0	0	0	143
cSH	43	566	765	1700	1700	1700	1700	1700
Volume to Capacity	0.93	0.83	0.42	0.16	0.16	0.26	0.26	0.08
Queue Length 95th (ft)	92	215	51	0	0	0	0	0
Control Delay (s)	261.8	35.3	13.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	E	B					
Approach Delay (s)	53.0		4.9			0.0		
Approach LOS	F							

Intersection Summary				
Average Delay	13.1			
Intersection Capacity Utilization	56.3%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1084	205	601	632	143	596
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	21.0	31.0	16.0	
Total Split (s)	45.0	45.0	30.0	45.0	33.0	0.0
Total Split (%)	41.7%	41.7%	27.8%	41.7%	30.6%	0.0%
Maximum Green (s)	39.0	39.0	24.5	39.0	27.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	0	0			0	

Intersection Summary
Cycle Length: 108
Actuated Cycle Length: 95.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1084	205	601	632	143	596
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1157			1264	644	
Travel Time (s)	22.5			24.6	12.5	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1372	259	761	800	181	754
v/c Ratio	0.94	0.34	0.87	0.31	0.68	0.48
Control Delay	41.9	6.4	46.8	5.4	51.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	6.4	46.8	5.4	51.5	1.0
Queue Length 50th (ft)	410	19	225	75	105	0
Queue Length 95th (ft)	#463	52	270	107	150	0
Internal Link Dist (ft)	1077			1184	564	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1454	772	886	2572	503	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.34	0.86	0.31	0.36	0.48

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1084	205	601	632	143	596
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	1770	1583
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	1372	259	761	800	181	754
RTOR Reduction (vph)	0	121	0	0	0	0
Lane Group Flow (vph)	1372	138	761	800	181	754
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	39.1	39.1	24.2	68.8	14.3	95.1
Effective Green, g (s)	39.1	39.1	24.2	68.8	14.3	95.1
Actuated g/C Ratio	0.41	0.41	0.25	0.72	0.15	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1455	651	874	2560	266	1583
v/s Ratio Prot	c0.39		c0.22	0.23	c0.10	
v/s Ratio Perm		0.09				0.48
v/c Ratio	0.94	0.21	0.87	0.31	0.68	0.48
Uniform Delay, d1	26.9	18.1	34.0	4.7	38.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.3	0.1	9.2	0.0	5.6	1.0
Delay (s)	39.3	18.1	43.1	4.7	43.8	1.0
Level of Service	D	B	D	A	D	A
Approach Delay (s)	35.9			23.4	9.3	
Approach LOS	D			C	A	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	95.1	Sum of lost time (s)	17.5
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

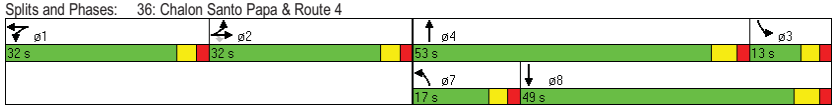
c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	206	176	167	103	636	100	749
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	25.0	25.0	26.0	8.0	22.0	8.0	22.0
Total Split (s)	32.0	32.0	32.0	17.0	53.0	13.0	49.0
Total Split (%)	24.6%	24.6%	24.6%	13.1%	40.8%	10.0%	37.7%
Maximum Green (s)	27.0	27.0	27.0	12.0	47.0	8.0	43.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 63 (48%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	206	176	141	167	92	103	636	141	100	749	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			810			850	
Travel Time (s)		28.3			11.8			15.8			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	308	200	0	455	0	117	883	0	114	896	0
v/c Ratio		0.89	0.43		0.80		0.78	0.45		0.69	0.44	
Control Delay		77.9	8.8		60.5		104.9	17.9		79.4	41.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		77.9	8.8		60.5		104.9	17.9		79.4	41.1	
Queue Length 50th (ft)		250	0		185		104	113		68	183	
Queue Length 95th (ft)		#375	59		228		m#173	121		#162	175	
Internal Link Dist (ft)		1164			439			730			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		382	487		719		163	2009		166	2037	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.81	0.41		0.63		0.72	0.44		0.69	0.44	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

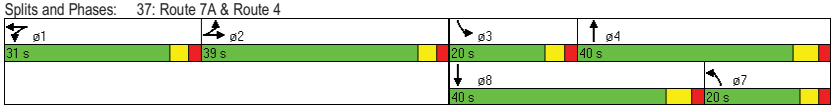
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	206	176	141	167	92	103	636	141	100	749	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.97		1.00	0.97		1.00	0.99	
Flt Protected		0.99	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1841	1583		3358		1770	4947		1770	5047	
Flt Permitted		0.99	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1841	1583		3358		1770	4947		1770	5047	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	74	234	200	160	190	105	117	723	160	114	851	45
RTOR Reduction (vph)	0	0	162	0	23	0	0	26	0	0	4	0
Lane Group Flow (vph)	0	308	38	0	432	0	117	857	0	114	892	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		24.5	24.5		21.0		11.1	51.3		12.2	52.4	
Effective Green, g (s)		24.5	24.5		21.0		11.1	51.3		12.2	52.4	
Actuated g/C Ratio		0.19	0.19		0.16		0.09	0.39		0.09	0.40	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		347	298		542		151	1952		166	2034	
v/s Ratio Prot		c0.17			c0.13		c0.07	0.17		c0.06	c0.18	
v/s Ratio Perm			0.02									
v/c Ratio		0.89	0.13		0.80		0.77	0.44		0.69	0.44	
Uniform Delay, d1		51.4	43.9		52.5		58.2	28.8		57.0	28.1	
Progression Factor		1.00	1.00		1.00		1.31	0.60		1.05	1.37	
Incremental Delay, d2		22.3	0.1		7.5		18.1	0.6		8.3	0.6	
Delay (s)		73.7	43.9		60.0		94.6	18.0		68.0	39.3	
Level of Service		E	D		E		F	B		E	D	
Approach Delay (s)		62.0			60.0			27.0			42.5	
Approach LOS		E			E			C			D	

Intersection Summary				
HCM Average Control Delay	43.3	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	26.0	
Intersection Capacity Utilization	64.7%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	198	265	276	282	159	555	100	800
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.0	29.0	27.0	27.0	13.0	25.0	13.0	29.0
Total Split (s)	39.0	39.0	31.0	31.0	20.0	40.0	20.0	40.0
Total Split (%)	30.0%	30.0%	23.8%	23.8%	15.4%	30.8%	15.4%	30.8%
Maximum Green (s)	34.0	34.0	26.0	26.0	15.0	34.0	15.0	34.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 8 (6%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	198	265	83	276	282	58	159	555	281	100	800	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		827			967			716			810	
Travel Time (s)		18.8			22.0			13.9			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				26%								
Lane Group Flow (vph)	215	378	0	222	448	0	173	908	0	109	1106	0
v/c Ratio	0.52	0.88		0.78	0.76		0.88	0.54		0.67	0.69	
Control Delay	47.4	67.9		70.0	58.1		96.3	34.3		72.5	58.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.4	67.9		70.0	58.1		96.3	34.3		72.5	58.5	
Queue Length 50th (ft)	155	293		195	191		145	214		97	346	
Queue Length 95th (ft)	233	#433		293	251		#273	278		m157	397	
Internal Link Dist (ft)		747			887			636			730	
Turn Bay Length (ft)				250			250			200		
Base Capacity (vph)	463	479		322	667		204	1684		204	1594	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.79		0.69	0.67		0.85	0.54		0.53	0.69	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	198	265	83	276	282	58	159	555	281	100	800	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.96		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1796		1610	3290		1770	4829		1770	4923	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1796		1610	3290		1770	4829		1770	4923	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	215	288	90	300	307	63	173	603	305	109	870	236
RTOR Reduction (vph)	0	9	0	0	10	0	0	63	0	0	35	0
Lane Group Flow (vph)	215	369	0	222	438	0	173	845	0	109	1071	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	30.5	30.5		22.9	22.9		14.4	43.6		12.0	41.2	
Effective Green, g (s)	30.5	30.5		22.9	22.9		14.4	43.6		12.0	41.2	
Actuated g/C Ratio	0.23	0.23		0.18	0.18		0.11	0.34		0.09	0.32	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	415	421		284	580		196	1620		163	1560	
v/s Ratio Prot	0.12	c0.21		c0.14	0.13		c0.10	0.17		0.06	c0.22	
v/s Ratio Perm												
v/c Ratio	0.52	0.88		0.78	0.76		0.88	0.52		0.67	0.69	
Uniform Delay, d1	43.3	47.9		51.2	50.9		57.0	34.8		57.1	38.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.96	1.45	
Incremental Delay, d2	0.5	17.6		12.1	5.0		33.2	1.2		7.1	2.2	
Delay (s)	43.8	65.5		63.3	55.8		90.2	36.0		62.0	58.5	
Level of Service	D	E		E	E		F	D		E	E	
Approach Delay (s)		57.6			58.3			44.7			58.8	
Approach LOS		E			E			D			E	

Intersection Summary					
HCM Average Control Delay	54.2	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.79				
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		21.0	
Intersection Capacity Utilization	77.4%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	107	186	56	785	1212	76
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	120	209	63	882	1362	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1030	
pX, platoon unblocked	0.79	0.79	0.79			
vC, conflicting volume	1971	724	1447			
vC1, stage 1 conf vol	1404					
vC2, stage 2 conf vol	567					
vCu, unblocked vol	1701	125	1039			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	46	71	88			
cM capacity (veh/h)	223	715	527			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	329	63	441	441	908	539
Volume Left	120	63	0	0	0	0
Volume Right	209	0	0	0	0	85
cSH	396	527	1700	1700	1700	1700
Volume to Capacity	0.83	0.12	0.26	0.26	0.53	0.32
Queue Length 95th (ft)	192	10	0	0	0	0
Control Delay (s)	45.7	12.8	0.0	0.0	0.0	0.0
Lane LOS	E	B				
Approach Delay (s)	45.7	0.8			0.0	
Approach LOS	E					

Intersection Summary				
Average Delay		5.8		
Intersection Capacity Utilization		66.6%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	214	154	119	31
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	24.0	31.0	35.0	35.0
Total Split (%)	26.7%	34.4%	38.9%	38.9%
Maximum Green (s)	20.0	27.0	31.0	31.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 73.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	214	328	459	154	16	119	31	339	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		350			827			400			205	
Travel Time (s)		8.0			18.8			9.1			4.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	580	0	0	669	0	127	394	0	0	0	0
v/c Ratio		0.75			1.05dl		0.17	0.44				
Control Delay		18.5			31.3		16.8	4.9				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		18.5			31.3		16.8	4.9				
Queue Length 50th (ft)		51			146		35	9				
Queue Length 95th (ft)		112			226		90	75				
Internal Link Dist (ft)		270			747			320			125	
Turn Bay Length (ft)												
Base Capacity (vph)		1140			1267		756	893				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.51			0.53		0.17	0.44				

Intersection Summary

Area Type: Other

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	214	328	459	154	16	119	31	339	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.91			1.00		1.00	0.86				
Flt Protected		1.00			0.96		0.95	1.00				
Satd. Flow (prot)		3219			3402		1770	1607				
Flt Permitted		1.00			0.96		0.95	1.00				
Satd. Flow (perm)		3219			3402		1770	1607				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	3	228	349	488	164	17	127	33	361	0	0	0
RTOR Reduction (vph)	0	297	0	0	2	0	0	206	0	0	0	0
Lane Group Flow (vph)	0	283	0	0	667	0	127	188	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		10.9			19.2		31.5	31.5				
Effective Green, g (s)		10.9			19.2		31.5	31.5				
Actuated g/C Ratio		0.15			0.26		0.43	0.43				
Clearance Time (s)		4.0			4.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		477			887		758	688				
v/s Ratio Prot		c0.09			c0.20		0.07	c0.12				
v/s Ratio Perm												
v/c Ratio		0.59			1.05dl		0.17	0.27				
Uniform Delay, d1		29.3			25.0		13.0	13.6				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		1.3			3.2		0.5	1.0				
Delay (s)		30.6			28.2		13.4	14.6				
Level of Service		C			C		B	B				
Approach Delay (s)		30.6			28.2			14.3			0.0	
Approach LOS		C			C			B			A	

Intersection Summary

HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	73.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	370	1339	925	10	0	279
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	420	1522	1051	11	0	317
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)			703			
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	1062				2653	526
vC1, stage 1 conf vol					1051	
vC2, stage 2 conf vol					1602	
vCu, unblocked vol	847				2614	250
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	41				100	53
cM capacity (veh/h)	707				59	675

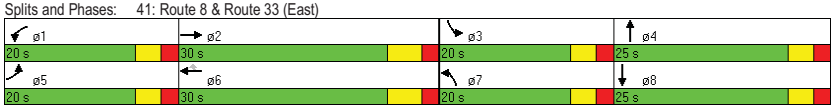
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	420	761	761	526	526	11	317
Volume Left	420	0	0	0	0	0	0
Volume Right	0	0	0	0	0	11	317
cSH	707	1700	1700	1700	1700	1700	675
Volume to Capacity	0.59	0.45	0.45	0.31	0.31	0.01	0.47
Queue Length 95th (ft)	99	0	0	0	0	0	63
Control Delay (s)	17.3	0.0	0.0	0.0	0.0	0.0	15.0
Lane LOS	C						B
Approach Delay (s)	3.7			0.0			15.0
Approach LOS							B

Intersection Summary				
Average Delay		3.6		
Intersection Capacity Utilization		52.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	793	65	486	60	156	68	167	41
Turn Type	Prot		Prot		Perm	Prot		Prot	
Protected Phases	5	2	1	6		7	4	3	8
Permitted Phases					6				
Detector Phase	5	2	1	6	6	7	4	3	8
Switch Phase									
Minimum Initial (s)	2.5	6.0	2.5	2.0	2.0	2.5	2.5	2.5	2.0
Minimum Split (s)	8.0	12.0	8.0	12.0	12.0	8.0	8.0	8.0	8.0
Total Split (s)	20.0	30.0	20.0	30.0	30.0	20.0	25.0	20.0	25.0
Total Split (%)	21.1%	31.6%	21.1%	31.6%	31.6%	21.1%	26.3%	21.1%	26.3%
Maximum Green (s)	15.0	24.0	15.0	24.0	24.0	15.0	20.0	15.0	20.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0		7.0
Flash Dont Walk (s)		15.0		15.0	15.0		15.0		15.0
Pedestrian Calls (#/hr)		5		5	5		5		5

Intersection Summary
Cycle Length: 95
Actuated Cycle Length: 74.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	793	100	65	486	60	156	68	96	167	41	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		150	150		100	0		75
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		703			2651			2228			418	
Travel Time (s)		13.7			51.6			43.4			8.1	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	1051	0	76	572	71	184	193	0	196	50	0
v/c Ratio	0.06	0.90		0.41	0.36	0.10	0.44	0.63		0.69	0.19	
Control Delay	40.0	39.2		41.8	16.7	5.6	34.3	30.2		45.6	30.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	40.0	39.2		41.8	16.7	5.6	34.3	30.2		45.6	30.2	
Queue Length 50th (ft)	3	250		34	83	0	82	56		87	20	
Queue Length 95th (ft)	17	#477		80	182	26	164	115		#178	50	
Internal Link Dist (ft)		623			2571			2148			338	
Turn Bay Length (ft)	150			150		150	150					
Base Capacity (vph)	368	1168		368	1581	746	427	528		368	524	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.02	0.90		0.21	0.36	0.10	0.43	0.37		0.53	0.10	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	793	100	65	486	60	156	68	96	167	41	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.91		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3480		1770	3539	1583	1770	1699		1770	1852	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3480		1770	3539	1583	1770	1699		1770	1852	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	7	933	118	76	572	71	184	80	113	196	48	2
RTOR Reduction (vph)	0	9	0	0	0	42	0	57	0	0	2	0
Lane Group Flow (vph)	7	1042	0	76	572	29	184	136	0	196	48	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6						
Actuated Green, G (s)	0.9	27.8		6.5	33.4	33.4	17.6	13.5		12.1	8.0	
Effective Green, g (s)	0.9	27.8		6.5	33.4	33.4	17.6	13.5		12.1	8.0	
Actuated g/C Ratio	0.01	0.34		0.08	0.41	0.41	0.22	0.17		0.15	0.10	
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	20	1196		142	1461	654	385	284		265	183	
v/s Ratio Prot	0.00	c0.30		c0.04	0.16		0.10	c0.08		c0.11	0.03	
v/s Ratio Perm						0.02						
v/c Ratio	0.35	0.87		0.54	0.39	0.04	0.48	0.48		0.74	0.26	
Uniform Delay, d1	39.7	24.9		35.7	16.6	14.2	27.6	30.5		32.9	33.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.8	7.0		1.9	0.1	0.0	0.3	0.5		9.0	0.3	
Delay (s)	43.5	31.8		37.7	16.7	14.2	28.0	31.0		41.9	34.0	
Level of Service	D	C		D	B	B	C	C		D	C	
Approach Delay (s)		31.9			18.7			29.5			40.3	
Approach LOS		C			B			C			D	

Intersection Summary

HCM Average Control Delay	28.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	80.9	Sum of lost time (s)	21.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	912	538	742	616	424	614
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	38.0	30.0	32.0	70.0	30.0	32.0
Total Split (%)	38.0%	30.0%	32.0%	70.0%	30.0%	32.0%
Maximum Green (s)	32.0	24.0	26.0	64.0	24.0	26.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	912	538	742	616	424	614
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			433	789	
Travel Time (s)	14.8			8.4	15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	970	572	789	655	451	653
v/c Ratio	0.81	0.58	0.89	0.28	0.60	0.43
Control Delay	37.4	13.9	47.8	5.4	38.3	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	13.9	47.8	5.4	38.3	13.8
Queue Length 50th (ft)	304	193	253	90	129	121
Queue Length 95th (ft)	#413	293	#357	51	180	165
Internal Link Dist (ft)	682			353	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	1193	968	884	2314	824	1518
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.59	0.89	0.28	0.55	0.43

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	912	538	742	616	424	614
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	970	572	789	655	451	653
RTOR Reduction (vph)	0	7	0	0	0	16
Lane Group Flow (vph)	970	565	789	655	451	637
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	34.0	56.0	26.0	66.0	22.0	48.0
Effective Green, g (s)	34.0	56.0	26.0	66.0	22.0	48.0
Actuated g/C Ratio	0.34	0.56	0.26	0.66	0.22	0.48
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	1192	972	884	2313	755	1505
v/s Ratio Prot	c0.28	c0.13	c0.23	0.19	0.13	0.11
v/s Ratio Perm		0.23				0.12
v/c Ratio	0.81	0.58	0.89	0.28	0.60	0.42
Uniform Delay, d1	30.1	14.3	35.7	7.1	35.0	17.0
Progression Factor	1.00	1.00	0.98	0.68	1.00	1.00
Incremental Delay, d2	6.1	0.6	10.1	0.3	0.9	0.1
Delay (s)	36.3	14.9	45.0	5.1	35.9	17.0
Level of Service	D	B	D	A	D	B
Approach Delay (s)	28.3			26.9	24.7	
Approach LOS	C			C	C	

Intersection Summary				
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1406	50	1272	93	40
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	7.0	7.0
Minimum Split (s)	26.0	16.0	26.0	13.0	13.0
Total Split (s)	62.0	25.0	87.0	13.0	13.0
Total Split (%)	62.0%	25.0%	87.0%	13.0%	13.0%
Maximum Green (s)	56.0	19.0	81.0	7.0	7.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 10 (10%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1406	63	50	1272	93	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	220
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	433			505	486	
Travel Time (s)	8.4			9.8	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1546	0	53	1339	98	42
v/c Ratio	0.69		0.30	0.50	0.51	0.20
Control Delay	10.7		46.5	5.3	50.3	14.2
Queue Delay	0.1		0.0	0.0	0.0	0.0
Total Delay	10.8		46.5	5.3	50.3	14.2
Queue Length 50th (ft)	194		32	134	60	0
Queue Length 95th (ft)	242		70	212	107	30
Internal Link Dist (ft)	353			425	406	
Turn Bay Length (ft)			200			220
Base Capacity (vph)	2236		333	2839	194	211
Starvation Cap Reductn	102		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.72		0.16	0.47	0.51	0.20

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1406	63	50	1272	93	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3482		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3482		1752	3505	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1480	66	53	1339	98	42
RTOR Reduction (vph)	3	0	0	0	0	37
Lane Group Flow (vph)	1543	0	53	1339	98	5
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	62.9		8.1	77.0	11.0	11.0
Effective Green, g (s)	62.9		8.1	77.0	11.0	11.0
Actuated g/C Ratio	0.63		0.08	0.77	0.11	0.11
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2190		142	2699	195	174
v/s Ratio Prot	c0.44		0.03	c0.38	c0.06	
v/s Ratio Perm						0.00
v/c Ratio	0.70		0.37	0.50	0.50	0.03
Uniform Delay, d1	12.4		43.5	4.3	41.9	39.7
Progression Factor	0.69		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4		0.6	0.1	0.7	0.0
Delay (s)	10.0		44.1	4.3	42.7	39.7
Level of Service	A		D	A	D	D
Approach Delay (s)	10.0			5.8	41.8	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	59	88	236	41	164	85	752	380	207	979	96
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	10.0	10.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.5	36.0	36.0	11.5	36.0	36.0
Total Split (s)	17.0	17.0	17.0	29.0	29.0	29.0	17.0	62.0	62.0	22.0	67.0	67.0
Total Split (%)	13.1%	13.1%	13.1%	22.3%	22.3%	22.3%	13.1%	47.7%	47.7%	16.9%	51.5%	51.5%
Maximum Green (s)	12.0	12.0	12.0	24.0	24.0	24.0	12.0	56.0	56.0	17.0	61.0	61.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	59	88	236	41	164	85	752	380	207	979	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		626			945			3059			773	
Travel Time (s)		12.2			18.4			59.6			15.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	11%											
Lane Group Flow (vph)	72	76	100	268	47	186	97	855	432	235	1112	109
v/c Ratio	0.59	0.59	0.48	0.90	0.15	0.44	0.69	0.55	0.46	0.87	0.61	0.13
Control Delay	76.9	76.6	18.3	83.7	46.1	9.7	101.8	13.3	2.9	84.9	25.3	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.9	76.6	18.3	83.7	46.1	9.7	101.8	13.3	2.9	84.9	25.3	4.4
Queue Length 50th (ft)	63	66	0	220	34	0	84	260	54	198	358	3
Queue Length 95th (ft)	113	117	53	#349	68	60	m137	88	1	#365	435	33
Internal Link Dist (ft)		546			865			2979			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	154	161	236	323	341	441	164	1564	941	269	1820	864
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.47	0.42	0.83	0.14	0.42	0.59	0.55	0.46	0.87	0.61	0.13

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	59	88	236	41	164	85	752	380	207	979	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1742	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1742	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	81	67	100	268	47	186	97	855	432	235	1112	109
RTOR Reduction (vph)	0	0	93	0	0	154	0	0	241	0	0	50
Lane Group Flow (vph)	72	76	7	268	47	32	97	855	191	235	1112	59
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	9.6	9.6	9.6	22.2	22.2	22.2	10.4	57.5	57.5	19.7	66.8	66.8
Effective Green, g (s)	9.6	9.6	9.6	22.2	22.2	22.2	10.4	57.5	57.5	19.7	66.8	66.8
Actuated g/C Ratio	0.07	0.07	0.07	0.17	0.17	0.17	0.08	0.44	0.44	0.15	0.51	0.51
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	123	129	116	299	315	268	142	1565	700	268	1819	813
v/s Ratio Prot	0.04	c0.04		c0.15	0.03		0.05	0.24		c0.13	c0.31	
v/s Ratio Perm			0.00			0.02			0.12			0.04
v/c Ratio	0.59	0.59	0.06	0.90	0.15	0.12	0.68	0.55	0.27	0.88	0.61	0.07
Uniform Delay, d1	58.3	58.3	56.0	52.8	45.9	45.6	58.2	26.7	23.0	54.0	22.4	16.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.42	0.45	0.76	1.00	1.00	1.00
Incremental Delay, d2	4.5	4.4	0.1	26.6	0.1	0.1	8.2	1.1	0.8	25.2	1.5	0.2
Delay (s)	62.8	62.7	56.1	79.4	45.9	45.7	90.9	13.1	18.1	79.2	23.9	16.1
Level of Service	E	E	E	E	D	D	F	B	B	E	C	B
Approach Delay (s)		60.1			63.7			20.1			32.3	
Approach LOS		E			E			C			C	

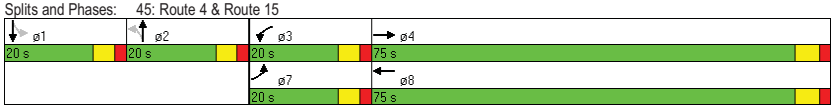
Intersection Summary				
HCM Average Control Delay	33.9	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	65.3%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	192	1279	24	707	17	5	34	3
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	16.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	20.0	75.0	20.0	75.0	20.0	20.0	20.0	20.0
Total Split (%)	14.8%	55.6%	14.8%	55.6%	14.8%	14.8%	14.8%	14.8%
Maximum Green (s)	14.5	69.0	14.5	69.0	14.5	14.5	14.5	14.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 135
Actuated Cycle Length: 106.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	192	1279	57	24	707	60	17	5	21	34	3	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		749			563			294			294	
Travel Time (s)		14.6			11.0			5.7			5.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	226	1572	0	28	903	0	0	51	0	0	166	0
v/c Ratio	0.92	0.88		0.20	0.57			0.37			0.76	
Control Delay	87.9	29.5		55.3	22.8			39.3			48.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	87.9	29.5		55.3	22.8			39.3			48.3	
Queue Length 50th (ft)	158	485		19	234			17			55	
Queue Length 95th (ft)	#342	563		51	282			57			#154	
Internal Link Dist (ft)		669			483			214			214	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	246	2333		246	2321			215			245	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.92	0.67		0.11	0.39			0.24			0.68	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	192	1279	57	24	707	60	17	5	21	34	3	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3517		1770	3497			1706			1658	
Flt Permitted	0.95	1.00		0.95	1.00			0.80			0.74	
Satd. Flow (perm)	1770	3517		1770	3497			1391			1248	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	226	1505	67	28	832	71	20	6	25	40	4	122
RTOR Reduction (vph)	0	2	0	0	6	0	0	23	0	0	73	0
Lane Group Flow (vph)	226	1570	0	28	897	0	0	28	0	0	93	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	14.8	54.1		8.3	47.6			8.7			12.2	
Effective Green, g (s)	14.8	54.1		8.3	47.6			8.7			12.2	
Actuated g/C Ratio	0.14	0.51		0.08	0.45			0.08			0.12	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	248	1798		139	1573			114			144	
v/s Ratio Prot	c0.13	c0.45		0.02	0.26							
v/s Ratio Perm								c0.02			c0.07	
v/c Ratio	0.91	0.87		0.20	0.57			0.25			0.64	
Uniform Delay, d1	44.9	22.8		45.6	21.5			45.5			44.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	33.8	4.9		0.3	0.3			0.4			7.2	
Delay (s)	78.7	27.7		45.9	21.8			45.9			51.9	
Level of Service	E	C		D	C			D			D	
Approach Delay (s)		34.1			22.6			45.9			51.9	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	31.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	105.8	Sum of lost time (s)	22.5
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

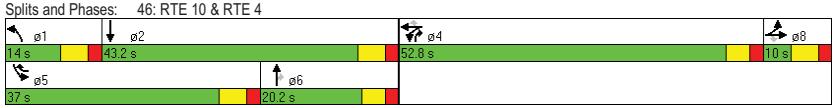
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	12	2	19	557	3	206	311	661	418
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	9.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	14.0	14.0	15.0	9.5	14.0	16.0
Total Split (s)	10.0	10.0	52.8	37.0	14.0	20.2	52.8	37.0	43.2
Total Split (%)	8.3%	8.3%	44.0%	30.8%	11.7%	16.8%	44.0%	30.8%	36.0%
Maximum Green (s)	4.0	4.0	47.3	31.0	8.0	14.7	47.3	31.0	37.2
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	5.5	5.5	6.0	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		17.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 100.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	12	2	511	19	557	3	206	311	661	418	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			734			914	
Travel Time (s)		7.3			12.6			14.3			17.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	2	0	603	633	3	234	353	751	493	0
v/c Ratio		0.42	0.03		0.88	0.56	0.02	0.56	0.38	0.83	0.64	
Control Delay		71.6	40.0		45.2	5.8	52.3	51.1	10.3	45.7	31.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		71.6	40.0		45.2	5.8	52.3	51.1	10.3	45.7	31.6	
Queue Length 50th (ft)		24	0		406	78	2	89	97	271	284	
Queue Length 95th (ft)		#69	9		#604	139	13	131	154	350	#519	
Internal Link Dist (ft)		295			565			654			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		77	69		887	1223	149	549	1104	1123	808	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.42	0.03		0.68	0.52	0.02	0.43	0.32	0.67	0.61	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	12	2	511	19	557	3	206	311	661	418	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	5.5	5.5	6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1812	1583		1777	1583	1770	3539	1583	3433	1853	
Flt Permitted		0.97	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1812	1583		1777	1583	1770	3539	1583	3433	1853	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	18	14	2	581	22	633	3	234	353	751	475	18
RTOR Reduction (vph)	0	0	2	0	0	73	0	0	51	0	1	0
Lane Group Flow (vph)	0	32	0	0	603	560	3	234	302	751	492	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		2.0	2.0		38.9	65.4	1.3	17.2	56.1	26.5	41.9	
Effective Green, g (s)		2.0	2.0		38.9	65.4	1.3	17.2	56.1	26.5	41.9	
Actuated g/C Ratio		0.02	0.02		0.36	0.61	0.01	0.16	0.52	0.25	0.39	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	5.5	5.5	6.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		34	29		642	962	21	566	906	845	722	
v/s Ratio Prot		c0.02			c0.34	0.14	0.00	0.07	0.12	c0.22	c0.27	
v/s Ratio Perm			0.00			0.21			0.07			
v/c Ratio		0.94	0.00		0.94	0.58	0.14	0.41	0.33	0.89	0.68	
Uniform Delay, d1		52.7	51.8		33.2	12.8	52.6	40.7	14.9	39.1	27.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		128.8	0.0		21.3	0.6	1.1	0.2	0.1	10.9	2.1	
Delay (s)		181.5	51.8		54.5	13.4	53.7	40.8	15.0	50.1	29.4	
Level of Service		F	D		D	B	D	D	B	D	C	
Approach Delay (s)		173.9			33.4			25.4			41.9	
Approach LOS		F			C			C			D	

Intersection Summary				
HCM Average Control Delay	36.8	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	107.6	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	80.2%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	228	106	14	1026	883	60
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	32.0	32.0	13.0	22.0	33.0	33.0
Total Split (s)	38.0	38.0	13.0	92.0	79.0	79.0
Total Split (%)	29.2%	29.2%	10.0%	70.8%	60.8%	60.8%
Maximum Green (s)	33.0	33.0	8.0	86.0	73.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 36 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	228	106	14	1026	883	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	784			300	778	
Travel Time (s)	21.4			5.8	15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	240	112	15	1080	929	63
v/c Ratio	0.82	0.43	0.14	0.42	0.38	0.06
Control Delay	71.9	50.4	52.4	6.5	10.8	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.9	50.4	52.4	6.5	10.8	9.5
Queue Length 50th (ft)	196	84	11	129	134	13
Queue Length 95th (ft)	272	134	m28	211	285	45
Internal Link Dist (ft)	704			220	698	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	402	360	108	2560	2420	1082
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.31	0.14	0.42	0.38	0.06

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	228	106	14	1026	883	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	240	112	15	1080	929	63
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	240	112	15	1080	929	63
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	24.1	24.1	3.2	94.9	86.7	86.7
Effective Green, g (s)	24.1	24.1	3.2	94.9	86.7	86.7
Actuated g/C Ratio	0.19	0.19	0.02	0.73	0.67	0.67
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	293	263	43	2559	2338	1046
v/s Ratio Prot	c0.15		0.01	c0.31	0.27	
v/s Ratio Perm		0.08				0.04
v/c Ratio	0.82	0.43	0.35	0.42	0.40	0.06
Uniform Delay, d1	50.9	46.8	62.4	6.8	9.8	7.5
Progression Factor	1.00	1.00	0.86	0.80	1.00	1.00
Incremental Delay, d2	15.4	0.4	1.6	0.5	0.5	0.1
Delay (s)	66.3	47.2	55.2	6.0	10.3	7.6
Level of Service	E	D	E	A	B	A
Approach Delay (s)	60.2			6.6	10.1	
Approach LOS	E			A	B	

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	92	22	893	74	852
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	25.0	25.0	28.0	13.5	22.0
Total Split (s)	26.0	26.0	89.0	15.0	104.0
Total Split (%)	20.0%	20.0%	68.5%	11.5%	80.0%
Maximum Green (s)	21.0	21.0	83.0	10.0	98.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 55 (42%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6 & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	92	22	893	150	74	852
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		553			1337
Travel Time (s)	16.0		10.8			26.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	106	25	1198	0	85	979
v/c Ratio	0.61	0.14	0.49		0.67	0.34
Control Delay	70.9	19.8	10.2		85.2	2.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	70.9	19.8	10.2		85.2	2.6
Queue Length 50th (ft)	88	0	226		74	60
Queue Length 95th (ft)	140	26	335		#137	78
Internal Link Dist (ft)	506		473			1257
Turn Bay Length (ft)					200	
Base Capacity (vph)	286	277	2430		135	2865
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.37	0.09	0.49		0.63	0.34

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	92	22	893	150	74	852
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3429		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3429		1752	3505
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	106	25	1026	172	85	979
RTOR Reduction (vph)	0	23	8	0	0	0
Lane Group Flow (vph)	106	2	1190	0	85	979
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	12.7	12.7	91.9		9.4	106.3
Effective Green, g (s)	12.7	12.7	91.9		9.4	106.3
Actuated g/C Ratio	0.10	0.10	0.71		0.07	0.82
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	173	155	2424		127	2866
v/s Ratio Prot	c0.06		c0.35		c0.05	0.28
v/s Ratio Perm		0.00				
v/c Ratio	0.61	0.02	0.49		0.67	0.34
Uniform Delay, d1	56.3	53.0	8.5		58.8	3.0
Progression Factor	1.00	1.00	1.07		1.05	0.71
Incremental Delay, d2	4.5	0.0	0.7		9.4	0.3
Delay (s)	60.8	53.0	9.9		71.1	2.4
Level of Service	E	D	A		E	A
Approach Delay (s)	59.3		9.9			7.9
Approach LOS	E		A			A

Intersection Summary				
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	39	30	1018	847
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	26.0	13.0	22.0	30.0
Total Split (s)	26.0	15.0	104.0	89.0
Total Split (%)	20.0%	11.5%	80.0%	68.5%
Maximum Green (s)	21.0	10.0	98.0	83.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 47 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	39	59	30	1018	847	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2042			2039	7256	
Travel Time (s)	39.8			39.7	141.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	109	0	33	1131	954	0
v/c Ratio	0.61		0.29	0.39	0.35	
Control Delay	46.1		47.4	6.7	8.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	46.1		47.4	6.7	8.8	
Queue Length 50th (ft)	48		27	132	98	
Queue Length 95th (ft)	106		64	279	313	
Internal Link Dist (ft)	1962			1959	7176	
Turn Bay Length (ft)			125			
Base Capacity (vph)	314		135	2934	2710	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.35		0.24	0.39	0.35	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	39	59	30	1018	847	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	1.00	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1677		1752	3505	3498	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1677		1752	3505	3498	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	43	66	33	1131	941	13
RTOR Reduction (vph)	47	0	0	0	0	0
Lane Group Flow (vph)	62	0	33	1131	954	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	10.2		5.1	108.8	98.7	
Effective Green, g (s)	10.2		5.1	108.8	98.7	
Actuated g/C Ratio	0.08		0.04	0.84	0.76	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	132		69	2933	2656	
v/s Ratio Prot	c0.04		0.02	c0.32	0.27	
v/s Ratio Perm						
v/c Ratio	0.47		0.48	0.39	0.36	
Uniform Delay, d1	57.3		61.1	2.6	5.2	
Progression Factor	1.00		0.71	2.33	1.54	
Incremental Delay, d2	1.0		1.8	0.4	0.4	
Delay (s)	58.3		45.0	6.3	8.3	
Level of Service	E		D	A	A	
Approach Delay (s)	58.3			7.4	8.3	
Approach LOS	E			A	A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

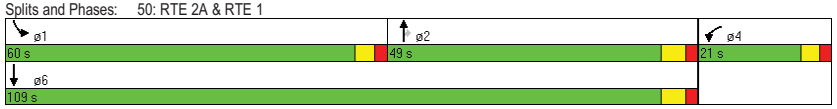
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	60	436	560	143	837	246
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	20.0		33.0	33.0	9.0	21.0
Total Split (s)	21.0	0.0	49.0	49.0	60.0	109.0
Total Split (%)	16.2%	0.0%	37.7%	37.7%	46.2%	83.8%
Maximum Green (s)	16.0		43.0	43.0	55.0	103.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	60	436	560	143	837	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	763		960			531
Travel Time (s)	14.9		18.7			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	513	659	168	985	289
v/c Ratio	0.54	0.32	0.42	0.21	0.78	0.10
Control Delay	72.5	0.5	27.6	4.8	37.8	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.5	0.5	27.6	4.8	37.8	3.1
Queue Length 50th (ft)	59	0	202	0	344	14
Queue Length 95th (ft)	100	0	276	40	458	80
Internal Link Dist (ft)	683		880			451
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	218	1583	1574	797	1442	3039
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.32	0.42	0.21	0.68	0.10

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	60	436	560	143	837	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3505	1568	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3505	1568	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	71	513	659	168	985	289
RTOR Reduction (vph)	0	0	0	94	0	0
Lane Group Flow (vph)	71	513	659	74	985	289
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	8.5	130.0	57.4	57.4	48.1	110.5
Effective Green, g (s)	8.5	130.0	57.4	57.4	48.1	110.5
Actuated g/C Ratio	0.07	1.00	0.44	0.44	0.37	0.85
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	116	1583	1548	692	1258	2979
v/s Ratio Prot	c0.04		c0.19		c0.29	0.08
v/s Ratio Perm		0.32		0.05		
v/c Ratio	0.61	0.32	0.43	0.11	0.78	0.10
Uniform Delay, d1	59.1	0.0	25.0	21.3	36.3	1.6
Progression Factor	1.00	1.00	1.00	1.00	0.92	1.66
Incremental Delay, d2	6.6	0.5	0.9	0.3	3.7	0.1
Delay (s)	65.7	0.5	25.8	21.6	37.1	2.7
Level of Service	E	A	C	C	D	A
Approach Delay (s)	8.5		25.0			29.3
Approach LOS	A		C			C

Intersection Summary				
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	44	124	238	68	297	370
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	28.0	28.0	36.0	36.0	36.0	72.0
Total Split (%)	28.0%	28.0%	36.0%	36.0%	36.0%	72.0%
Maximum Green (s)	22.5	22.5	30.0	30.0	30.5	66.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 72.8
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	44	124	238	68	297	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1099		864			879
Travel Time (s)	21.4		16.8			17.1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	133	256	73	319	398
v/c Ratio	0.23	0.44	0.17	0.10	0.76	0.15
Control Delay	34.2	11.8	15.0	4.9	38.1	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	11.8	15.0	4.9	38.1	3.2
Queue Length 50th (ft)	20	0	36	0	132	22
Queue Length 95th (ft)	54	49	72	25	220	36
Internal Link Dist (ft)	1019		784			799
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	550	583	1466	698	745	3224
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.23	0.17	0.10	0.43	0.12

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	44	124	238	68	297	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	47	133	256	73	319	398
RTOR Reduction (vph)	0	118	0	43	0	0
Lane Group Flow (vph)	47	15	256	30	319	398
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.3	8.3	30.2	30.2	17.3	53.0
Effective Green, g (s)	8.3	8.3	30.2	30.2	17.3	53.0
Actuated g/C Ratio	0.11	0.11	0.41	0.41	0.24	0.73
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	202	180	1468	657	421	2576
v/s Ratio Prot	c0.03		c0.07		c0.18	0.11
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.23	0.08	0.17	0.05	0.76	0.15
Uniform Delay, d1	29.4	28.9	13.4	12.7	25.8	3.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.3	0.1	6.8	0.0
Delay (s)	29.6	28.9	13.7	12.8	32.6	3.0
Level of Service	C	C	B	B	C	A
Approach Delay (s)	29.1		13.5			16.2
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	72.8	Sum of lost time (s)	17.0
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	126	101	280	132	211	497
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	35.0	35.0	60.0	60.0	25.0	85.0
Total Split (%)	29.2%	29.2%	50.0%	50.0%	20.8%	70.8%
Maximum Green (s)	29.5	29.5	54.0	54.0	19.5	79.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 53.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	126	101	280	132	211	497
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1682		1244			1258
Travel Time (s)	32.8		24.2			24.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	130	104	289	136	218	512
v/c Ratio	0.41	0.28	0.59	0.26	0.54	0.46
Control Delay	25.8	8.0	23.4	5.4	24.6	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	8.0	23.4	5.4	24.6	7.4
Queue Length 50th (ft)	36	0	76	0	58	71
Queue Length 95th (ft)	95	36	169	35	137	145
Internal Link Dist (ft)	1602		1164			1178
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	1006	945	1762	1504	665	1863
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.11	0.16	0.09	0.33	0.27

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	126	101	280	132	211	497
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	130	104	289	136	218	512
RTOR Reduction (vph)	0	85	0	100	0	0
Lane Group Flow (vph)	130	19	289	36	218	512
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	9.6	9.6	14.2	14.2	12.2	31.9
Effective Green, g (s)	9.6	9.6	14.2	14.2	12.2	31.9
Actuated g/C Ratio	0.18	0.18	0.27	0.27	0.23	0.60
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	321	287	499	424	407	1121
v/s Ratio Prot	c0.07		c0.16		0.12	c0.27
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.40	0.07	0.58	0.09	0.54	0.46
Uniform Delay, d1	19.2	18.0	16.8	14.5	17.9	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.0	1.0	0.0	0.7	0.1
Delay (s)	19.5	18.0	17.8	14.6	18.6	5.9
Level of Service	B	B	B	B	B	A
Approach Delay (s)	18.8		16.8			9.7
Approach LOS	B		B			A

Intersection Summary				
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	309	64	63	20	21	104
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	372	77	76	24	25	125
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	76				898	76
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	76				898	76
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	76				89	87
cM capacity (veh/h)	1523				234	985

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	449	76	24	25	125
Volume Left	372	0	0	25	0
Volume Right	0	0	24	0	125
cSH	1523	1700	1700	234	985
Volume to Capacity	0.24	0.04	0.01	0.11	0.13
Queue Length 95th (ft)	24	0	0	9	11
Control Delay (s)	7.1	0.0	0.0	22.2	9.2
Lane LOS	A			C	A
Approach Delay (s)	7.1	0.0		11.4	
Approach LOS				B	

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	3	29	33	1	11	24
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	4	39	45	1	15	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	107	45			46	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	107	45			46	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			99	
cM capacity (veh/h)	882	1024			1562	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	43	46	47
Volume Left	4	0	15
Volume Right	39	1	0
cSH	1009	1700	1562
Volume to Capacity	0.04	0.03	0.01
Queue Length 95th (ft)	3	0	1
Control Delay (s)	8.7	0.0	2.4
Lane LOS	A		A
Approach Delay (s)	8.7	0.0	2.4
Approach LOS	A		

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	18.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	139	121	100	104	56	59
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	207	181	149	155	84	88
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			388		751	298
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			388		751	298
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			87		75	88
cM capacity (veh/h)			1170		330	742

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	388	304	172
Volume Left	0	149	84
Volume Right	181	0	88
cSH	1700	1170	461
Volume to Capacity	0.23	0.13	0.37
Queue Length 95th (ft)	0	11	42
Control Delay (s)	0.0	4.8	17.4
Lane LOS		A	C
Approach Delay (s)	0.0	4.8	17.4
Approach LOS			C

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	42.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	172	15	12	151	316
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	25.0	25.0	10.0	40.0	40.0
Total Split (%)	33.3%	33.3%	13.3%	53.3%	53.3%
Maximum Green (s)	19.5	19.5	4.5	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 46.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	172	15	12	151	316	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	454	
Travel Time (s)	16.3			14.6	8.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	202	18	14	178	654	0
v/c Ratio	0.42	0.04	0.07	0.16	0.62	
Control Delay	20.8	9.9	27.2	8.7	13.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	20.8	9.9	27.2	8.7	13.0	
Queue Length 50th (ft)	40	0	3	21	97	
Queue Length 95th (ft)	130	14	21	77	311	
Internal Link Dist (ft)	758			671	374	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	832	753	192	1411	1346	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.02	0.07	0.13	0.49	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	172	15	12	151	316	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1754	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1754	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	202	18	14	178	372	282
RTOR Reduction (vph)	0	15	0	0	35	0
Lane Group Flow (vph)	202	3	14	178	619	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	9.1	9.1	0.6	25.1	25.1	
Effective Green, g (s)	9.1	9.1	0.6	25.1	25.1	
Actuated g/C Ratio	0.18	0.18	0.01	0.48	0.48	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	311	278	21	903	850	
v/s Ratio Prot	c0.11		c0.01	0.10	c0.35	
v/s Ratio Perm		0.00				
v/c Ratio	0.65	0.01	0.67	0.20	0.73	
Uniform Delay, d1	19.9	17.6	25.5	7.6	10.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.5	0.0	47.8	0.0	2.7	
Delay (s)	23.4	17.6	73.3	7.6	13.3	
Level of Service	C	B	E	A	B	
Approach Delay (s)	22.9			12.4	13.3	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	51.8	Sum of lost time (s)	17.0
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	43	84	158	71	64	54
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	45	88	165	74	67	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	239				379	202
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	239				379	202
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				89	93
cM capacity (veh/h)	1328				602	839

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	132	239	123
Volume Left	45	0	67
Volume Right	0	74	56
cSH	1328	1700	692
Volume to Capacity	0.03	0.14	0.18
Queue Length 95th (ft)	3	0	16
Control Delay (s)	2.8	0.0	11.3
Lane LOS	A		B
Approach Delay (s)	2.8	0.0	11.3
Approach LOS			B

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

INTERSECTION ANALYSIS

Synchro Output

Year 2030 Baseline (No-Build) Conditions

Weekday a.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	40	250	530	5	5	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	50	312	662	6	6	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	669				1078	666
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	669				1078	666
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				97	97
cM capacity (veh/h)	921				229	460

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	50	312	669	19
Volume Left	50	0	0	6
Volume Right	0	0	6	12
cSH	921	1700	1700	344
Volume to Capacity	0.05	0.18	0.39	0.05
Queue Length 95th (ft)	4	0	0	4
Control Delay (s)	9.1	0.0	0.0	16.1
Lane LOS	A			C
Approach Delay (s)	1.3		0.0	16.1
Approach LOS				C

Intersection Summary				
Average Delay		0.7		
Intersection Capacity Utilization		43.2%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	230	40	20	340	190	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	288	50	25	425	238	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			338		788	312
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			338		788	312
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		33	91
cM capacity (veh/h)			1222		353	728

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	338	450	300
Volume Left	0	25	238
Volume Right	50	0	62
cSH	1700	1222	395
Volume to Capacity	0.20	0.02	0.76
Queue Length 95th (ft)	0	2	155
Control Delay (s)	0.0	0.7	37.7
Lane LOS		A	E
Approach Delay (s)	0.0	0.7	37.7
Approach LOS			E

Intersection Summary				
Average Delay	10.7			
Intersection Capacity Utilization	54.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	280	360	40	10	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	350	450	50	12	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	500				838	475
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	500				838	475
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	99
cM capacity (veh/h)	1064				335	590

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	356	500	19
Volume Left	6	0	12
Volume Right	0	50	6
cSH	1064	1700	391
Volume to Capacity	0.01	0.29	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.2	0.0	14.7
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	14.7
Approach LOS			B

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	31.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	160	330	780	40	20	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	180	371	876	45	22	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	921				1629	899
vC1, stage 1 conf vol					899	
vC2, stage 2 conf vol					730	
vCu, unblocked vol	921				1629	899
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	76				92	77
cM capacity (veh/h)	741				273	338

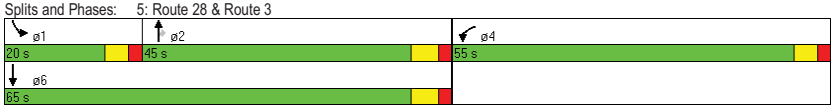
Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	180	371	921	101
Volume Left	180	0	0	22
Volume Right	0	0	45	79
cSH	741	1700	1700	434
Volume to Capacity	0.24	0.22	0.54	0.23
Queue Length 95th (ft)	24	0	0	22
Control Delay (s)	11.4	0.0	0.0	19.0
Lane LOS	B			C
Approach Delay (s)	3.7		0.0	19.0
Approach LOS				C

Intersection Summary				
Average Delay			2.5	
Intersection Capacity Utilization			65.7%	ICU Level of Service C
Analysis Period (min)			15	

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	930	380	280	110	880
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	55.0	45.0	45.0	20.0	65.0
Total Split (%)	45.8%	37.5%	37.5%	16.7%	54.2%
Maximum Green (s)	49.5	39.0	39.0	14.5	59.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 116.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	130	380	280	110	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1218	0	437	322	126	1011
v/c Ratio	0.90		0.67	0.42	0.64	0.56
Control Delay	42.8		39.9	5.0	65.4	21.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	42.8		39.9	5.0	65.4	21.9
Queue Length 50th (ft)	431		297	0	94	284
Queue Length 95th (ft)	500		401	55	153	333
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1454		648	761	220	1793
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.84		0.67	0.42	0.57	0.56

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	130	380	280	110	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3398		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3398		1863	1583	1770	3539
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1069	149	437	322	126	1011
RTOR Reduction (vph)	10	0	0	210	0	0
Lane Group Flow (vph)	1208	0	437	112	126	1011
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	46.0		40.6	40.6	13.0	59.1
Effective Green, g (s)	46.0		40.6	40.6	13.0	59.1
Actuated g/C Ratio	0.39		0.35	0.35	0.11	0.51
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1341		649	551	197	1794
v/s Ratio Prot	c0.36		c0.23		0.07	c0.29
v/s Ratio Perm				0.07		
v/c Ratio	0.90		0.67	0.20	0.64	0.56
Uniform Delay, d1	33.2		32.4	26.7	49.6	19.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8		5.5	0.8	7.0	1.3
Delay (s)	41.9		37.9	27.5	56.5	21.1
Level of Service	D		D	C	E	C
Approach Delay (s)	41.9		33.5			25.1
Approach LOS	D		C			C

Intersection Summary			
HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	116.6	Sum of lost time (s)	17.5
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	5	20	5	620	1900	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	6	23	6	721	2209	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2593	1116	2233			
vC1, stage 1 conf vol	2221					
vC2, stage 2 conf vol	372					
vCu, unblocked vol	2593	1116	2233			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	88	97			
cM capacity (veh/h)	66	202	229			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	29	6	360	360	1473	760
Volume Left	6	6	0	0	0	0
Volume Right	23	0	0	0	0	23
cSH	143	229	1700	1700	1700	1700
Volume to Capacity	0.20	0.03	0.21	0.21	0.87	0.45
Queue Length 95th (ft)	18	2	0	0	0	0
Control Delay (s)	36.4	21.1	0.0	0.0	0.0	0.0
Lane LOS	E	C				
Approach Delay (s)	36.4	0.2			0.0	
Approach LOS	E					

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		63.2%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	70	200	540	160	220
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	19.0	0.0	39.0	0.0	32.0	71.0
Total Split (%)	21.1%	0.0%	43.3%	0.0%	35.6%	78.9%
Maximum Green (s)	15.0		33.0		26.5	65.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 83.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	70	200	540	160	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	78	222	600	178	244
v/c Ratio	0.46	0.05	0.21	0.38	0.66	0.17
Control Delay	40.0	0.1	11.0	0.7	44.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	0.1	11.0	0.7	44.6	2.8
Queue Length 50th (ft)	40	0	53	0	88	24
Queue Length 95th (ft)	69	0	112	0	147	47
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	620	1583	1049	1583	564	1457
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.05	0.21	0.38	0.32	0.17

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	70	200	540	160	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	78	222	600	178	244
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	156	78	222	600	178	244
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	8.1	83.1	46.8	83.1	12.7	65.0
Effective Green, g (s)	8.1	83.1	46.8	83.1	12.7	65.0
Actuated g/C Ratio	0.10	1.00	0.56	1.00	0.15	0.78
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	335	1583	1049	1583	271	1457
v/s Ratio Prot	0.05		0.12		c0.10	0.13
v/s Ratio Perm		0.05		c0.38		
v/c Ratio	0.47	0.05	0.21	0.38	0.66	0.17
Uniform Delay, d1	35.5	0.0	9.0	0.0	33.1	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.5	0.7	4.3	0.2
Delay (s)	35.8	0.1	9.5	0.7	37.5	2.5
Level of Service	D	A	A	A	D	A
Approach Delay (s)	23.9		3.1			17.3
Approach LOS	C		A			B

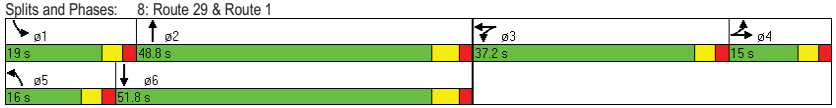
Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	5.5
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	680	150	830
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 23 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	50	70	680	280	150	830	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				42%								
Lane Group Flow (vph)	0	87	0	343	334	0	75	1032	0	161	957	0
v/c Ratio		0.58		0.87	0.84		0.57	0.72		0.79	0.58	
Control Delay		39.4		66.1	61.5		90.5	14.7		78.6	27.0	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		66.1	61.5		90.5	14.7		78.6	27.0	
Queue Length 50th (ft)		25		265	250		62	217		120	293	
Queue Length 95th (ft)		77		#387	361		m94	210		#235	405	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	453		162	1426		214	1648	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.76	0.74		0.46	0.72		0.75	0.58	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	50	70	680	280	150	830	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.98		1.00	0.96		1.00	0.99	
Flt Protected		0.99		0.95	0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1665		1752	3352		1752	3469	
Flt Permitted		0.99		0.95	0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1665		1752	3352		1752	3469	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	54	75	731	301	161	892	65
RTOR Reduction (vph)	0	51	0	0	6	0	0	34	0	0	4	0
Lane Group Flow (vph)	0	36	0	343	328	0	75	998	0	161	953	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		28.1	28.1		7.9	49.9		13.9	55.9	
Effective Green, g (s)		7.1		28.1	28.1		7.9	49.9		13.9	55.9	
Actuated g/C Ratio		0.06		0.23	0.23		0.07	0.42		0.12	0.47	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		394	390		115	1394		203	1616	
v/s Ratio Prot		c0.02		c0.20	0.20		0.04	c0.30		c0.09	0.27	
v/s Ratio Perm												
v/c Ratio		0.36		0.87	0.84		0.65	0.72		0.79	0.59	
Uniform Delay, d1		54.3		44.2	43.8		54.7	29.2		51.7	23.6	
Progression Factor		1.00		1.00	1.00		1.45	0.41		1.00	1.00	
Incremental Delay, d2		0.8		18.0	14.4		7.6	2.5		17.7	1.6	
Delay (s)		55.1		62.2	58.3		87.0	14.3		69.4	25.2	
Level of Service		E		E	E		F	B		E	C	
Approach Delay (s)		55.1			60.2			19.2			31.6	
Approach LOS		E			E			B			C	

Intersection Summary				
HCM Average Control Delay	34.2	HCM Level of Service		C
HCM Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	73.6%	ICU Level of Service		D
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	20	40	50	40	10	30	330	20	5	300	190
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	176	22	44	55	44	11	33	363	22	5	330	209
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	918	896	434	940	989	374	538			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	918	896	434	940	989	374	538			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	15	92	93	73	82	98	97			100		
cM capacity (veh/h)	207	270	622	207	238	673	1025			1168		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	110	418	544
Volume Left	176	55	33	5
Volume Right	44	11	22	209
cSH	242	235	1025	1168
Volume to Capacity	1.00	0.47	0.03	0.00
Queue Length 95th (ft)	238	57	2	0
Control Delay (s)	102.0	33.0	1.0	0.1
Lane LOS	F	D	A	A
Approach Delay (s)	102.0	33.0	1.0	0.1
Approach LOS	F	D		

Intersection Summary				
Average Delay	21.9			
Intersection Capacity Utilization	63.0%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	300	110	970	160	1510
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 90 (75%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	110	970	150	160	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	326	120	1217	0	174	1641
v/c Ratio	0.85	0.30	0.67		0.79	0.68
Control Delay	65.7	17.3	11.1		74.7	13.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	65.7	17.3	11.1		74.7	13.2
Queue Length 50th (ft)	243	28	127		142	305
Queue Length 95th (ft)	334	76	m362		m#227	349
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	472	477	1813		242	2428
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.69	0.25	0.67		0.72	0.68

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	110	970	150	160	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3434		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3434		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	120	1054	163	174	1641
RTOR Reduction (vph)	0	59	9	0	0	0
Lane Group Flow (vph)	326	61	1208	0	174	1641
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	25.9	25.9	63.0		15.1	83.1
Effective Green, g (s)	25.9	25.9	63.0		15.1	83.1
Actuated g/C Ratio	0.22	0.22	0.52		0.13	0.69
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	382	342	1803		220	2427
v/s Ratio Prot	c0.18		0.35		c0.10	c0.47
v/s Ratio Perm		0.04				
v/c Ratio	0.85	0.18	0.67		0.79	0.68
Uniform Delay, d1	45.2	38.4	20.9		50.9	10.7
Progression Factor	1.00	1.00	0.42		1.06	1.01
Incremental Delay, d2	16.1	0.1	1.8		14.2	1.3
Delay (s)	61.3	38.5	10.6		68.0	12.1
Level of Service	E	D	B		E	B
Approach Delay (s)	55.2		10.6			17.5
Approach LOS	E		B			B

Intersection Summary				
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	160	90	150	300	180
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	137	219	123	205	411	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	986	534	658			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	986	534	658			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	42	60	87			
cM capacity (veh/h)	238	546	925			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	356	329	658
Volume Left	137	123	0
Volume Right	219	0	247
cSH	365	925	1700
Volume to Capacity	0.98	0.13	0.39
Queue Length 95th (ft)	276	11	0
Control Delay (s)	75.8	4.5	0.0
Lane LOS	F	A	
Approach Delay (s)	75.8	4.5	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	21.2		
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	540	370	1730	270	1800	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 15 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	540	370	0	1730	280	270	1800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	587	402	0	2184	0	293	1957
v/c Ratio	1.54	0.13		1.28		0.55	1.53
Control Delay	278.1	10.6		158.0		40.0	264.4
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	278.1	10.6		158.0		40.0	264.4
Queue Length 50th (ft)	~658	73		~784		190	~1000
Queue Length 95th (ft)	#887	58		#854		282	#1152
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	380	3022		1703		531	1280
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.54	0.13		1.28		0.55	1.53

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	540	370	0	1730	280	270	1800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4931		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4931		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	587	402	0	1880	304	293	1957
RTOR Reduction (vph)	0	0	0	18	0	0	456
Lane Group Flow (vph)	587	402	0	2166	0	293	1501
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	380	3022		1685		531	825
v/s Ratio Prot	c0.33	0.08		c0.44		0.17	
v/s Ratio Perm							c0.55
v/c Ratio	1.54	0.13		1.29		0.55	1.82
Uniform Delay, d1	47.0	10.4		39.5		35.2	42.0
Progression Factor	0.50	1.00		0.70		1.00	1.00
Incremental Delay, d2	254.5	0.1		132.4		0.7	373.7
Delay (s)	278.0	10.5		160.1		35.9	415.7
Level of Service	F	B		F		D	F
Approach Delay (s)		169.3		160.1		366.2	
Approach LOS		F		F		F	

Intersection Summary			
HCM Average Control Delay	247.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	730	700	2410	410	270
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	730	250	700	2410	410	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1043	0	745	2564	436	287
v/c Ratio	0.15	0.74		1.04	0.71	0.75	0.57
Control Delay	58.3	36.2		52.4	8.9	35.7	5.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	58.3	36.2		52.4	8.9	35.7	5.2
Queue Length 50th (ft)	8	277		~636	280	73	1
Queue Length 95th (ft)	m24	m#149		m248	m214	102	15
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1405		715	3593	765	575
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	0.74		1.04	0.71	0.57	0.50

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	730	250	700	2410	410	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4843		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4843		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	777	266	745	2564	436	287
RTOR Reduction (vph)	0	50	0	0	0	0	238
Lane Group Flow (vph)	11	993	0	745	2564	436	49
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	29.6		53.0	81.6	20.4	20.4
Effective Green, g (s)	1.0	29.6		53.0	81.6	20.4	20.4
Actuated g/C Ratio	0.01	0.25		0.44	0.68	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1195		774	3424	578	267
v/s Ratio Prot	0.01	c0.21		c0.43	0.51	c0.13	
v/s Ratio Perm							0.03
v/c Ratio	0.73	0.83		0.96	0.75	0.75	0.18
Uniform Delay, d1	59.4	42.8		32.5	12.5	47.4	42.7
Progression Factor	0.98	0.87		0.78	0.76	0.60	0.26
Incremental Delay, d2	88.3	6.4		4.0	0.1	4.3	0.1
Delay (s)	146.3	43.6		29.6	9.7	32.6	11.1
Level of Service	F	D		C	A	C	B
Approach Delay (s)		44.7			14.2	24.1	
Approach LOS		D			B	C	

Intersection Summary

HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	290	120	230	740	10	1940
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 23 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	230	740	10	1940	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	322	133	256	822	11	3012	0
v/c Ratio	0.94	0.48	0.94	0.21	0.18	1.00	
Control Delay	89.2	14.5	92.0	3.4	60.7	28.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.2	14.5	92.0	3.4	60.7	28.5	
Queue Length 50th (ft)	129	0	208	41	9	~133	
Queue Length 95th (ft)	#219	60	#362	79	m12	#182	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	278	277	3995	60	3003	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.94	0.48	0.92	0.21	0.18	1.00	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	230	740	10	1940	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4821	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4821	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	322	133	256	822	11	2156	856
RTOR Reduction (vph)	0	120	0	0	0	59	0
Lane Group Flow (vph)	322	13	256	822	11	2953	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	18.7	91.2	0.8	73.3	
Effective Green, g (s)	12.0	12.0	18.7	91.2	0.8	73.3	
Actuated g/C Ratio	0.10	0.10	0.16	0.76	0.01	0.61	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	273	3827	12	2945	
v/s Ratio Prot	c0.09		c0.15	0.16	0.01	c0.61	
v/s Ratio Perm		0.01					
v/c Ratio	0.94	0.08	0.94	0.21	0.92	1.00	
Uniform Delay, d1	53.6	49.0	50.1	4.1	59.6	23.4	
Progression Factor	1.00	1.00	1.09	1.01	0.98	0.57	
Incremental Delay, d2	32.3	0.1	33.9	0.1	174.8	14.7	
Delay (s)	86.0	49.1	88.6	4.3	233.4	28.1	
Level of Service	F	D	F	A	F	C	
Approach Delay (s)	75.2			24.3		28.8	
Approach LOS	E			C		C	

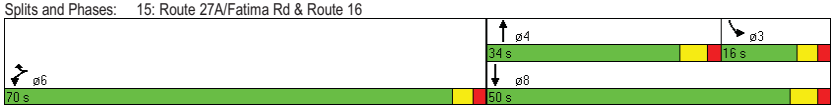
Intersection Summary				
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	650	250	550	80	1070
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	550	200	80	1070
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	774	298	893	0	95	1274
v/c Ratio	0.88	0.32	0.64		0.59	0.61
Control Delay	36.3	1.8	28.8		48.2	17.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.3	1.8	28.8		48.2	17.0
Queue Length 50th (ft)	578	14	215		67	188
Queue Length 95th (ft)	612	6	m252		m82	m217
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	984	1405		161	2082
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.81	0.30	0.64		0.59	0.61

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	550	200	80	1070
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4835		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4835		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	774	298	655	238	95	1274
RTOR Reduction (vph)	0	140	51	0	0	0
Lane Group Flow (vph)	774	158	842	0	95	1274
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	59.4	59.4	33.6		11.0	49.6
Effective Green, g (s)	59.4	59.4	33.6		11.0	49.6
Actuated g/C Ratio	0.49	0.49	0.28		0.09	0.41
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	876	784	1354		161	2082
v/s Ratio Prot	c0.44	0.10	0.17		0.05	c0.25
v/s Ratio Perm						
v/c Ratio	0.88	0.20	0.62		0.59	0.61
Uniform Delay, d1	27.2	17.0	37.7		52.3	27.6
Progression Factor	0.89	0.42	0.75		0.71	0.56
Incremental Delay, d2	10.1	0.0	1.8		2.6	0.9
Delay (s)	34.1	7.2	30.0		39.8	16.3
Level of Service	C	A	C		D	B
Approach Delay (s)	26.6		30.0			17.9
Approach LOS	C		C			B

Intersection Summary				
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

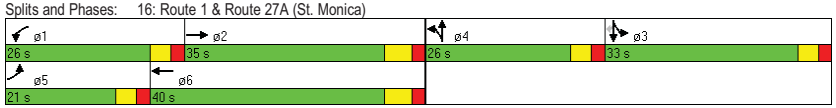
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	140	470	150	1060	110	120	30	230	450
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	470	90	150	1060	5	110	120	90	30	230	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	615	0	165	1170	0	121	231	0	33	253	495
v/c Ratio	0.77	0.33		0.73	0.60		0.47	0.83		0.11	0.78	0.81
Control Delay	84.3	8.9		85.4	22.2		68.5	81.9		39.8	63.5	19.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	84.3	8.9		85.4	22.2		68.5	81.9		39.8	63.5	19.8
Queue Length 50th (ft)	100	71		130	131		100	172		22	190	59
Queue Length 95th (ft)	#184	108		m206	m239		m159	#259		48	263	186
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	234	1868		307	1965		310	327		413	435	683
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.33		0.54	0.60		0.39	0.71		0.08	0.58	0.72

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

16: Route 1 & Route 27A (St. Monica)

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	470	90	150	1060	5	110	120	90	30	230	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4914		1752	5033		1770	1743		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4914		1752	5033		1770	1743		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	154	516	99	165	1165	5	121	132	99	33	253	495
RTOR Reduction (vph)	0	19	0	0	0	0	0	23	0	0	0	338
Lane Group Flow (vph)	154	596	0	165	1170	0	121	208	0	33	253	157
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	45.1		15.5	46.9		17.5	17.5		20.9	20.9	20.9
Effective Green, g (s)	13.7	45.1		15.5	46.9		17.5	17.5		20.9	20.9	20.9
Actuated g/C Ratio	0.11	0.38		0.13	0.39		0.15	0.15		0.17	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	200	1847		226	1967		258	254		308	324	276
v/s Ratio Prot	0.09	0.12		c0.09	c0.23		0.07	c0.12		0.02	c0.14	
v/s Ratio Perm												0.10
v/c Ratio	0.77	0.32		0.73	0.59		0.47	0.82		0.11	0.78	0.57
Uniform Delay, d1	51.6	26.6		50.2	29.0		47.0	49.7		41.7	47.4	45.4
Progression Factor	1.18	0.30		1.40	0.67		1.38	1.42		1.00	1.00	1.00
Incremental Delay, d2	14.9	0.5		8.4	1.1		0.4	14.5		0.1	10.7	1.6
Delay (s)	75.9	8.5		78.8	20.5		65.1	85.1		41.8	58.1	47.0
Level of Service	E	A		E	C		E	F		D	E	D
Approach Delay (s)		22.0			27.7			78.2			50.4	
Approach LOS		C			C			E			D	

Intersection Summary				
HCM Average Control Delay	37.3	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	68.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

17: Route 27A & Route 28

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	40	150	20	30	10	60	190	20	20	240	130
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	45	170	23	34	11	68	216	23	23	273	148

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	80	216	68	68	239	295	148
Volume Left (vph)	80	0	23	68	0	23	0
Volume Right (vph)	0	170	11	0	23	0	148
Hadj (s)	0.53	-0.52	0.00	0.53	-0.03	0.07	-0.67
Departure Headway (s)	7.1	6.1	6.9	6.8	6.2	6.2	5.4
Degree Utilization, x	0.16	0.36	0.13	0.13	0.41	0.51	0.22
Capacity (veh/h)	472	556	465	502	551	561	630
Control Delay (s)	10.2	11.3	11.0	9.6	12.3	14.2	8.8
Approach Delay (s)	11.0		11.0	11.7		12.4	
Approach LOS	B		B	B		B	

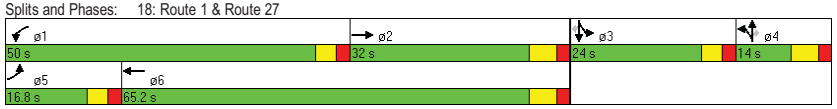
Intersection Summary				
Delay	11.7			
HCM Level of Service	B			
Intersection Capacity Utilization	53.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	70	580	870	1300	100	150	680	300	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 77 (64%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	580	80	870	1300	30	100	150	680	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	717	0	946	1446	0	109	163	739	0	369	43
v/c Ratio	0.57	0.66		1.44	0.54		0.92	1.31	0.85		1.26	0.17
Control Delay	87.8	33.3		235.4	12.9		65.2	188.2	14.5		183.0	35.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.8	33.3		235.4	12.9		65.2	188.2	14.5		183.0	35.8
Queue Length 50th (ft)	62	182		~994	182		88	~167	102		~358	21
Queue Length 95th (ft)	m111	233		m#1198	m232		m#121	m#202	m81		#550	56
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	172	1084		657	2675		118	124	873		293	257
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.44	0.66		1.44	0.54		0.92	1.31	0.85		1.26	0.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	580	80	870	1300	30	100	150	680	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4935		1752	5019		1770	1863	2745		1852	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4935		1752	5019		1770	1863	2745		1852	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	630	87	946	1413	33	109	163	739	43	326	43
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	690	0	0	10
Lane Group Flow (vph)	76	702	0	946	1444	0	109	163	49	0	369	33
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.07	0.22		0.38	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	118	1069		657	2631		118	124	183		293	247
v/s Ratio Prot	0.04	c0.14		c0.54	0.29		0.06	c0.09			c0.20	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.64	0.66		1.44	0.55		0.92	1.31	0.27		1.26	0.13
Uniform Delay, d1	54.5	42.9		37.5	19.1		55.7	56.0	53.2		50.5	43.4
Progression Factor	1.36	0.72		1.00	0.64		0.93	0.93	3.94		1.00	1.00
Incremental Delay, d2	8.4	3.1		204.6	0.6		10.8	146.8	0.0		141.4	0.1
Delay (s)	82.7	34.0		242.0	12.8		62.6	199.1	209.8		191.9	43.5
Level of Service	F	C		F	B		E	F	F		F	D
Approach Delay (s)		38.6			103.4			192.2			176.4	
Approach LOS		D			F			F			F	

Intersection Summary				
HCM Average Control Delay	118.3	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.19			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	114.3%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	5	880	640	1780	550	360
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 113 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	5	880	370	640	1780	550	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	5	1330	0	681	1894	585	383
v/c Ratio	0.08	0.93		0.99	0.53	0.97	0.65
Control Delay	75.2	32.5		39.8	2.4	80.2	9.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	75.2	32.5		39.8	2.4	80.2	9.9
Queue Length 50th (ft)	4	172		551	55	235	0
Queue Length 95th (ft)	m5	m#220		m548	m59	#351	90
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1427		686	3575	601	593
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.08	0.93		0.99	0.53	0.97	0.65

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	5	880	370	640	1780	550	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4812		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4812		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	936	394	681	1894	585	383
RTOR Reduction (vph)	0	66	0	0	0	0	316
Lane Group Flow (vph)	5	1264	0	681	1894	585	67
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	30.0		51.0	81.2	21.0	21.0
Effective Green, g (s)	0.8	30.0		51.0	81.2	21.0	21.0
Actuated g/C Ratio	0.01	0.25		0.42	0.68	0.18	0.18
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1203		745	3408	601	277
v/s Ratio Prot	0.00	c0.26		c0.39	0.38	c0.17	
v/s Ratio Perm							0.04
v/c Ratio	0.42	1.05		0.91	0.56	0.97	0.24
Uniform Delay, d1	59.4	45.0		32.4	10.1	49.2	42.6
Progression Factor	1.30	0.60		0.62	0.27	1.00	1.00
Incremental Delay, d2	5.1	35.0		4.7	0.2	29.7	0.2
Delay (s)	82.3	62.2		24.7	2.9	79.0	42.8
Level of Service	F	E		C	A	E	D
Approach Delay (s)		62.2			8.6	64.7	
Approach LOS		E			A	E	

Intersection Summary

HCM Average Control Delay	34.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	190	930	20	1970	50	10	30	380
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 13 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	930	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	979	0	21	2190	0	0	106	11	0	211	400
v/c Ratio	1.02	0.35		0.24	1.00			0.81	0.09		0.99	1.09
Control Delay	109.8	4.4		67.0	41.9			95.0	26.6		110.4	98.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	109.8	4.4		67.0	41.9			95.0	26.6		110.4	98.7
Queue Length 50th (ft)	~167	35		16	~645			82	0		165	~204
Queue Length 95th (ft)	m#229	m48		m26	#738			#179	19		#324	#404
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2780		92	2193			136	129		214	366
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.02	0.35		0.23	1.00			0.78	0.09		0.99	1.09

Intersection Summary

Area Type: CBD
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	930	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4496			1636	1425		1608	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4496			1636	1425		1608	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	200	979	0	21	2074	116	53	53	11	179	32	400
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	176
Lane Group Flow (vph)	200	979	0	21	2185	0	0	106	1	0	211	224
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	197	2666		37	2188			131	114		214	190
v/s Ratio Prot	c0.13	0.22		0.01	c0.49			c0.06			0.13	
v/s Ratio Perm									0.00			c0.16
v/c Ratio	1.02	0.37		0.57	1.00			0.81	0.01		0.99	1.18
Uniform Delay, d1	52.5	13.0		58.0	30.8			54.3	50.8		51.9	52.0
Progression Factor	1.19	0.34		1.13	0.79			1.00	1.00		1.00	1.00
Incremental Delay, d2	49.2	0.2		9.2	16.9			28.1	0.0		56.9	121.9
Delay (s)	111.8	4.7		75.0	41.2			82.4	50.8		108.8	173.9
Level of Service	F	A		E	D			F	D		F	F
Approach Delay (s)		22.8			41.5			79.4			151.4	
Approach LOS		C			D			E			F	

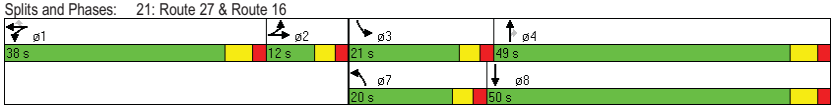
Intersection Summary				
HCM Average Control Delay	53.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.01			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	91.2%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	310	710	760	200	580	520	470	160	1230
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 15 (13%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	200	580	520	470	160	1230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		3085			2934			862			2992	
Travel Time (s)		70.1			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	724	0	816	874	230	667	598	540	184	1586	0
v/c Ratio	1.12	2.09		0.89	1.76	0.45	3.05	0.46	0.59	0.85	0.87	
Control Delay	165.7	520.5		41.3	371.0	13.4	951.5	30.6	5.2	78.4	35.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	165.7	520.5		41.3	371.0	13.4	951.5	30.6	5.2	78.4	35.2	
Queue Length 50th (ft)	~102	~401		331	~1027	68	~899	187	0	142	284	
Queue Length 95th (ft)	#215	#500		m285	m#830	m59	#1086	232	60	m#219	356	
Internal Link Dist (ft)		3005			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	346		915	497	509	219	1290	918	234	1830	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.12	2.09		0.89	1.76	0.45	3.05	0.46	0.59	0.79	0.87	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	200	580	520	470	160	1230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4954	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4954	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	115	356	368	816	874	230	667	598	540	184	1414	172
RTOR Reduction (vph)	0	155	0	0	0	87	0	0	341	0	13	0
Lane Group Flow (vph)	115	569	0	816	874	143	667	598	199	184	1573	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	44.2	44.2	14.8	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	44.2	44.2	14.8	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.37	0.37	0.12	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	191		915	497	422	219	1291	578	216	1816	
v/s Ratio Prot	0.06	c0.17		0.24	c0.47		c0.38	0.17		0.10	c0.32	
v/s Ratio Perm						0.09			0.13			
v/c Ratio	1.12	2.98		0.89	1.76	0.34	3.05	0.46	0.34	0.85	0.87	
Uniform Delay, d1	56.5	56.5		42.3	44.0	35.5	52.5	28.9	27.4	51.5	35.3	
Progression Factor	0.82	0.69		0.85	0.86	0.71	1.00	1.00	1.00	1.05	0.88	
Incremental Delay, d2	121.2	903.0		3.8	344.0	0.1	932.6	1.2	1.6	19.4	4.3	
Delay (s)	167.8	942.0		39.9	381.9	25.2	985.1	30.1	29.0	73.4	35.3	
Level of Service	F	F		D	F	C	F	C	C	E	D	
Approach Delay (s)		835.8			193.8			382.7			39.2	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	289.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	123.1%	ICU Level of Service	H
Analysis Period (min)	15		

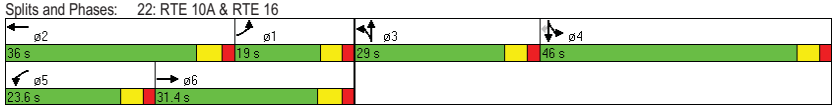
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	350	190	260	100	1010	730	10	5	940
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	15.5	15.5	15.5	15.5
Total Split (s)	19.0	31.4	0.0	23.6	36.0	29.0	29.0	46.0	46.0
Total Split (%)	14.6%	24.2%	0.0%	18.2%	27.7%	22.3%	22.3%	35.4%	35.4%
Maximum Green (s)	13.5	25.4		18.1	30.0	23.5	23.5	40.5	40.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Minimum Gap (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		5			5	5	5	5	5

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 131
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	190	260	100	1010	20	730	10	20	10	5	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1270			779			868			1242	
Travel Time (s)		24.7			15.2			16.9			24.2	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	432	235	321	123	1272	0	469	469	0	0	18	1160
v/c Ratio	1.19	0.30	0.20	0.63	1.57		1.53	1.52			0.03	1.80
Control Delay	159.8	44.4	0.3	70.0	298.0		289.0	286.7			32.6	388.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	159.8	44.4	0.3	70.0	298.0		289.0	286.7			32.6	388.2
Queue Length 50th (ft)	~228	87	0	100	~802		~587	~589			11	~1332
Queue Length 95th (ft)	#281	120	0	151	#854		#695	#698			28	#1424
Internal Link Dist (ft)		1190			699			788			1162	
Turn Bay Length (ft)	350		450	350								
Base Capacity (vph)	362	793	1583	244	809		307	308			552	646
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.19	0.30	0.20	0.50	1.57		1.53	1.52			0.03	1.80

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	190	260	100	1010	20	730	10	20	10	5	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.97	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3529		1665	1662			1785	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.97	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3529		1665	1662			1785	1568
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	432	235	321	123	1247	25	901	12	25	12	6	1160
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	0	161
Lane Group Flow (vph)	432	235	321	123	1271	0	469	467	0	0	18	999
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Effective Green, g (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Actuated g/C Ratio	0.11	0.22	1.00	0.11	0.23		0.18	0.18			0.31	0.31
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	3.5	4.0		3.5	4.0		3.5	3.5			3.5	3.5
Lane Grp Cap (vph)	364	794	1583	196	808		307	307			551	484
v/s Ratio Prot	c0.13	0.07		0.07	c0.36		c0.28	0.28			0.01	
v/s Ratio Perm			0.20									c0.64
v/c Ratio	1.19	0.30	0.20	0.63	1.57		1.53	1.52			0.03	2.06
Uniform Delay, d1	58.6	42.3	0.0	55.7	50.5		53.4	53.4			31.6	45.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	108.4	0.3	0.3	6.4	264.0		253.4	251.1			0.0	485.9
Delay (s)	167.0	42.5	0.3	62.2	314.5		306.8	304.5			31.7	531.2
Level of Service	F	D	A	E	F		F	F			C	F
Approach Delay (s)		83.2			292.3			305.7			523.6	
Approach LOS		F			F			F			F	

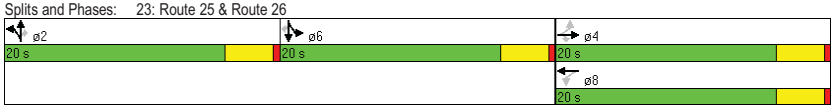
Intersection Summary				
HCM Average Control Delay	309.7	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.70			
Actuated Cycle Length (s)	131.1	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	122.0%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	90	5	150	5	5	440	450	5	20	380	500
Turn Type	Perm		Perm	Perm		Split		Perm	Split		Perm
Protected Phases		4			8	2	2		6	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 51.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	5	150	5	5	60	440	450	5	20	380	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		636			405			396			486	
Travel Time (s)		12.4			7.9			7.7			9.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	170	0	80	0	500	511	6	23	432	568
v/c Ratio		0.40	0.42		0.25		0.89	0.86	0.01	0.04	0.73	0.64
Control Delay		24.0	7.4		9.1		41.3	37.4	10.6	14.7	27.4	5.7
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.0	7.4		9.1		41.3	37.4	10.6	14.7	27.4	5.7
Queue Length 50th (ft)		31	0		3		149	150	0	5	120	0
Queue Length 95th (ft)		65	37		29		#335	#334	7	19	#268	58
Internal Link Dist (ft)		556			325			316			406	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		507	619		556		563	592	507	563	592	891
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.21	0.27		0.14		0.89	0.86	0.01	0.04	0.73	0.64

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	5	150	5	5	60	440	450	5	20	380	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1779	1583		1643		1770	1863	1583	1770	1863	1583
Flt Permitted		0.86	1.00		0.97		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1595	1583		1603		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	6	170	6	6	68	500	511	6	23	432	568
RTOR Reduction (vph)	0	0	146	0	58	0	0	0	3	0	0	390
Lane Group Flow (vph)	0	108	24	0	22	0	500	511	3	23	432	178
Turn Type	Perm		Perm	Perm			Split		Perm	Split		Perm
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)		7.4	7.4		7.4		16.3	16.3	16.3	16.3	16.3	16.3
Effective Green, g (s)		7.4	7.4		7.4		16.3	16.3	16.3	16.3	16.3	16.3
Actuated g/C Ratio		0.14	0.14		0.14		0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		227	225		228		555	584	496	555	584	496
v/s Ratio Prot							c0.28	0.27		0.01	c0.23	
v/s Ratio Perm		c0.07	0.02		0.01				0.00			0.11
v/c Ratio		0.48	0.11		0.10		0.90	0.88	0.01	0.04	0.74	0.36
Uniform Delay, d1		20.5	19.4		19.4		17.1	16.9	12.3	12.4	16.0	13.8
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.6	0.1		0.1		20.3	16.6	0.0	0.1	8.2	2.0
Delay (s)		21.1	19.5		19.5		37.3	33.5	12.3	12.6	24.1	15.8
Level of Service		C	B		B		D	C	B	B	C	B
Approach Delay (s)		20.1			19.5			35.3			19.3	
Approach LOS		C			B			D			B	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	52.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	5	340	5	5	5	250	270	5	20	400	270
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	151	6	395	6	6	6	291	314	6	23	465	314
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1416	1413	465	1410	1407	314	465			320		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1416	1413	465	1410	1407	314	465			320		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	94	34	80	94	99	73			98		
cM capacity (veh/h)	86	99	597	29	100	726	1091			1235		

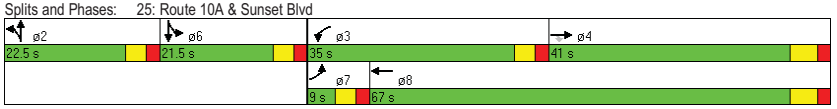
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	151	401	17	291	314	6	23	465	314
Volume Left	151	0	6	291	0	0	23	0	0
Volume Right	0	395	6	0	0	6	0	0	314
cSH	86	606	66	1091	1700	1700	1235	1700	1700
Volume to Capacity	1.77	0.66	0.26	0.27	0.18	0.00	0.02	0.27	0.18
Queue Length 95th (ft)	317	123	23	27	0	0	1	0	0
Control Delay (s)	471.4	22.3	77.9	9.5	0.0	0.0	8.0	0.0	0.0
Lane LOS	F	C	F	A			A		
Approach Delay (s)	145.2		77.9	4.5			0.2		
Approach LOS	F		F						

Intersection Summary					
Average Delay		42.6			
Intersection Capacity Utilization		58.8%	ICU Level of Service		B
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	5	630	5	310	2120	20	5	5
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	41.0	41.0	35.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	34.2%	34.2%	29.2%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	35.0	35.0	30.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 99.8
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	630	5	310	2120	50	20	5	100	20	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			892			650			525	
Travel Time (s)		26.3			20.3			14.8			11.9	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	759	6	373	2614	0	24	126	0	0	36	0
v/c Ratio	0.08	0.62	0.01	0.86	0.82		0.08	0.33			0.31	
Control Delay	53.4	32.0	15.8	56.3	19.0		39.0	11.1			48.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	53.4	32.0	15.8	56.3	19.0		39.0	11.1			48.1	
Queue Length 50th (ft)	4	230	0	224	461		13	3			19	
Queue Length 95th (ft)	17	288	9	329	600		37	46			49	
Internal Link Dist (ft)		1075			812			570			445	
Turn Bay Length (ft)	180		180	420								
Base Capacity (vph)	71	1290	581	537	3174		313	381			299	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.08	0.59	0.01	0.69	0.82		0.08	0.33			0.12	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	630	5	310	2120	50	20	5	100	20	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1770	3539	1583	1770	5068		1770	1597			1762	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (perm)	1770	3539	1583	1770	5068		1770	1597			1762	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	6	759	6	373	2554	60	24	6	120	24	6	6
RTOR Reduction (vph)	0	0	4	0	2	0	0	100	0	0	6	0
Lane Group Flow (vph)	6	759	2	373	2612	0	24	26	0	0	30	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.7	38.6	38.6	24.5	62.4		17.6	17.6			4.2	
Effective Green, g (s)	0.7	38.6	38.6	24.5	62.4		17.6	17.6			4.2	
Actuated g/C Ratio	0.01	0.36	0.36	0.23	0.59		0.17	0.17			0.04	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1290	577	409	2986		294	265			70	
v/s Ratio Prot	0.00	0.21		c0.21	c0.52		0.01	c0.02			c0.02	
v/s Ratio Perm			0.00									
v/c Ratio	0.50	0.59	0.00	0.91	0.87		0.08	0.10			0.43	
Uniform Delay, d1	52.4	27.2	21.4	39.6	18.4		37.3	37.4			49.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	11.4	0.4	0.0	23.9	3.1		0.5	0.7			1.6	
Delay (s)	63.8	27.7	21.4	63.5	21.5		37.9	38.2			51.2	
Level of Service	E	C	C	E	C		D	D			D	
Approach Delay (s)		27.9			26.7			38.1			51.2	
Approach LOS		C			C			D			D	

Intersection Summary					
HCM Average Control Delay	27.6	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	105.9	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	67.1%	ICU Level of Service		C	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	250	980	130	1590	120	40	80	360	30	150
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	39.0	12.0	33.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	24.0	63.0	22.0	61.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (%)	20.0%	52.5%	18.3%	50.8%	12.5%	12.5%	12.5%	16.7%	16.7%	16.7%
Maximum Green (s)	19.0	57.0	17.0	55.0	10.0	10.0	10.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 35 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	980	270	130	1590	420	120	40	80	360	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	150		150	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3056			1501			676			669	
Travel Time (s)		59.5			29.2			18.4			18.2	
Confl. Peds. (#/hr)						1			160			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							34%			46%		
Lane Group Flow (vph)	272	1358	0	141	2185	0	86	87	87	211	213	163
v/c Ratio	0.98	0.53		0.72	0.95		0.68	0.67	0.49	1.00	1.00	0.48
Control Delay	62.5	16.3		71.5	22.2		80.5	78.7	20.8	116.0	115.7	12.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	16.3		71.5	22.2		80.5	78.7	20.8	116.0	115.7	12.3
Queue Length 50th (ft)	222	175		113	285		69	69	0	~175	~176	0
Queue Length 95th (ft)	m211	m171		m136	#689		#141	#138	51	#344	#346	63
Internal Link Dist (ft)		2976			1421			596			589	
Turn Bay Length (ft)	630			350			150		150	360		250
Base Capacity (vph)	277	2539		248	2311		140	144	186	210	212	341
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.53		0.57	0.95		0.61	0.60	0.47	1.00	1.00	0.48

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

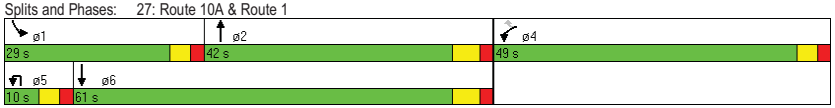
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	980	270	130	1590	420	120	40	80	360	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.81	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4873		1752	4864		1681	1726	1276	1681	1698	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4873		1752	4864		1681	1726	1276	1681	1698	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	1065	293	141	1728	457	130	43	87	391	33	163
RTOR Reduction (vph)	0	39	0	0	39	0	0	0	80	0	0	143
Lane Group Flow (vph)	272	1319	0	141	2146	0	86	87	7	211	213	20
Confl. Peds. (#/hr)						1			160			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Effective Green, g (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Actuated g/C Ratio	0.16	0.51		0.11	0.47		0.08	0.08	0.08	0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	277	2497		197	2270		126	129	96	210	212	198
v/s Ratio Prot	c0.16	0.27		0.08	c0.44		c0.05	0.05		c0.13	0.13	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.98	0.53		0.72	0.95		0.68	0.67	0.07	1.00	1.00	0.10
Uniform Delay, d1	50.3	19.6		51.4	30.5		54.1	54.1	51.6	52.5	52.5	46.5
Progression Factor	0.98	0.85		1.18	0.52		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	0.1		5.5	6.0		11.5	10.4	0.1	63.3	63.0	0.1
Delay (s)	61.7	16.8		66.0	21.8		65.6	64.5	51.7	115.8	115.5	46.6
Level of Service	E	B		E	C		E	E	D	F	F	D
Approach Delay (s)		24.3			24.5			60.6			96.5	
Approach LOS		C			C			E			F	

Intersection Summary				
HCM Average Control Delay	35.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	93.1%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1160	710	20	990	330	1450
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	35.0	35.0	9.0	33.0	12.0	22.0
Total Split (s)	49.0	49.0	10.0	42.0	29.0	61.0
Total Split (%)	40.8%	40.8%	8.3%	35.0%	24.2%	50.8%
Maximum Green (s)	44.0	44.0	5.0	36.0	24.0	55.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		5		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 102 (85%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1160	710	20	990	450	330	1450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1896			1896			3056
Travel Time (s)	36.9			36.9			59.5
Confl. Peds. (#/hr)					11		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1303	798	22	1618	0	371	1629
v/c Ratio	1.03	0.97	0.30	1.08		1.06	0.66
Control Delay	72.4	45.2	73.7	65.3		98.0	8.1
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	72.4	45.2	73.7	65.3		98.0	8.1
Queue Length 50th (ft)	~559	377	16	~464		~306	197
Queue Length 95th (ft)	#680	#650	m41	m#540		m#365	m224
Internal Link Dist (ft)	1816			1816			2976
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	1259	822	75	1496		350	2476
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.97	0.29	1.08		1.06	0.66

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1160	710	20	990	450	330	1450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	0.95		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4759		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4759		1752	5036
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1303	798	22	1112	506	371	1629
RTOR Reduction (vph)	0	241	0	69	0	0	0
Lane Group Flow (vph)	1303	557	22	1549	0	371	1629
Confl. Peds. (#/hr)					11		
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	44.0	44.0	3.0	36.0		24.0	57.0
Effective Green, g (s)	44.0	44.0	3.0	36.0		24.0	57.0
Actuated g/C Ratio	0.37	0.37	0.02	0.30		0.20	0.48
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1259	580	45	1428		350	2392
v/s Ratio Prot	c0.38		0.01	c0.33		c0.21	0.32
v/s Ratio Perm		0.35					
v/c Ratio	1.03	0.96	0.49	1.09		1.06	0.68
Uniform Delay, d1	38.0	37.1	57.7	42.0		48.0	24.4
Progression Factor	1.00	1.00	1.15	0.39		1.07	0.32
Incremental Delay, d2	34.8	27.0	2.6	49.1		48.9	0.7
Delay (s)	72.8	64.2	69.1	65.4		100.5	8.4
Level of Service	E	E	E	E		F	A
Approach Delay (s)	69.5			65.4			25.5
Approach LOS	E			E			C

Intersection Summary

HCM Average Control Delay	53.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	260	1250	5	1950	330	210
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	20.0	20.0
Total Split (s)	24.0	81.0	9.0	66.0	30.0	30.0
Total Split (%)	20.0%	67.5%	7.5%	55.0%	25.0%	25.0%
Maximum Green (s)	19.0	75.0	4.0	60.0	25.0	25.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1250	5	1950	320	330	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2658		1896		2759	
Travel Time (s)		51.8		36.9		75.2	
Confl. Peds. (#/hr)					4		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	286	1374	5	2495	0	363	231
v/c Ratio	1.03	0.40	0.08	1.01		0.98	0.54
Control Delay	80.6	13.4	49.8	38.8		90.8	25.0
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	80.6	13.4	49.8	38.8		90.8	25.0
Queue Length 50th (ft)	~205	262	4	~687		282	74
Queue Length 95th (ft)	m#327	m385	m4	m#762		#480	158
Internal Link Dist (ft)		2578		1816		2679	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	277	3450	60	2473		369	426
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.40	0.08	1.01		0.98	0.54

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

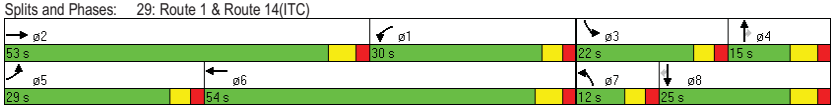
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1250	5	1950	320	330	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4907		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4907		1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	286	1374	5	2143	352	363	231
RTOR Reduction (vph)	0	0	0	19	0	0	96
Lane Group Flow (vph)	286	1374	5	2476	0	363	135
Confl. Peds. (#/hr)					4		
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	19.0	78.2	0.8	60.0		25.0	25.0
Effective Green, g (s)	19.0	78.2	0.8	60.0		25.0	25.0
Actuated g/C Ratio	0.16	0.65	0.01	0.50		0.21	0.21
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	277	3282	12	2454		369	330
v/s Ratio Prot	c0.16	0.27	c0.00	c0.50		c0.21	0.09
v/s Ratio Perm							
v/c Ratio	1.03	0.42	0.42	1.01		0.98	0.41
Uniform Delay, d1	50.5	10.0	59.4	30.0		47.3	41.1
Progression Factor	0.57	1.55	0.86	0.76		1.00	1.00
Incremental Delay, d2	48.8	0.2	4.6	15.6		42.1	0.3
Delay (s)	77.8	15.7	55.4	38.4		89.4	41.4
Level of Service	E	B	E	D		F	D
Approach Delay (s)		26.4		38.5		70.7	
Approach LOS		C		D		E	

Intersection Summary				
HCM Average Control Delay	38.3	HCM Level of Service		D
HCM Volume to Capacity ratio	1.04			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	90.9%	ICU Level of Service		E
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	370	940	190	1300	50	140	70	470	110	420
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	15.0	15.0	12.0	18.0	18.0
Total Split (s)	29.0	53.0	30.0	54.0	12.0	15.0	15.0	22.0	25.0	25.0
Total Split (%)	24.2%	44.2%	25.0%	45.0%	10.0%	12.5%	12.5%	18.3%	20.8%	20.8%
Maximum Green (s)	24.0	47.0	25.0	48.0	7.0	9.0	9.0	17.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 27 (23%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	940	140	190	1300	560	50	140	70	470	110	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		2690			2658			634			1131	
Travel Time (s)		52.4			51.8			14.4			25.7	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	446	1302	0	229	2241	0	60	169	84	566	133	506
v/c Ratio	1.27	0.72		0.54	1.12		0.34	0.67	0.44	1.16	0.40	0.84
Control Delay	172.6	20.4		21.8	71.1		59.9	67.6	18.7	139.9	49.1	25.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	172.6	20.4		21.8	71.1		59.9	67.6	18.7	139.9	49.1	25.8
Queue Length 50th (ft)	~431	336		127	~702		23	67	0	~268	94	89
Queue Length 95th (ft)	#555	99		m144	#686		42	97	42	#335	145	#197
Internal Link Dist (ft)		2610			2578			554			1051	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1951		426	2004		200	265	195	486	331	601
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.27	0.67		0.54	1.12		0.30	0.64	0.43	1.16	0.40	0.84

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	940	140	190	1300	560	50	140	70	470	110	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4938		1752	4808		3433	3539	1562	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4938		1752	4808		3433	3539	1562	3433	1863	1583
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	446	1133	169	229	1566	675	60	169	84	566	133	506
RTOR Reduction (vph)	0	18	0	0	65	0	0	0	77	0	0	320
Lane Group Flow (vph)	446	1284	0	229	2176	0	60	169	7	566	133	186
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	24.0	42.2		29.2	47.4		5.3	9.6	9.6	17.0	21.3	21.3
Effective Green, g (s)	24.0	42.2		29.2	47.4		5.3	9.6	9.6	17.0	21.3	21.3
Actuated g/C Ratio	0.20	0.35		0.24	0.39		0.04	0.08	0.08	0.14	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1737		426	1899		152	283	125	486	331	281
v/s Ratio Prot	c0.25	0.26		0.13	c0.45		0.02	0.05		c0.16	0.07	
v/s Ratio Perm									0.00			c0.12
v/c Ratio	1.27	0.74		0.54	1.15		0.39	0.60	0.05	1.16	0.40	0.66
Uniform Delay, d1	48.0	34.1		39.5	36.3		55.8	53.3	51.0	51.5	43.7	46.0
Progression Factor	0.71	0.56		0.48	0.32		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	141.3	2.5		0.2	68.2		0.6	2.3	0.1	94.6	0.3	4.5
Delay (s)	175.2	21.7		19.2	79.9		56.4	55.6	51.1	146.1	44.0	50.5
Level of Service	F	C		B	E		E	E	D	F	D	D
Approach Delay (s)		60.9			74.3			54.5			94.7	
Approach LOS		E			E			D			F	

Intersection Summary

HCM Average Control Delay	73.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	470	1370	50	1610	50	130	10	510
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	20.0	12.0	12.0	12.0
Total Split (s)	36.0	70.0	14.0	48.0	20.0	16.0	16.0	16.0
Total Split (%)	30.0%	58.3%	11.7%	40.0%	16.7%	13.3%	13.3%	13.3%
Maximum Green (s)	31.0	64.0	9.0	42.0	15.0	11.0	11.0	11.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	10	10	10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1370	10	50	1610	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2690			238			2279	
Travel Time (s)		25.0			52.4			6.5			62.2	
Confl. Peds. (#/hr)												24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	553	1624	0	59	2012	0	0	95	0	83	82	600
v/c Ratio	1.22	0.54		0.53	1.03			0.59		0.54	0.53	1.02
Control Delay	146.4	14.3		60.8	35.4			64.2		65.7	64.9	53.3
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	146.4	14.3		60.8	35.4			64.2		65.7	64.9	53.3
Queue Length 50th (ft)	~517	339		48	~593			68		66	65	~118
Queue Length 95th (ft)	#678	393		m48	m#563			114		114	113	#279
Internal Link Dist (ft)		1204			2610			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	453	3018		131	1946			231		154	156	588
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.22	0.54		0.45	1.03			0.41		0.54	0.53	1.02

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1370	10	50	1610	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5030		1752	4992			1808		1681	1697	1503
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5030		1752	4992			1808		1681	1697	1503
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	553	1612	12	59	1894	118	24	59	12	153	12	600
RTOR Reduction (vph)	0	0	0	0	6	0	0	5	0	0	0	451
Lane Group Flow (vph)	553	1624	0	59	2006	0	0	90	0	83	82	149
Confl. Peds. (#/hr)												24
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Effective Green, g (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Actuated g/C Ratio	0.26	0.59		0.06	0.39			0.09		0.09	0.09	0.09
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	453	2972		98	1939			157		154	156	138
v/s Ratio Prot	c0.32	0.32		0.03	c0.40			c0.05		0.05	0.05	
v/s Ratio Perm												c0.10
v/c Ratio	1.22	0.55		0.60	1.03			0.58		0.54	0.53	1.08
Uniform Delay, d1	44.5	14.8		55.3	36.7			52.7		52.1	52.0	54.5
Progression Factor	0.81	0.89		1.09	0.40			1.00		1.00	1.00	1.00
Incremental Delay, d2	113.0	0.5		0.6	17.8			3.2		1.8	1.5	100.6
Delay (s)	149.1	13.8		61.0	32.7			55.8		53.9	53.5	155.1
Level of Service	F	B		E	C			E		D	D	F
Approach Delay (s)		48.2			33.5			55.8			133.2	
Approach LOS		D			C			E			F	

Intersection Summary				
HCM Average Control Delay	55.1	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.05			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	87.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1040	140	1330	40	240	10	160	5	5
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	10.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	12.0	62.0	22.0	72.0	72.0	21.0	21.0	21.0	15.0	15.0
Total Split (%)	10.0%	51.7%	18.3%	60.0%	60.0%	17.5%	17.5%	17.5%	12.5%	12.5%
Maximum Green (s)	7.0	56.0	17.0	66.0	66.0	16.0	16.0	16.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		17.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 6 (Easterly Adelup) &

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1040	340	140	1330	40	240	10	160	10	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		722			5590			835			321	
Travel Time (s)		14.1			108.9			19.0			10.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	11	1484	0	151	1430	43	134	135	172	0	16	5
v/c Ratio	0.14	0.50		0.74	0.55	0.04	0.73	0.73	0.53		0.18	0.06
Control Delay	58.5	15.1		92.2	0.9	0.1	73.5	73.3	13.2		59.1	33.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	58.5	15.1		92.2	0.9	0.1	73.5	73.3	13.2		59.1	33.2
Queue Length 50th (ft)	8	194		126	0	0	106	107	0		12	0
Queue Length 95th (ft)	28	329		m163	0	m0	175	177	64		36	14
Internal Link Dist (ft)		642			5510			755			241	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	102	2955		248	2594	1171	224	226	360		150	137
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.11	0.50		0.61	0.55	0.04	0.60	0.60	0.48		0.11	0.04

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1040	340	140	1330	40	240	10	160	10	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)	1752	4850		1752	3505	1568	1681	1692	1583		1801	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)	1752	4850		1752	3505	1568	1681	1692	1583		1801	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	1118	366	151	1430	43	258	11	172	11	5	5
RTOR Reduction (vph)	0	39	0	0	0	13	0	0	153	0	0	5
Lane Group Flow (vph)	11	1445	0	151	1430	30	134	135	19	0	16	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	1.3	69.3		13.9	81.9	81.9	13.1	13.1	13.1		2.7	2.7
Effective Green, g (s)	1.3	69.3		13.9	81.9	81.9	13.1	13.1	13.1		2.7	2.7
Actuated g/C Ratio	0.01	0.58		0.12	0.68	0.68	0.11	0.11	0.11		0.02	0.02
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	19	2801		203	2392	1070	184	185	173		41	36
v/s Ratio Prot	0.01	0.30		c0.09	c0.41		0.08	c0.08			c0.01	
v/s Ratio Perm						0.02			0.01			0.00
v/c Ratio	0.58	0.52		0.74	0.60	0.03	0.73	0.73	0.11		0.39	0.00
Uniform Delay, d1	59.1	15.3		51.3	10.2	6.2	51.7	51.7	48.2		57.8	57.3
Progression Factor	1.00	1.00		1.49	0.03	0.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	23.8	0.7		9.0	0.8	0.0	11.5	11.5	0.1		2.2	0.0
Delay (s)	82.9	15.9		85.6	1.2	0.1	63.2	63.3	48.3		60.1	57.3
Level of Service	F	B		F	A	A	E	E	D		E	E
Approach Delay (s)		16.4			9.0			57.4			59.4	
Approach LOS		B			A			E			E	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

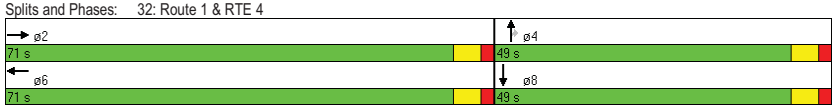
c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1130	1960	360	650	420
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	71.0	71.0	49.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%	40.8%
Maximum Green (s)	65.0	65.0	43.0	43.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	14.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 59 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 32: Route 1 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1130	60	0	1960	10	0	360	650	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			489			921			385	
Travel Time (s)		7.7			9.5			17.9			7.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1280	0	0	2119	0	0	737	349	0	452	0
v/c Ratio		0.41			0.68			0.80	0.79		0.46	
Control Delay		2.9			7.1			16.1	18.2		36.3	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		2.9			7.1			16.1	18.2		36.3	
Queue Length 50th (ft)		26			213			69	48		152	
Queue Length 95th (ft)		46			336			76	m70		180	
Internal Link Dist (ft)		313			409			841			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3099			3117			1163	551		1268	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.41			0.68			0.63	0.63		0.36	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1130	60	0	1960	10	0	360	650	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		4998			5032			3149	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		4998			5032			3149	1441		3539	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1215	65	0	2108	11	0	387	699	0	452	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	39	39	0	0	0
Lane Group Flow (vph)	0	1276	0	0	2119	0	0	698	310	0	452	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		74.3			74.3			33.7	33.7		33.7	
Effective Green, g (s)		74.3			74.3			33.7	33.7		33.7	
Actuated g/C Ratio		0.62			0.62			0.28	0.28		0.28	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3095			3116			884	405		994	
v/s Ratio Prot		0.26			c0.42			c0.22			0.13	
v/s Ratio Perm									0.22			
v/c Ratio		0.41			0.68			0.79	0.77		0.45	
Uniform Delay, d1		11.7			15.0			39.9	39.5		35.6	
Progression Factor		0.21			0.38			0.28	0.21		1.00	
Incremental Delay, d2		0.4			0.9			3.7	6.4		0.1	
Delay (s)		2.8			6.6			14.7	14.8		35.7	
Level of Service		A			A			B	B		D	
Approach Delay (s)		2.8			6.6			14.7			35.7	
Approach LOS		A			A			B			D	

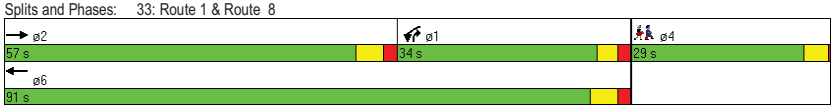
Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1420	440	1870	830	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	28.0	33.0	28.0	29.0
Total Split (s)	57.0	34.0	91.0	34.0	29.0
Total Split (%)	47.5%	28.3%	75.8%	28.3%	24%
Maximum Green (s)	51.0	29.0	85.0	29.0	25.0
Yellow Time (s)	4.0	3.0	4.0	3.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	5.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	C-Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 90 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 33: Route 1 & Route 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1420	280	440	1870	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	490			1938	458	
Travel Time (s)	9.5			37.8	8.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2000	0	518	2200	0	976
v/c Ratio	0.61		0.63	0.63		0.84
Control Delay	14.9		19.3	7.4		22.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	14.9		19.3	7.4		22.4
Queue Length 50th (ft)	406		131	217		151
Queue Length 95th (ft)	290		m118	m259		210
Internal Link Dist (ft)	410			1858	378	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3287		822	3505		1157
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.61		0.63	0.63		0.84

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1420	280	440	1870	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0		5.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.98		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4912		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4912		3400	3505		2787
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1671	329	518	2200	0	976
RTOR Reduction (vph)	14	0	0	0	0	483
Lane Group Flow (vph)	1986	0	518	2200	0	493
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	80.0		29.0	120.0		29.0
Effective Green, g (s)	80.0		29.0	120.0		29.0
Actuated g/C Ratio	0.67		0.24	1.00		0.24
Clearance Time (s)	6.0		5.0	6.0		5.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3275		822	3505		674
v/s Ratio Prot	0.40		0.15	c0.63		0.18
v/s Ratio Perm						
v/c Ratio	0.61		0.63	0.63		0.73
Uniform Delay, d1	11.2		40.7	0.0		41.9
Progression Factor	1.28		0.44	1.00		1.00
Incremental Delay, d2	0.8		0.4	0.3		3.5
Delay (s)	15.1		18.3	0.3		45.4
Level of Service	B		B	A		D
Approach Delay (s)	15.1			3.7	45.4	
Approach LOS	B			A	D	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	200	540	880	600	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	12	238	643	1048	714	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1210	458	
pX, platoon unblocked						
vC, conflicting volume	2524	357	714			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2524	357	714			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	63	27			
cM capacity (veh/h)	6	639	882			

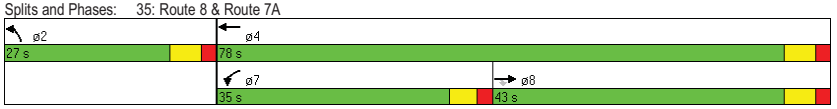
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	238	643	524	524	357	357	119
Volume Left	12	0	643	0	0	0	0	0
Volume Right	0	238	0	0	0	0	0	119
cSH	6	639	882	1700	1700	1700	1700	1700
Volume to Capacity	1.93	0.37	0.73	0.31	0.31	0.21	0.21	0.07
Queue Length 95th (ft)	63	43	165	0	0	0	0	0
Control Delay (s)	1537.0	13.9	19.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	C					
Approach Delay (s)	86.5		7.3			0.0		
Approach LOS	F							

Intersection Summary			
Average Delay		12.2	
Intersection Capacity Utilization		59.8%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	770	60	630	1270	200	630
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	20.5	31.0	16.0	
Total Split (s)	43.0	43.0	35.0	78.0	27.0	0.0
Total Split (%)	41.0%	41.0%	33.3%	74.3%	25.7%	0.0%
Maximum Green (s)	37.0	37.0	29.5	72.0	21.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	5	5			5	

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 96.1
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	770	60	630	1270	200	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1210			1375	661	
Travel Time (s)	23.6			26.8	12.9	
Confl. Peds. (#/hr)		5				5
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	928	72	759	1530	241	759
v/c Ratio	0.76	0.12	0.82	0.64	0.69	0.49
Control Delay	33.6	6.7	42.0	10.9	48.4	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	6.7	42.0	10.9	48.4	1.1
Queue Length 50th (ft)	281	0	239	258	151	0
Queue Length 95th (ft)	350	26	302	342	212	0
Internal Link Dist (ft)	1130			1295	581	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1397	658	1081	2719	416	1562
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.11	0.70	0.56	0.58	0.49

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	770	60	630	1270	200	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1556	3433	3539	1770	1562
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1556	3433	3539	1770	1562
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	928	72	759	1530	241	759
RTOR Reduction (vph)	0	47	0	0	0	0
Lane Group Flow (vph)	928	25	759	1530	241	759
Confl. Peds. (#/hr)		5				5
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	33.4	33.4	26.0	64.9	18.9	95.8
Effective Green, g (s)	33.4	33.4	26.0	64.9	18.9	95.8
Actuated g/C Ratio	0.35	0.35	0.27	0.68	0.20	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1234	542	932	2398	349	1562
v/s Ratio Prot	c0.26		c0.22	0.43	c0.14	
v/s Ratio Perm		0.02				0.49
v/c Ratio	0.75	0.05	0.81	0.64	0.69	0.49
Uniform Delay, d1	27.5	20.7	32.6	8.8	35.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8	0.0	5.8	0.6	6.2	1.1
Delay (s)	30.3	20.7	38.5	9.4	42.0	1.1
Level of Service	C	C	D	A	D	A
Approach Delay (s)	29.7			19.0	10.9	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	95.8	Sum of lost time (s)	17.5
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

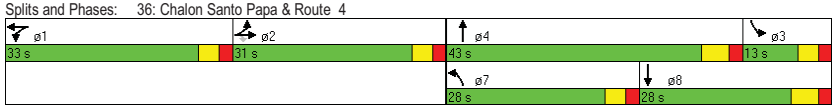
c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	130	90	260	170	830	40	420
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	26.0	12.0	28.0	12.0	28.0
Total Split (s)	31.0	31.0	33.0	28.0	43.0	13.0	28.0
Total Split (%)	25.8%	25.8%	27.5%	23.3%	35.8%	10.8%	23.3%
Maximum Green (s)	26.0	26.0	28.0	23.0	37.0	8.0	22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	260	160	170	830	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			780			850	
Travel Time (s)		28.3			11.8			15.2			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	102	0	625	0	193	1057	0	45	591	0
v/c Ratio		0.81	0.29		0.87		0.76	0.52		0.42	0.38	
Control Delay		67.3	9.7		55.5		42.7	17.0		43.7	15.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.3	9.7		55.5		42.7	17.0		43.7	15.0	
Queue Length 50th (ft)		188	0		228		105	182		34	38	
Queue Length 95th (ft)		260	43		282		m130	m327		71	160	
Internal Link Dist (ft)		1164			439			700			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		395	423		817		339	2042		118	1548	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.63	0.24		0.76		0.57	0.52		0.38	0.38	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

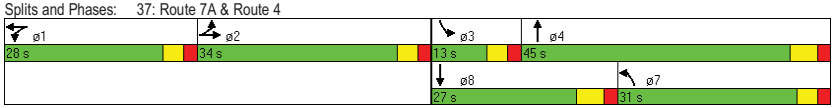
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	260	160	170	830	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.98		1.00	0.97	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1826	1583		3345		1770	5003		1770	4938	
Flt Permitted		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1826	1583		3345		1770	5003		1770	4938	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	148	102	148	295	182	193	943	114	45	477	114
RTOR Reduction (vph)	0	0	85	0	38	0	0	11	0	0	28	0
Lane Group Flow (vph)	0	250	17	0	587	0	193	1046	0	45	563	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		20.3	20.3		24.5		17.2	47.8		6.4	37.0	
Effective Green, g (s)		20.3	20.3		24.5		17.2	47.8		6.4	37.0	
Actuated g/C Ratio		0.17	0.17		0.20		0.14	0.40		0.05	0.31	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		309	268		683		254	1993		94	1523	
v/s Ratio Prot		c0.14			c0.18		c0.11	c0.21		c0.03	0.11	
v/s Ratio Perm			0.01									
v/c Ratio		0.81	0.06		0.86		0.76	0.52		0.48	0.37	
Uniform Delay, d1		48.0	41.9		46.1		49.4	27.5		55.2	32.4	
Progression Factor		1.00	1.00		1.00		0.61	0.57		0.60	0.43	
Incremental Delay, d2		13.6	0.0		10.1		7.4	0.6		1.4	0.7	
Delay (s)		61.6	41.9		56.2		37.4	16.3		34.4	14.7	
Level of Service		E	D		E		D	B		C	B	
Approach Delay (s)		55.9			56.2			19.6			16.1	
Approach LOS		E			E			B			B	

Intersection Summary				
HCM Average Control Delay	31.3	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	170	330	250	470	330	930	50	360
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.5	29.5	28.0	28.0	13.0	28.0	13.0	21.0
Total Split (s)	34.0	34.0	28.0	28.0	31.0	45.0	13.0	27.0
Total Split (%)	28.3%	28.3%	23.3%	23.3%	25.8%	37.5%	10.8%	22.5%
Maximum Green (s)	29.0	29.0	23.0	23.0	26.0	39.0	8.0	21.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 36 (30%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	330	20	250	470	40	330	930	360	50	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	215		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		609			967			740			780	
Travel Time (s)		13.8			22.0			14.4			15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	189	389	0	250	594	0	367	1433	0	56	644	0
v/c Ratio	0.47	0.92		0.81	0.92		0.96	0.79		0.47	0.65	
Control Delay	43.7	72.2		67.6	68.4		83.0	37.3		52.7	28.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.7	72.2		67.6	68.4		83.0	37.3		52.7	28.6	
Queue Length 50th (ft)	125	289		205	248		283	362		42	145	
Queue Length 95th (ft)	198	#461		#351	#362		#474	426		m82	168	
Internal Link Dist (ft)		529			887			660			700	
Turn Bay Length (ft)				215			250			200		
Base Capacity (vph)	428	448		309	646		384	1809		118	994	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.87		0.81	0.92		0.96	0.79		0.47	0.65	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	330	20	250	470	40	330	930	360	50	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1847		1610	3345		1770	4872		1770	4796	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1847		1610	3345		1770	4872		1770	4796	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	189	367	22	278	522	44	367	1033	400	56	400	244
RTOR Reduction (vph)	0	2	0	0	5	0	0	56	0	0	91	0
Lane Group Flow (vph)	189	387	0	250	589	0	367	1377	0	56	553	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	27.5	27.5		22.9	22.9		27.0	42.2		6.4	21.6	
Effective Green, g (s)	27.5	27.5		22.9	22.9		27.0	42.2		6.4	21.6	
Actuated g/C Ratio	0.23	0.23		0.19	0.19		0.22	0.35		0.05	0.18	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	406	423		307	638		398	1713		94	863	
v/s Ratio Prot	0.11	c0.21		0.16	c0.18		c0.21	c0.28		0.03	c0.12	
v/s Ratio Perm												
v/c Ratio	0.47	0.92		0.81	0.92		0.92	0.80		0.60	0.64	
Uniform Delay, d1	39.9	45.1		46.5	47.7		45.5	35.2		55.5	45.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.74	0.68	
Incremental Delay, d2	0.3	23.8		14.4	18.8		26.2	4.1		6.0	3.3	
Delay (s)	40.2	69.0		60.9	66.5		71.7	39.3		47.4	34.3	
Level of Service	D	E		E	E		E	D		D	C	
Approach Delay (s)		59.6			64.9			45.9			35.4	
Approach LOS		E			E			D			D	

Intersection Summary					
HCM Average Control Delay	50.1	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.95				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.0	
Intersection Capacity Utilization	83.1%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	70	170	150	1690	590	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	193	170	1920	670	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1031	
pX, platoon unblocked	0.91	0.91	0.91			
vC, conflicting volume	1994	358	716			
vC1, stage 1 conf vol	693					
vC2, stage 2 conf vol	1301					
vCu, unblocked vol	1891	87	481			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	53	78	83			
cM capacity (veh/h)	169	866	977			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	273	170	960	960	447	269
Volume Left	80	170	0	0	0	0
Volume Right	193	0	0	0	0	45
cSH	394	977	1700	1700	1700	1700
Volume to Capacity	0.69	0.17	0.56	0.56	0.26	0.16
Queue Length 95th (ft)	127	16	0	0	0	0
Control Delay (s)	32.3	9.5	0.0	0.0	0.0	0.0
Lane LOS	D	A				
Approach Delay (s)	32.3	0.8			0.0	
Approach LOS	D					

Intersection Summary				
Average Delay		3.4		
Intersection Capacity Utilization		67.7%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	70	280	220	70
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	20.0	20.0
Total Split (s)	21.0	35.0	34.0	34.0
Total Split (%)	23.3%	38.9%	37.8%	37.8%
Maximum Green (s)	16.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	2.0	2.0	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 75.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route - 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	490	280	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		345			618			271			199	
Travel Time (s)		7.8			14.0			6.2			3.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	364	0	0	1164	0	259	764	0	0	0	0
v/c Ratio		0.67			0.85		0.48	0.91				
Control Delay		19.3			29.6		24.6	25.7				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		19.3			29.6		24.6	25.7				
Queue Length 50th (ft)		32			275		97	122				
Queue Length 95th (ft)		66			#417		162	#288				
Internal Link Dist (ft)		265			538			191			119	
Turn Bay Length (ft)												
Base Capacity (vph)		869			1376		715	949				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.42			0.85		0.36	0.81				

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	490	280	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.90			0.97		1.00	0.87				
Flt Protected		0.99			0.98		0.95	1.00				
Satd. Flow (prot)		3176			3338		1770	1613				
Flt Permitted		0.99			0.98		0.95	1.00				
Satd. Flow (perm)		3176			3338		1770	1613				
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	82	235	576	329	259	259	82	682	0	0	0
RTOR Reduction (vph)	0	210	0	0	26	0	0	348	0	0	0	0
Lane Group Flow (vph)	0	154	0	0	1138	0	259	416	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		8.0			30.6		22.9	22.9				
Effective Green, g (s)		8.0			30.6		22.9	22.9				
Actuated g/C Ratio		0.11			0.41		0.30	0.30				
Clearance Time (s)		5.0			5.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		337			1353		537	489				
v/s Ratio Prot		c0.05			c0.34		0.15	c0.26				
v/s Ratio Perm												
v/c Ratio		0.46			0.84		0.48	0.85				
Uniform Delay, d1		31.7			20.3		21.5	24.7				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		0.4			4.7		0.2	12.9				
Delay (s)		32.1			25.0		21.7	37.6				
Level of Service		C			C		C	D				
Approach Delay (s)		32.1			25.0			33.6			0.0	
Approach LOS		C			C			C			A	

Intersection Summary

HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	14.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

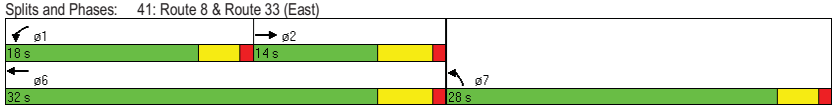
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	350	340	1030	330
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	7.0	4.0	7.0	4.0
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	14.0	18.0	32.0	28.0
Total Split (%)	23.3%	30.0%	53.3%	46.7%
Maximum Green (s)	9.0	14.0	27.0	24.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	4.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	4.0	2.0	4.0	2.0
Minimum Gap (s)	2.0	0.5	2.0	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 62.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	350	180	340	1030	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2965			2384	2961	
Travel Time (s)	57.8			46.4	57.7	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	616	0	395	1198	756	0
v/c Ratio	0.87		0.99	0.72	1.06	
Control Delay	33.9		72.3	16.1	70.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	33.9		72.3	16.1	70.9	
Queue Length 50th (ft)	~95		141	178	~256	
Queue Length 95th (ft)	135		#353	221	#563	
Internal Link Dist (ft)	2885			2304	2881	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	711		398	1662	714	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.87		0.99	0.72	1.06	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	350	180	340	1030	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	5.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.95		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3359		1770	3539	1696	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	3359		1770	3539	1696	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	407	209	395	1198	384	372
RTOR Reduction (vph)	105	0	0	0	60	0
Lane Group Flow (vph)	511	0	395	1198	696	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	11.3		14.1	29.4	24.1	
Effective Green, g (s)	11.3		14.1	29.4	24.1	
Actuated g/C Ratio	0.18		0.23	0.47	0.39	
Clearance Time (s)	5.0		4.0	5.0	4.0	
Vehicle Extension (s)	4.0		2.0	4.0	2.0	
Lane Grp Cap (vph)	607		399	1665	654	
v/s Ratio Prot	0.15		c0.22	c0.34	c0.41	
v/s Ratio Perm						
v/c Ratio	0.84		0.99	0.72	1.06	
Uniform Delay, d1	24.7		24.1	13.2	19.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	10.7		41.8	1.6	53.7	
Delay (s)	35.4		65.9	14.9	72.9	
Level of Service	D		E	B	E	
Approach Delay (s)	35.4			27.5	72.9	
Approach LOS	D			C	E	

Intersection Summary				
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	410	290	730	620	760	1150
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	36.0	36.0	64.0	36.0	36.0
Total Split (%)	28.0%	36.0%	36.0%	64.0%	36.0%	36.0%
Maximum Green (s)	22.0	30.0	30.0	58.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	410	290	730	620	760	1150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			454	789	
Travel Time (s)	14.8			8.8	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	451	319	802	681	835	1264
v/c Ratio	0.53	0.35	0.79	0.32	0.88	0.70
Control Delay	36.1	11.2	33.9	8.9	46.2	12.7
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.3
Total Delay	36.1	11.2	34.0	8.9	46.2	13.0
Queue Length 50th (ft)	134	90	246	92	255	231
Queue Length 95th (ft)	188	144	318	115	326	301
Internal Link Dist (ft)	682			374	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	855	899	1020	2117	1030	1818
Starvation Cap Reductn	0	0	6	0	0	0
Spillback Cap Reductn	0	0	0	0	0	149
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.35	0.79	0.32	0.81	0.76

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	410	290	730	620	760	1150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	451	319	802	681	835	1264
RTOR Reduction (vph)	0	14	0	0	0	53
Lane Group Flow (vph)	451	305	802	681	835	1211
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	24.4	52.0	30.0	60.4	27.6	57.6
Effective Green, g (s)	24.4	52.0	30.0	60.4	27.6	57.6
Actuated g/C Ratio	0.24	0.52	0.30	0.60	0.28	0.58
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	855	909	1020	2117	948	1773
v/s Ratio Prot	c0.13	0.09	c0.24	0.19	c0.24	0.20
v/s Ratio Perm		0.10				0.23
v/c Ratio	0.53	0.34	0.79	0.32	0.88	0.68
Uniform Delay, d1	32.8	14.0	32.1	9.7	34.6	14.8
Progression Factor	1.00	1.00	0.87	0.84	1.00	1.00
Incremental Delay, d2	2.3	0.1	3.4	0.4	9.4	0.9
Delay (s)	35.1	14.0	31.4	8.5	44.0	15.7
Level of Service	D	B	C	A	D	B
Approach Delay (s)	26.4			20.9	27.0	
Approach LOS	C			C	C	

Intersection Summary				
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1290	130	1010	150	110
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	8.0	8.0
Minimum Split (s)	26.0	16.0	26.0	14.0	14.0
Total Split (s)	63.0	17.0	80.0	20.0	20.0
Total Split (%)	63.0%	17.0%	80.0%	20.0%	20.0%
Maximum Green (s)	57.0	11.0	74.0	14.0	14.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	Min	Max	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 52 (52%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1290	180	130	1010	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	454			482	431	
Travel Time (s)	8.8			9.4	8.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1709	0	151	1174	174	128
v/c Ratio	0.85		0.78	0.44	0.78	0.41
Control Delay	16.6		71.1	5.3	65.7	11.4
Queue Delay	2.3		0.0	0.0	0.0	0.0
Total Delay	18.9		71.1	5.3	65.7	11.4
Queue Length 50th (ft)	304		95	128	107	0
Queue Length 95th (ft)	347		#184	151	#183	46
Internal Link Dist (ft)	374			402	351	
Turn Bay Length (ft)			200			200
Base Capacity (vph)	2020		193	2642	248	332
Starvation Cap Reductn	190		0	0	0	0
Spillback Cap Reductn	0		0	11	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.93		0.78	0.45	0.70	0.39

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1290	180	130	1010	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3441		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3441		1752	3505	1770	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1500	209	151	1174	174	128
RTOR Reduction (vph)	10	0	0	0	0	112
Lane Group Flow (vph)	1699	0	151	1174	174	16
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	58.4		11.0	75.4	12.6	12.6
Effective Green, g (s)	58.4		11.0	75.4	12.6	12.6
Actuated g/C Ratio	0.58		0.11	0.75	0.13	0.13
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2010		193	2643	223	199
v/s Ratio Prot	c0.49		c0.09	0.33	c0.10	
v/s Ratio Perm						0.01
v/c Ratio	0.85		0.78	0.44	0.78	0.08
Uniform Delay, d1	17.1		43.3	4.5	42.4	38.6
Progression Factor	0.73		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5		17.1	0.5	14.9	0.1
Delay (s)	16.0		60.5	5.1	57.3	38.7
Level of Service	B		E	A	E	D
Approach Delay (s)	16.0			11.4	49.4	
Approach LOS	B			B	D	

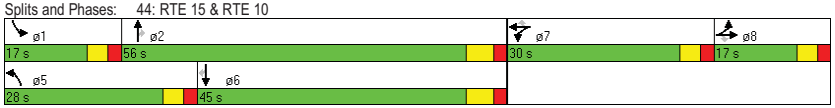
Intersection Summary				
HCM Average Control Delay	17.2	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	73.0%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	300	80	330	240	1230	250	140	790	130
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	8.0	21.0	21.0	8.0	36.0	36.0
Total Split (s)	17.0	17.0	17.0	30.0	30.0	30.0	28.0	56.0	56.0	17.0	45.0	45.0
Total Split (%)	14.2%	14.2%	14.2%	25.0%	25.0%	25.0%	23.3%	46.7%	46.7%	14.2%	37.5%	37.5%
Maximum Green (s)	12.0	12.0	12.0	25.0	25.0	25.0	23.0	50.0	50.0	12.0	39.0	39.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	300	80	330	240	1230	250	140	790	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		549			1964			2453			773	
Travel Time (s)		10.7			38.3			47.8			15.1	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	41%											
Lane Group Flow (vph)	146	146	135	337	90	371	270	1382	281	157	888	146
v/c Ratio	0.89	0.87	0.49	0.95	0.24	0.77	0.87	0.92	0.35	0.90	0.72	0.23
Control Delay	100.5	97.0	14.8	83.5	41.7	31.6	77.6	26.4	1.6	99.8	38.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.5	97.0	14.8	83.5	41.7	31.6	77.6	26.4	1.6	99.8	38.7	5.5
Queue Length 50th (ft)	118	118	0	258	58	124	197	410	3	122	325	0
Queue Length 95th (ft)	#244	#241	59	#426	105	239	m243	#656	m8	#244	397	45
Internal Link Dist (ft)		469			1884			2373			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	167	170	278	365	384	488	339	1505	795	177	1236	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.86	0.49	0.92	0.23	0.76	0.80	0.92	0.35	0.89	0.72	0.23

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	300	80	330	240	1230	250	140	790	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1694	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1694	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	247	45	135	337	90	371	270	1382	281	157	888	146
RTOR Reduction (vph)	0	0	122	0	0	163	0	0	121	0	0	95
Lane Group Flow (vph)	146	146	13	337	90	208	270	1382	160	157	888	51
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	11.8	11.8	11.8	24.4	24.4	24.4	21.0	51.0	51.0	11.8	41.8	41.8
Effective Green, g (s)	11.8	11.8	11.8	24.4	24.4	24.4	21.0	51.0	51.0	11.8	41.8	41.8
Actuated g/C Ratio	0.10	0.10	0.10	0.20	0.20	0.20	0.18	0.42	0.42	0.10	0.35	0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	164	167	154	356	375	319	310	1504	673	174	1233	551
v/s Ratio Prot	c0.09	0.09		c0.19	0.05		c0.15	c0.39		0.09	0.25	
v/s Ratio Perm			0.01			0.13			0.10			0.03
v/c Ratio	0.89	0.87	0.09	0.95	0.24	0.65	0.87	0.92	0.24	0.90	0.72	0.09
Uniform Delay, d1	53.5	53.4	49.2	47.2	40.0	43.9	48.2	32.5	22.1	53.5	34.0	26.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.26	0.58	0.14	1.00	1.00	1.00
Incremental Delay, d2	39.6	35.3	0.1	33.4	0.1	3.6	13.8	6.5	0.5	40.7	3.7	0.3
Delay (s)	93.1	88.7	49.3	80.6	40.2	47.6	74.4	25.4	3.6	94.2	37.7	26.7
Level of Service	F	F	D	F	D	D	E	C	A	F	D	C
Approach Delay (s)		77.7			60.7			29.0			43.8	
Approach LOS		E			E			C			D	

Intersection Summary				
HCM Average Control Delay	43.7	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	78.4%	ICU Level of Service	D	
Analysis Period (min)	15			

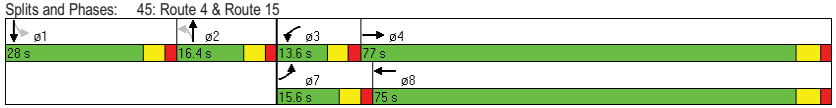
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	110	650	10	1690	40	5	50	5
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	15.6	77.0	13.6	75.0	16.4	16.4	28.0	28.0
Total Split (%)	11.6%	57.0%	10.1%	55.6%	12.1%	12.1%	20.7%	20.7%
Maximum Green (s)	10.1	71.0	8.1	69.0	10.9	10.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0	3.5	4.0	3.5	3.5	0.5	0.5
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.5
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	650	10	10	1690	40	40	5	40	50	5	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			548			338			351	
Travel Time (s)		12.5			10.7			6.6			6.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	750	0	11	1965	0	0	96	0	0	370	0
v/c Ratio	0.94	0.40		0.10	1.08			0.83			1.01	
Control Delay	125.5	19.8		62.5	80.2			92.9			82.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	125.5	19.8		62.5	80.2			92.9			82.0	
Queue Length 50th (ft)	111	201		9	~1020			61			~213	
Queue Length 95th (ft)	#233	242		29	#1113			#158			#403	
Internal Link Dist (ft)		561			468			258			271	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	133	1868		106	1812			119			366	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.94	0.40		0.10	1.08			0.81			1.01	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

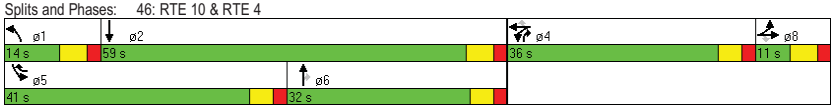
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	650	10	10	1690	40	40	5	40	50	5	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3531		1770	3527			1705			1641	
Flt Permitted	0.95	1.00		0.95	1.00			0.68			0.85	
Satd. Flow (perm)	1770	3531		1770	3527			1181			1410	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	125	739	11	11	1920	45	45	6	45	57	6	307
RTOR Reduction (vph)	0	1	0	0	1	0	0	24	0	0	130	0
Lane Group Flow (vph)	125	749	0	11	1964	0	0	72	0	0	240	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	10.1	71.1		8.0	69.0			10.4			22.5	
Effective Green, g (s)	10.1	71.1		8.0	69.0			10.4			22.5	
Actuated g/C Ratio	0.08	0.53		0.06	0.51			0.08			0.17	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	3.5	4.0		3.5	4.0			3.5			0.5	
Lane Grp Cap (vph)	133	1867		105	1809			91			236	
v/s Ratio Prot	c0.07	0.21		0.01	c0.56							
v/s Ratio Perm								c0.06			c0.17	
v/c Ratio	0.94	0.40		0.10	1.09			0.79			1.02	
Uniform Delay, d1	61.9	19.0		59.9	32.8			61.0			56.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	59.6	0.2		0.5	48.6			36.9			63.1	
Delay (s)	121.5	19.2		60.4	81.3			97.9			119.1	
Level of Service	F	B		E	F			F			F	
Approach Delay (s)		33.8			81.2			97.9			119.1	
Approach LOS		C			F			F			F	

Intersection Summary					
HCM Average Control Delay	73.4	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.03				
Actuated Cycle Length (s)	134.5	Sum of lost time (s)		22.5	
Intersection Capacity Utilization	89.1%	ICU Level of Service		E	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	30	5	5	820	5	660	760	630	220
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	10.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.5	9.5	13.5	16.0
Total Split (s)	11.0	11.0	36.0	41.0	14.0	32.0	36.0	41.0	59.0
Total Split (%)	9.2%	9.2%	30.0%	34.2%	11.7%	26.7%	30.0%	34.2%	49.2%
Maximum Green (s)	5.0	5.0	30.5	35.5	8.0	26.5	30.5	35.5	53.0
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		20.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 118.8
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	5	340	5	820	5	660	760	630	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			759			914	
Travel Time (s)		7.3			12.6			14.8			17.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	5	0	375	891	5	717	826	685	261	0
v/c Ratio		0.86	0.07		0.83	0.98	0.04	0.94	0.95	0.67	0.27	
Control Delay		126.3	35.0		59.0	43.6	53.4	67.2	46.5	40.5	16.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		126.3	35.0		59.0	43.6	53.4	67.2	46.5	40.5	16.7	
Queue Length 50th (ft)		52	0		276	402	4	287	536	240	97	
Queue Length 95th (ft)		#140	14		#433	#939	17	#400	#835	307	191	
Internal Link Dist (ft)		295			565			679			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		77	72		456	909	119	790	868	1026	982	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.86	0.07		0.82	0.98	0.04	0.91	0.95	0.67	0.27	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	5	340	5	820	5	660	760	630	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1775	1583	1770	3539	1583	3433	1839	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1775	1583	1770	3539	1583	3433	1839	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	33	5	370	5	891	5	717	826	685	239	22
RTOR Reduction (vph)	0	0	5	0	0	35	0	0	50	0	2	0
Lane Group Flow (vph)	0	66	0	0	375	856	5	717	776	685	259	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		5.0	5.0		30.2	65.7	1.6	30.4	60.6	35.5	63.3	
Effective Green, g (s)		5.0	5.0		30.2	65.7	1.6	30.4	60.6	35.5	63.3	
Actuated g/C Ratio		0.04	0.04		0.24	0.53	0.01	0.25	0.49	0.29	0.51	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		74	64		434	841	23	870	847	986	942	
v/s Ratio Prot		c0.04			0.21	c0.29	0.00	0.20	c0.22	0.20	0.14	
v/s Ratio Perm			0.00			0.25			0.27			
v/c Ratio		0.89	0.00		0.86	1.02	0.22	0.82	0.92	0.69	0.27	
Uniform Delay, d1		59.0	56.9		44.7	28.9	60.4	44.1	29.1	39.2	17.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		67.4	0.0		15.7	35.7	1.7	6.1	14.1	1.7	0.1	
Delay (s)		126.5	56.9		60.4	64.6	62.1	50.2	43.2	41.0	17.2	
Level of Service		F	E		E	E	E	D	D	D	B	
Approach Delay (s)		121.6			63.4			46.5			34.4	
Approach LOS		F			E			D			C	

Intersection Summary			
HCM Average Control Delay	50.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	123.6	Sum of lost time (s)	22.5
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1090	1160	280
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	24.0	24.0	13.0	22.0	33.0	33.0
Total Split (s)	24.0	24.0	21.0	96.0	75.0	75.0
Total Split (%)	20.0%	20.0%	17.5%	80.0%	62.5%	62.5%
Maximum Green (s)	19.0	19.0	16.0	90.0	69.0	69.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 111 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1090	1160	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	438			286	526	
Travel Time (s)	11.9			5.6	10.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	45	125	1239	1318	318
v/c Ratio	0.45	0.40	0.68	0.41	0.53	0.29
Control Delay	63.7	62.4	58.0	5.7	10.7	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	62.4	58.0	5.7	10.7	8.8
Queue Length 50th (ft)	43	34	95	169	244	88
Queue Length 95th (ft)	83	69	153	351	348	155
Internal Link Dist (ft)	358			206	446	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	251	224	234	3016	2469	1105
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.53	0.41	0.53	0.29

Intersection Summary

Area Type: Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1090	1160	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	57	45	125	1239	1318	318
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	57	45	125	1239	1318	318
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	8.0	8.0	12.5	101.0	83.5	83.5
Effective Green, g (s)	8.0	8.0	12.5	101.0	83.5	83.5
Actuated g/C Ratio	0.07	0.07	0.10	0.84	0.70	0.70
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	106	94	183	2950	2439	1091
v/s Ratio Prot	c0.04		c0.07	0.35	c0.38	
v/s Ratio Perm		0.03				0.20
v/c Ratio	0.54	0.48	0.68	0.42	0.54	0.29
Uniform Delay, d1	54.2	54.0	51.8	2.3	8.9	7.0
Progression Factor	1.00	1.00	0.80	2.10	1.00	1.00
Incremental Delay, d2	2.6	1.4	7.3	0.4	0.9	0.7
Delay (s)	56.8	55.4	48.6	5.3	9.8	7.6
Level of Service	E	E	D	A	A	A
Approach Delay (s)	56.2			9.3	9.3	
Approach LOS	E			A	A	

Intersection Summary				
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	90	100	1090	80	1110
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	23.0	23.0	28.0	13.0	22.0
Total Split (s)	26.0	26.0	74.0	20.0	94.0
Total Split (%)	21.7%	21.7%	61.7%	16.7%	78.3%
Maximum Green (s)	21.0	21.0	68.0	15.0	88.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 27 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6(V.Cementary) & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1090	90	80	1110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		550			1355
Travel Time (s)	16.0		10.7			26.4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	108	1269	0	86	1194
v/c Ratio	0.55	0.43	0.52		0.55	0.42
Control Delay	63.3	14.3	7.1		77.5	1.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	63.3	14.3	7.1		77.5	1.8
Queue Length 50th (ft)	74	0	116		72	48
Queue Length 95th (ft)	126	53	125		128	40
Internal Link Dist (ft)	506		470			1275
Turn Bay Length (ft)					200	
Base Capacity (vph)	310	366	2431		219	2837
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.31	0.30	0.52		0.39	0.42

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1090	90	80	1110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3465		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3465		1752	3505
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	108	1172	97	86	1194
RTOR Reduction (vph)	0	97	4	0	0	0
Lane Group Flow (vph)	97	11	1265	0	86	1194
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	11.9	11.9	83.0		9.1	97.1
Effective Green, g (s)	11.9	11.9	83.0		9.1	97.1
Actuated g/C Ratio	0.10	0.10	0.69		0.08	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	176	157	2397		133	2836
v/s Ratio Prot	c0.05		c0.37		c0.05	0.34
v/s Ratio Perm		0.01				
v/c Ratio	0.55	0.07	0.53		0.65	0.42
Uniform Delay, d1	51.5	49.0	9.0		53.9	3.3
Progression Factor	1.00	1.00	0.65		1.27	0.40
Incremental Delay, d2	2.1	0.1	0.8		6.8	0.4
Delay (s)	53.6	49.1	6.6		75.3	1.7
Level of Service	D	D	A		E	A
Approach Delay (s)	51.2		6.6			6.7
Approach LOS	D		A			A

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	20	220	1170	1150
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	20.0	13.0	22.0	30.0
Total Split (s)	20.0	31.0	100.0	69.0
Total Split (%)	16.7%	25.8%	83.3%	57.5%
Maximum Green (s)	15.0	26.0	94.0	63.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 21 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1170	1150	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2159			1944	7258	
Travel Time (s)	42.1			37.9	141.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	237	1258	1334	0
v/c Ratio	0.37		0.79	0.41	0.59	
Control Delay	34.5		59.5	2.1	11.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	34.5		59.5	2.1	11.0	
Queue Length 50th (ft)	16		157	66	191	
Queue Length 95th (ft)	58		m223	90	265	
Internal Link Dist (ft)	2079			1864	7178	
Turn Bay Length (ft)			125			
Base Capacity (vph)	238		385	3050	2249	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.23		0.62	0.41	0.59	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1170	1150	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1680		1752	3505	3467	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1680		1752	3505	3467	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	32	237	1258	1237	97
RTOR Reduction (vph)	30	0	0	0	4	0
Lane Group Flow (vph)	24	0	237	1258	1330	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.8		20.5	102.2	76.7	
Effective Green, g (s)	6.8		20.5	102.2	76.7	
Actuated g/C Ratio	0.06		0.17	0.85	0.64	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	95		299	2985	2216	
v/s Ratio Prot	c0.01		c0.14	0.36	c0.38	
v/s Ratio Perm						
v/c Ratio	0.25		0.79	0.42	0.60	
Uniform Delay, d1	54.2		47.7	2.1	12.7	
Progression Factor	1.00		0.95	0.84	0.71	
Incremental Delay, d2	0.5		9.8	0.3	1.1	
Delay (s)	54.7		55.1	2.1	10.1	
Level of Service	D		E	A	B	
Approach Delay (s)	54.7			10.5	10.1	
Approach LOS	D			B	B	

Intersection Summary				
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	270	70	540	750
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	25.0		33.0	33.0	22.0	21.0
Total Split (s)	36.0	0.0	40.0	40.0	44.0	84.0
Total Split (%)	30.0%	0.0%	33.3%	33.3%	36.7%	70.0%
Maximum Green (s)	31.0		34.0	34.0	39.0	78.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 74 (62%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	270	70	540	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	531		795			527
Travel Time (s)	10.3		15.5			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	1212	318	82	635	882
v/c Ratio	0.68	0.77	0.18	0.10	0.73	0.32
Control Delay	67.0	3.6	18.9	5.0	33.5	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	3.6	18.9	5.0	33.5	5.6
Queue Length 50th (ft)	106	0	70	0	239	100
Queue Length 95th (ft)	157	0	112	28	183	165
Internal Link Dist (ft)	451		715			447
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	457	1583	1736	818	1105	2775
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.77	0.18	0.10	0.57	0.32

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	270	70	540	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3505	1568	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3505	1568	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	141	1212	318	82	635	882
RTOR Reduction (vph)	0	0	0	41	0	0
Lane Group Flow (vph)	141	1212	318	41	635	882
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	14.0	120.0	59.4	59.4	30.6	95.0
Effective Green, g (s)	14.0	120.0	59.4	59.4	30.6	95.0
Actuated g/C Ratio	0.12	1.00	0.49	0.49	0.26	0.79
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	207	1583	1735	776	867	2775
v/s Ratio Prot	0.08		0.09		0.19	0.25
v/s Ratio Perm		c0.77		0.03		
v/c Ratio	0.68	0.77	0.18	0.05	0.73	0.32
Uniform Delay, d1	50.9	0.0	16.8	15.7	40.9	3.5
Progression Factor	1.00	1.00	1.00	1.00	0.71	1.40
Incremental Delay, d2	7.1	3.6	0.2	0.1	3.5	0.3
Delay (s)	58.0	3.6	17.1	15.8	32.4	5.2
Level of Service	E	A	B	B	C	A
Approach Delay (s)	9.3		16.8			16.6
Approach LOS	A		B			B

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	36.0	36.0	37.0	37.0	27.0	64.0
Total Split (%)	36.0%	36.0%	37.0%	37.0%	27.0%	64.0%
Maximum Green (s)	30.5	30.5	31.0	31.0	21.5	58.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 73.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1169		1253			870
Travel Time (s)	22.8		24.4			16.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	448	677	42	229	198
v/c Ratio	0.57	0.72	0.45	0.06	0.69	0.08
Control Delay	38.5	10.6	17.5	8.3	39.6	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	10.6	17.5	8.3	39.6	4.2
Queue Length 50th (ft)	66	0	108	3	97	12
Queue Length 95th (ft)	133	82	200	24	179	27
Internal Link Dist (ft)	1089		1173			790
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	741	923	1506	691	522	2817
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.49	0.45	0.06	0.44	0.07

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	156	448	677	42	229	198
RTOR Reduction (vph)	0	379	0	18	0	0
Lane Group Flow (vph)	156	69	677	24	229	198
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.3	11.3	31.3	31.3	13.8	50.6
Effective Green, g (s)	11.3	11.3	31.3	31.3	13.8	50.6
Actuated g/C Ratio	0.15	0.15	0.43	0.43	0.19	0.69
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	272	244	1509	675	333	2440
v/s Ratio Prot	c0.09		c0.19		c0.13	0.06
v/s Ratio Perm		0.04		0.02		
v/c Ratio	0.57	0.28	0.45	0.04	0.69	0.08
Uniform Delay, d1	28.8	27.5	14.9	12.3	27.8	3.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.2	1.0	0.1	4.7	0.0
Delay (s)	30.6	27.7	15.9	12.4	32.4	3.8
Level of Service	C	C	B	B	C	A
Approach Delay (s)	28.5		15.7			19.1
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	600	280	90	240
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	36.0	36.0	66.0	66.0	18.0	84.0
Total Split (%)	30.0%	30.0%	55.0%	55.0%	15.0%	70.0%
Maximum Green (s)	30.5	30.5	60.0	60.0	12.5	78.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 111.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	600	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	665		412			515
Travel Time (s)	13.0		8.0			10.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	281	337	674	315	101	270
v/c Ratio	0.81	0.58	0.65	0.32	0.61	0.21
Control Delay	61.4	8.3	22.3	4.5	65.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	8.3	22.3	4.5	65.7	7.0
Queue Length 50th (ft)	194	0	319	20	70	60
Queue Length 95th (ft)	284	70	536	73	133	116
Internal Link Dist (ft)	585		332			435
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	485	679	1041	995	199	1307
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.50	0.65	0.32	0.51	0.21

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	600	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	281	337	674	315	101	270
RTOR Reduction (vph)	0	271	0	111	0	0
Lane Group Flow (vph)	281	66	674	204	101	270
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	21.8	21.8	62.3	62.3	10.4	78.2
Effective Green, g (s)	21.8	21.8	62.3	62.3	10.4	78.2
Actuated g/C Ratio	0.20	0.20	0.56	0.56	0.09	0.70
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	346	310	1041	884	165	1307
v/s Ratio Prot	c0.16		c0.36		c0.06	0.14
v/s Ratio Perm		0.04		0.13		
v/c Ratio	0.81	0.21	0.65	0.23	0.61	0.21
Uniform Delay, d1	42.9	37.6	17.0	12.5	48.6	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.8	0.1	1.0	0.0	4.7	0.4
Delay (s)	55.7	37.8	18.1	12.5	53.3	6.2
Level of Service	E	D	B	B	D	A
Approach Delay (s)	45.9		16.3			19.0
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	111.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	140	70	130	30	30	520
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	171	85	159	37	37	634
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	159				585	159
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159				585	159
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				91	28
cM capacity (veh/h)	1421				416	887

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	256	159	37	37	634
Volume Left	171	0	0	37	0
Volume Right	0	0	37	0	634
cSH	1421	1700	1700	416	887
Volume to Capacity	0.12	0.09	0.02	0.09	0.72
Queue Length 95th (ft)	10	0	0	7	157
Control Delay (s)	5.6	0.0	0.0	14.5	18.5
Lane LOS	A			B	C
Approach Delay (s)	5.6	0.0		18.3	
Approach LOS				C	

Intersection Summary				
Average Delay	12.2			
Intersection Capacity Utilization	45.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	40	40	20	100	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	15	60	60	30	149	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418	75			90	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418	75			90	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			90	
cM capacity (veh/h)	533	987			1506	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	75	90	194
Volume Left	15	0	149
Volume Right	60	30	0
cSH	843	1700	1506
Volume to Capacity	0.09	0.05	0.10
Queue Length 95th (ft)	7	0	8
Control Delay (s)	9.7	0.0	6.1
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	6.1
Approach LOS	A		

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	23.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	100	50	70	180	230	140
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	110	55	77	198	253	154
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			165		489	137
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			165		489	137
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		50	83
cM capacity (veh/h)			1413		509	911

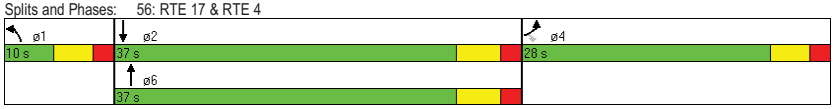
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	165	275	407
Volume Left	0	77	253
Volume Right	55	0	154
cSH	1700	1413	611
Volume to Capacity	0.10	0.05	0.67
Queue Length 95th (ft)	0	4	125
Control Delay (s)	0.0	2.5	21.8
Lane LOS		A	C
Approach Delay (s)	0.0	2.5	21.8
Approach LOS			C

Intersection Summary				
Average Delay			11.3	
Intersection Capacity Utilization			53.0%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	470	20	40	650	250
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	28.0	28.0	10.0	37.0	37.0
Total Split (%)	37.3%	37.3%	13.3%	49.3%	49.3%
Maximum Green (s)	22.5	22.5	4.5	31.0	31.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 71
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	470	20	40	650	250	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	456	
Travel Time (s)	16.3			14.6	8.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	603	26	51	833	616	0
v/c Ratio	1.07	0.05	0.45	1.02	0.76	
Control Delay	85.8	8.3	47.5	60.3	23.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	85.8	8.3	47.5	60.3	23.7	
Queue Length 50th (ft)	~333	0	24	~442	216	
Queue Length 95th (ft)	#418	13	49	#514	271	
Internal Link Dist (ft)	758			671	376	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	564	522	113	818	806	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.07	0.05	0.45	1.02	0.76	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	470	20	40	650	250	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1742	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1742	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	603	26	51	833	321	295
RTOR Reduction (vph)	0	18	0	0	43	0
Lane Group Flow (vph)	603	8	51	833	573	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	22.6	22.6	2.6	31.2	31.2	
Effective Green, g (s)	22.6	22.6	2.6	31.2	31.2	
Actuated g/C Ratio	0.31	0.31	0.04	0.43	0.43	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	545	487	63	792	740	
v/s Ratio Prot	c0.34		c0.03	c0.45	0.33	
v/s Ratio Perm		0.01				
v/c Ratio	1.11	0.02	0.81	1.05	0.77	
Uniform Delay, d1	25.4	17.7	35.2	21.1	18.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	71.0	0.0	49.3	46.5	4.6	
Delay (s)	96.4	17.7	84.5	67.6	22.7	
Level of Service	F	B	F	E	C	
Approach Delay (s)	93.2			68.5	22.7	
Approach LOS	F			E	C	

Intersection Summary			
HCM Average Control Delay	62.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	100	280	90	80	140	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	119	333	107	95	167	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	202				726	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202				726	155
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				53	95
cM capacity (veh/h)	1369				357	891

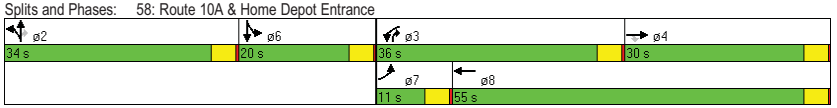
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	452	202	214
Volume Left	119	0	167
Volume Right	0	95	48
cSH	1369	1700	412
Volume to Capacity	0.09	0.12	0.52
Queue Length 95th (ft)	7	0	73
Control Delay (s)	2.7	0.0	22.8
Lane LOS	A		C
Approach Delay (s)	2.7	0.0	22.8
Approach LOS			C

Intersection Summary				
Average Delay		7.0		
Intersection Capacity Utilization		50.1%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	340	250	720	1260	690	40	350	20	10
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	11.0	30.0	30.0	36.0	55.0	34.0	34.0	36.0	20.0	20.0
Total Split (%)	9.2%	25.0%	25.0%	30.0%	45.8%	28.3%	28.3%	30.0%	16.7%	16.7%
Maximum Green (s)	7.0	26.0	26.0	32.0	51.0	30.0	30.0	32.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 102.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	340	250	720	1260	70	690	40	350	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1896			1155			624			394	
Travel Time (s)		43.1			22.5			12.2			9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	370	272	783	1446	0	750	43	380	22	65	0
v/c Ratio	0.70	0.39	0.53	0.84	0.88		0.83	0.09	0.37	0.20	0.43	
Control Delay	80.2	34.6	24.3	45.3	32.8		45.9	31.4	1.8	53.6	26.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	80.2	34.6	24.3	45.3	32.8		45.9	31.4	1.8	53.6	26.9	
Queue Length 50th (ft)	61	113	91	266	466		253	23	0	15	8	
Queue Length 95th (ft)	#154	170	191	347	#660		339	53	26	42	51	
Internal Link Dist (ft)		1816			1075			544			314	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	124	974	521	1100	1796		1031	559	1094	284	307	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.70	0.38	0.52	0.71	0.81		0.73	0.08	0.35	0.08	0.21	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	340	250	720	1260	70	690	40	350	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3511		3433	1863	1583	1770	1631	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3511		3433	1863	1583	1770	1631	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	370	272	783	1370	76	750	43	380	22	11	54
RTOR Reduction (vph)	0	0	87	0	3	0	0	0	178	0	51	0
Lane Group Flow (vph)	87	370	185	783	1443	0	750	43	202	22	14	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	7.2	27.4	27.4	27.9	48.1		26.9	26.9	54.8	5.0	5.0	
Effective Green, g (s)	7.2	27.4	27.4	27.9	48.1		26.9	26.9	54.8	5.0	5.0	
Actuated g/C Ratio	0.07	0.27	0.27	0.27	0.47		0.26	0.26	0.53	0.05	0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	123	940	420	928	1636		895	486	841	86	79	
v/s Ratio Prot	0.05	0.10		c0.23	c0.41		c0.22	0.02	0.06	c0.01	0.01	
v/s Ratio Perm			0.12						0.06			
v/c Ratio	0.71	0.39	0.44	0.84	0.88		0.84	0.09	0.24	0.26	0.17	
Uniform Delay, d1	47.0	31.1	31.5	35.6	25.0		36.1	28.9	13.0	47.3	47.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.1	0.1	0.3	6.8	5.8		6.6	0.0	0.1	0.6	0.4	
Delay (s)	61.0	31.2	31.8	42.4	30.8		42.7	28.9	13.1	47.9	47.5	
Level of Service	E	C	C	D	C		D	C	B	D	D	
Approach Delay (s)		35.0			34.9			32.6			47.6	
Approach LOS		C			C			C			D	

Intersection Summary					
HCM Average Control Delay	34.5	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.81				
Actuated Cycle Length (s)	103.2	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	77.8%	ICU Level of Service		D	
Analysis Period (min)	15				

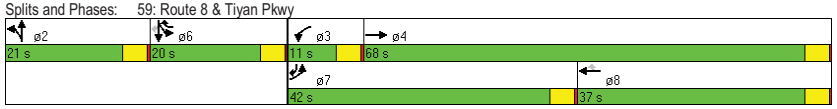
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	720	530	40	1000	480	110	90	120	50	880
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	42.0	68.0	11.0	37.0	20.0	21.0	21.0	20.0	20.0	42.0
Total Split (%)	35.0%	56.7%	9.2%	30.8%	16.7%	17.5%	17.5%	16.7%	16.7%	35.0%
Maximum Green (s)	38.0	64.0	7.0	33.0	16.0	17.0	17.0	16.0	16.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 110.9
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	720	530	70	40	1000	480	110	90	40	120	50	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2308			2965			532			1075	
Travel Time (s)		45.0			57.8			12.1			20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										30%		
Lane Group Flow (vph)	783	652	0	43	1087	522	120	141	0	91	93	957
v/c Ratio	0.66	0.30		0.43	1.03	0.70	0.62	0.68		0.52	0.52	1.15
Control Delay	35.3	11.8		66.3	74.4	16.0	62.5	60.0		58.5	58.0	106.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.3	11.8		66.3	74.4	16.0	62.5	60.0		58.5	58.0	106.6
Queue Length 50th (ft)	244	117		30	~442	133	83	88		65	67	~759
Queue Length 95th (ft)	347	183		72	#644	215	149	160		126	128	#1076
Internal Link Dist (ft)		2228			2885			452			995	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1181	2170		112	1057	799	272	286		243	251	832
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.66	0.30		0.38	1.03	0.65	0.44	0.49		0.37	0.37	1.15

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

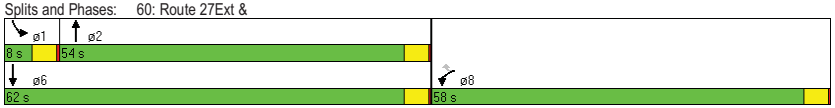
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	720	530	70	40	1000	480	110	90	40	120	50	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	3433	3477		1770	3539	1583	1770	1778		1681	1733	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (perm)	3433	3477		1770	3539	1583	1770	1778		1681	1733	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	576	76	43	1087	522	120	98	43	130	54	957
RTOR Reduction (vph)	0	7	0	0	0	103	0	13	0	0	0	71
Lane Group Flow (vph)	783	645	0	43	1087	419	120	128	0	91	93	886
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	38.2	69.0		4.0	34.8	46.4	12.0	12.0		11.6	11.6	49.8
Effective Green, g (s)	38.2	69.0		4.0	34.8	46.4	12.0	12.0		11.6	11.6	49.8
Actuated g/C Ratio	0.34	0.61		0.04	0.31	0.41	0.11	0.11		0.10	0.10	0.44
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1165	2131		63	1094	652	189	189		173	179	756
v/s Ratio Prot	0.23	0.19		0.02	c0.31	0.07	0.07	c0.07		0.05	0.05	c0.40
v/s Ratio Perm						0.20						0.16
v/c Ratio	0.67	0.30		0.68	0.99	0.64	0.63	0.68		0.53	0.52	1.17
Uniform Delay, d1	31.8	10.4		53.7	38.8	26.5	48.2	48.4		47.9	47.9	31.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	0.0		21.6	25.5	1.6	5.0	7.3		1.3	1.1	91.2
Delay (s)	33.1	10.4		75.2	64.3	28.1	53.2	55.7		49.2	48.9	122.6
Level of Service	C	B		E	E	C	D	E		D	D	F
Approach Delay (s)		22.8			53.1			54.6			110.8	
Approach LOS		C			D			D			F	

Intersection Summary					
HCM Average Control Delay	58.2	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.05				
Actuated Cycle Length (s)	112.6	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	99.3%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	610	460	520	5	1980
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	58.0	58.0	54.0	8.0	62.0
Total Split (%)	48.3%	48.3%	45.0%	6.7%	51.7%
Maximum Green (s)	54.0	54.0	50.0	4.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 44 (37%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext &



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	610	460	520	580	5	1980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1271		1087			986
Travel Time (s)	28.9		21.2			19.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	663	500	1195	0	5	2152
v/c Ratio	0.91	0.63	0.48		0.08	0.82
Control Delay	30.6	14.6	17.0		62.4	13.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.6	14.6	17.0		62.4	13.0
Queue Length 50th (ft)	292	138	128		4	463
Queue Length 95th (ft)	m137	m57	m141		m4	m523
Internal Link Dist (ft)	1191		1007			906
Turn Bay Length (ft)					300	
Base Capacity (vph)	797	851	2502		64	2630
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.83	0.59	0.48		0.08	0.82

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	610	460	520	580	5	1980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.92		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4638		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4638		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	663	500	565	630	5	2152
RTOR Reduction (vph)	0	148	149	0	0	0
Lane Group Flow (vph)	663	352	1046	0	5	2152
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	49.3	49.3	57.9		0.8	62.7
Effective Green, g (s)	49.3	49.3	57.9		0.8	62.7
Actuated g/C Ratio	0.41	0.41	0.48		0.01	0.52
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	727	650	2238		12	2631
v/s Ratio Prot	c0.37		0.23		0.00	c0.43
v/s Ratio Perm		0.22				
v/c Ratio	0.91	0.54	0.47		0.42	0.82
Uniform Delay, d1	33.3	26.8	20.7		59.4	23.9
Progression Factor	0.85	1.14	1.09		1.09	0.48
Incremental Delay, d2	1.8	0.0	0.5		2.4	0.9
Delay (s)	30.3	30.7	23.2		67.3	12.2
Level of Service	C	C	C		E	B
Approach Delay (s)	30.5		23.2			12.4
Approach LOS	C		C			B

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

INTERSECTION ANALYSIS

Synchro Output

Year 2030 Baseline (No-Build) Conditions

Weekday p.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	360	340	5	5	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	400	378	6	6	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	383				803	381
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	383				803	381
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	93
cM capacity (veh/h)	1175				349	667

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	11	400	383	50
Volume Left	11	0	0	6
Volume Right	0	0	6	44
cSH	1175	1700	1700	605
Volume to Capacity	0.01	0.24	0.23	0.08
Queue Length 95th (ft)	1	0	0	7
Control Delay (s)	8.1	0.0	0.0	11.5
Lane LOS	A			B
Approach Delay (s)	0.2		0.0	11.5
Approach LOS				B

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		28.9%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	220	100	40	240	70	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	244	111	44	267	78	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			356		656	300
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			356		656	300
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		81	97
cM capacity (veh/h)			1203		415	740

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	356	311	100
Volume Left	0	44	78
Volume Right	111	0	22
cSH	1700	1203	459
Volume to Capacity	0.21	0.04	0.22
Queue Length 95th (ft)	0	3	20
Control Delay (s)	0.0	1.5	15.0
Lane LOS		A	C
Approach Delay (s)	0.0	1.5	15.0
Approach LOS			C

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	47.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	240	260	10	60	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	267	289	11	67	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	300				572	294
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	300				572	294
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				86	99
cM capacity (veh/h)	1261				479	745

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	272	300	72
Volume Left	6	0	67
Volume Right	0	11	6
cSH	1261	1700	493
Volume to Capacity	0.00	0.18	0.15
Queue Length 95th (ft)	0	0	13
Control Delay (s)	0.2	0.0	13.6
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	13.6
Approach LOS			B

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	26.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	410	380	30	30	80
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	57	466	432	34	34	91
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	466				1028	449
vC1, stage 1 conf vol					449	
vC2, stage 2 conf vol					580	
vCu, unblocked vol	466				1028	449
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	95				92	85
cM capacity (veh/h)	1096				454	610

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	57	466	466	125
Volume Left	57	0	0	34
Volume Right	0	0	34	91
cSH	1096	1700	1700	839
Volume to Capacity	0.05	0.27	0.27	0.15
Queue Length 95th (ft)	4	0	0	13
Control Delay (s)	8.5	0.0	0.0	12.4
Lane LOS	A			B
Approach Delay (s)	0.9		0.0	12.4
Approach LOS				B

Intersection Summary				
Average Delay			1.8	
Intersection Capacity Utilization			38.5%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	300	550	560	120	410
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	29.0	67.0	67.0	24.0	91.0
Total Split (%)	24.2%	55.8%	55.8%	20.0%	75.8%
Maximum Green (s)	23.5	61.0	61.0	18.5	85.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 115.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	100	550	560	120	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	435	0	598	609	130	446
v/c Ratio	0.74		0.57	0.53	0.60	0.17
Control Delay	50.5		20.1	3.0	60.0	5.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	50.5		20.1	3.0	60.0	5.1
Queue Length 50th (ft)	147		273	0	93	46
Queue Length 95th (ft)	203		448	56	158	72
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	709		1052	1159	283	2600
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.61		0.57	0.53	0.46	0.17

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	100	550	560	120	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3352		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3352		1863	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	109	598	609	130	446
RTOR Reduction (vph)	29	0	0	265	0	0
Lane Group Flow (vph)	406	0	598	344	130	446
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	19.2		65.4	65.4	14.2	85.1
Effective Green, g (s)	19.2		65.4	65.4	14.2	85.1
Actuated g/C Ratio	0.17		0.56	0.56	0.12	0.73
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	556		1052	894	217	2601
v/s Ratio Prot	c0.12		c0.32		c0.07	0.13
v/s Ratio Perm				0.22		
v/c Ratio	0.73		0.57	0.38	0.60	0.17
Uniform Delay, d1	45.8		16.2	14.0	48.1	4.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9		2.2	1.3	4.7	0.1
Delay (s)	50.8		18.4	15.3	52.8	4.8
Level of Service	D		B	B	D	A
Approach Delay (s)	50.8		16.8			15.6
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	115.8	Sum of lost time (s)	17.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	5	10	1200	760	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	10	5	10	1250	792	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1443	401	802			
vC1, stage 1 conf vol	797					
vC2, stage 2 conf vol	646					
vCu, unblocked vol	1443	401	802			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	99	99			
cM capacity (veh/h)	323	599	817			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	16	10	625	625	528	274
Volume Left	10	10	0	0	0	0
Volume Right	5	0	0	0	0	10
cSH	381	817	1700	1700	1700	1700
Volume to Capacity	0.04	0.01	0.37	0.37	0.31	0.16
Queue Length 95th (ft)	3	1	0	0	0	0
Control Delay (s)	14.8	9.5	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	14.8	0.1			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		43.2%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	630	150	190	230	80	130
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		8.0	10.0
Minimum Split (s)	20.0		22.0		13.5	22.0
Total Split (s)	38.0	0.0	33.0	0.0	19.0	52.0
Total Split (%)	42.2%	0.0%	36.7%	0.0%	21.1%	57.8%
Maximum Green (s)	34.0		27.0		13.5	46.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 50
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	630	150	190	230	80	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	741	176	224	271	94	153
v/c Ratio	0.69	0.11	0.47	0.17	0.28	0.18
Control Delay	19.6	0.1	22.6	0.2	24.6	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	0.1	22.6	0.2	24.6	8.7
Queue Length 50th (ft)	96	0	58	0	25	23
Queue Length 95th (ft)	170	0	131	0	71	58
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	2410	1583	1096	1583	520	1638
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.11	0.20	0.17	0.18	0.09

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	630	150	190	230	80	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	741	176	224	271	94	153
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	741	176	224	271	94	153
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	15.7	50.5	12.8	50.5	6.5	24.8
Effective Green, g (s)	15.7	50.5	12.8	50.5	6.5	24.8
Actuated g/C Ratio	0.31	1.00	0.25	1.00	0.13	0.49
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1067	1583	472	1583	228	915
v/s Ratio Prot	c0.22		c0.12		c0.05	0.08
v/s Ratio Perm		0.11		0.17		
v/c Ratio	0.69	0.11	0.47	0.17	0.41	0.17
Uniform Delay, d1	15.3	0.0	16.0	0.0	20.2	7.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.1	0.3	0.2	0.4	0.0
Delay (s)	16.9	0.1	16.3	0.2	20.7	7.2
Level of Service	B	A	B	A	C	A
Approach Delay (s)	13.7		7.5			12.3
Approach LOS	B		A			B

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	50.5	Sum of lost time (s)	15.5
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	310	10	10	930	50	1010
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	80	10	930	330	50	1010	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				34%								
Lane Group Flow (vph)	0	66	0	225	215	0	11	1385	0	55	1115	0
v/c Ratio		0.54		0.83	0.76		0.14	0.69		0.50	0.50	
Control Delay		51.6		76.4	63.3		71.3	12.7		74.4	15.8	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		76.4	63.3		71.3	12.7		74.4	15.8	
Queue Length 50th (ft)		30		194	163		9	144		46	233	
Queue Length 95th (ft)		78		283	250		m16	177		90	411	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	343		94	2012		135	2244	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.67	0.63		0.12	0.69		0.41	0.50	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	80	10	930	330	50	1010	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.94		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1617		1752	3367		1752	3502	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1617		1752	3367		1752	3502	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	341	11	88	11	1022	363	55	1110	5
RTOR Reduction (vph)	0	29	0	0	20	0	0	23	0	0	0	0
Lane Group Flow (vph)	0	37	0	225	195	0	11	1362	0	55	1115	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		21.0	21.0		2.6	74.8		7.1	79.3	
Effective Green, g (s)		6.1		21.0	21.0		2.6	74.8		7.1	79.3	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.58		0.05	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		272	261		35	1937		96	2136	
v/s Ratio Prot		c0.02		c0.13	0.12		0.01	c0.40		c0.03	c0.32	
v/s Ratio Perm												
v/c Ratio		0.46		0.83	0.75		0.31	0.70		0.57	0.52	
Uniform Delay, d1		60.4		52.7	52.0		62.8	19.7		60.0	14.5	
Progression Factor		1.00		1.00	1.00		1.14	0.53		1.00	1.00	
Incremental Delay, d2		1.5		17.5	9.7		1.5	1.8		5.0	0.9	
Delay (s)		61.9		70.2	61.7		73.1	12.2		65.0	15.4	
Level of Service		E		E	E		E	B		E	B	
Approach Delay (s)		61.9			66.1			12.7			17.8	
Approach LOS		E			E			B			B	

Intersection Summary				
HCM Average Control Delay	23.3	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	27.0	
Intersection Capacity Utilization	68.7%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	50	30	20	20	10	50	150	30	10	270	140
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	53	32	21	21	11	53	158	32	11	284	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	679	674	358	716	732	174	432			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	679	674	358	716	732	174	432			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	85	95	92	94	99	95			99		
cM capacity (veh/h)	329	356	686	280	330	870	1123			1378		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	232	53	242	442
Volume Left	147	21	53	11
Volume Right	32	11	32	147
cSH	361	348	1123	1378
Volume to Capacity	0.64	0.15	0.05	0.01
Queue Length 95th (ft)	106	13	4	1
Control Delay (s)	31.2	17.2	2.2	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	31.2	17.2	2.2	0.3
Approach LOS	D	C		

Intersection Summary				
Average Delay	9.0			
Intersection Capacity Utilization	63.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	180	160	1150	120	1120
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	160	1150	170	120	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	167	1375	0	125	1167
v/c Ratio	0.76	0.47	0.63		0.69	0.43
Control Delay	72.6	13.9	5.6		82.9	4.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	72.6	13.9	5.6		82.9	4.5
Queue Length 50th (ft)	155	11	52		88	72
Queue Length 95th (ft)	225	74	m220		m164	106
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	340	427	2188		243	2719
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.55	0.39	0.63		0.51	0.43

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	160	1150	170	120	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3437		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3437		1752	3505
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	167	1198	177	125	1167
RTOR Reduction (vph)	0	131	7	0	0	0
Lane Group Flow (vph)	188	36	1368	0	125	1167
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	18.1	18.1	82.5		13.4	100.9
Effective Green, g (s)	18.1	18.1	82.5		13.4	100.9
Actuated g/C Ratio	0.14	0.14	0.63		0.10	0.78
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	246	220	2181		181	2720
v/s Ratio Prot	c0.11		c0.40		c0.07	0.33
v/s Ratio Perm		0.02				
v/c Ratio	0.76	0.16	0.63		0.69	0.43
Uniform Delay, d1	53.9	49.3	14.4		56.3	4.9
Progression Factor	1.00	1.00	0.28		1.18	0.75
Incremental Delay, d2	11.9	0.1	1.1		7.6	0.4
Delay (s)	65.8	49.4	5.2		74.3	4.1
Level of Service	E	D	A		E	A
Approach Delay (s)	58.1		5.2			10.9
Approach LOS	E		A			B

Intersection Summary				
HCM Average Control Delay	13.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	67.2%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	140	100	210	260	270	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	109	228	283	293	109
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1087	348	402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1087	348	402			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	21	84	80			
cM capacity (veh/h)	192	695	1151			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	261	511	402
Volume Left	152	228	0
Volume Right	109	0	109
cSH	275	1151	1700
Volume to Capacity	0.95	0.20	0.24
Queue Length 95th (ft)	227	18	0
Control Delay (s)	82.6	5.1	0.0
Lane LOS	F	A	
Approach Delay (s)	82.6	5.1	0.0
Approach LOS	F		

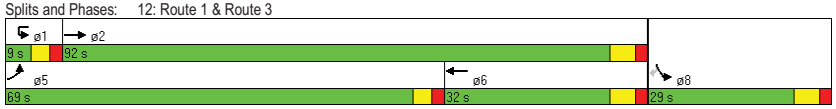
Intersection Summary			
Average Delay	20.6		
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1100	1220	850	140	700	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1100	1220	0	850	160	140	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1158	1284	0	1063	0	147	737
v/c Ratio	1.34	0.33		0.84		0.67	0.74
Control Delay	176.3	3.3		28.7		68.1	8.4
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	176.3	3.3		28.7		68.1	8.4
Queue Length 50th (ft)	~1282	57		92		120	0
Queue Length 95th (ft)	m#1329	m116		#412		183	57
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	863	3943		1259		313	1100
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.34	0.33		0.84		0.47	0.67

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1100	1220	0	850	160	140	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4917		1770	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4917		1770	2787
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1158	1284	0	895	168	147	737
RTOR Reduction (vph)	0	0	0	19	0	0	645
Lane Group Flow (vph)	1158	1284	0	1044	0	147	92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	101.8		32.8		16.2	16.2
Effective Green, g (s)	64.0	101.8		32.8		16.2	16.2
Actuated g/C Ratio	0.49	0.78		0.25		0.12	0.12
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	863	3944		1241		221	347
v/s Ratio Prot	c0.66	0.25		c0.21		c0.08	
v/s Ratio Perm							0.03
v/c Ratio	1.34	0.33		0.84		0.67	0.26
Uniform Delay, d1	33.0	4.1		46.1		54.3	51.5
Progression Factor	0.46	0.72		0.45		1.00	1.00
Incremental Delay, d2	156.4	0.1		6.5		5.7	0.1
Delay (s)	171.7	3.0		27.1		60.0	51.7
Level of Service	F	A		C		E	D
Approach Delay (s)		83.0		27.1		53.1	
Approach LOS		F		C		D	

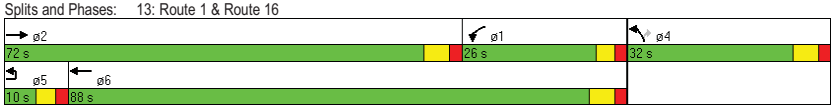
Intersection Summary			
HCM Average Control Delay	63.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1750	250	1360	560	490
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1750	680	250	1360	560	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2531	0	260	1417	583	510
v/c Ratio	0.14	1.00		0.92	0.40	0.89	0.98
Control Delay	57.9	44.5		60.6	4.6	39.1	37.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	57.9	44.5		60.6	4.6	39.1	37.4
Queue Length 50th (ft)	8	~757		213	64	205	92
Queue Length 95th (ft)	m11	m#851		m#327	126	m247	m#335
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2524		283	3519	680	529
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.00		0.92	0.40	0.86	0.96

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1750	680	250	1360	560	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4806		1752	5036	3400	1544
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4806		1752	5036	3400	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1823	708	260	1417	583	510
RTOR Reduction (vph)	0	56	0	0	0	0	222
Lane Group Flow (vph)	10	2475	0	260	1417	583	288
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	62.8		25.0	86.8	25.2	25.2
Effective Green, g (s)	1.0	62.8		25.0	86.8	25.2	25.2
Actuated g/C Ratio	0.01	0.48		0.19	0.67	0.19	0.19
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2322		337	3362	659	299
v/s Ratio Prot	0.01	c0.51		c0.15	0.28	0.17	
v/s Ratio Perm							c0.19
v/c Ratio	0.71	1.07		0.77	0.42	0.88	0.96
Uniform Delay, d1	64.4	33.6		49.8	10.0	51.0	52.0
Progression Factor	0.91	0.99		0.59	0.50	0.56	0.45
Incremental Delay, d2	59.4	35.7		6.4	0.3	7.7	29.0
Delay (s)	118.0	69.0		35.7	5.3	36.5	52.3
Level of Service	F	E		D	A	D	D
Approach Delay (s)		69.2			10.0	43.9	
Approach LOS		E			A	D	

Intersection Summary

HCM Average Control Delay	45.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	810	190	260	1930	30	1270
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	810	190	260	1930	30	1270	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	900	211	289	2144	33	2211	0
v/c Ratio	1.03	0.41	1.02	0.69	0.49	1.00dr	
Control Delay	86.6	14.9	90.7	17.9	93.9	39.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	86.6	14.9	90.7	17.9	93.9	39.9	
Queue Length 50th (ft)	~419	39	~265	336	26	682	
Queue Length 95th (ft)	#548	110	m#284	m352	m54	#731	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	515	283	3099	69	2277	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.03	0.41	1.02	0.69	0.48	0.97	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	810	190	260	1930	30	1270	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4763	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4763	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	900	211	289	2144	33	1411	800
RTOR Reduction (vph)	0	113	0	0	0	79	0
Lane Group Flow (vph)	900	98	289	2144	33	2132	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Effective Green, g (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Actuated g/C Ratio	0.25	0.25	0.16	0.60	0.02	0.46	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	283	3022	42	2198	
v/s Ratio Prot	c0.26		c0.16	0.43	0.02	c0.45	
v/s Ratio Perm		0.06					
v/c Ratio	1.03	0.24	1.02	0.71	0.79	1.00dr	
Uniform Delay, d1	48.5	38.6	54.5	18.1	63.2	34.1	
Progression Factor	1.00	1.00	1.07	1.00	1.19	0.86	
Incremental Delay, d2	39.4	0.1	34.3	0.4	54.0	12.4	
Delay (s)	87.9	38.7	92.5	18.5	128.9	41.6	
Level of Service	F	D	F	B	F	D	
Approach Delay (s)	78.5			27.3		42.9	
Approach LOS	E			C		D	

Intersection Summary				
HCM Average Control Delay	43.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	91.5%	ICU Level of Service	F	
Analysis Period (min)	15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	380	180	1050	290	830
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1050	650	290	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	194	1828	0	312	892
v/c Ratio	0.88	0.35	0.95dr		0.86	0.27
Control Delay	47.5	2.9	14.9		55.8	3.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	47.5	2.9	14.9		55.8	3.3
Queue Length 50th (ft)	348	20	163		266	48
Queue Length 95th (ft)	m#477	m4	m163		m291	m52
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	557	2022		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.88	0.35	0.90		0.86	0.27

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1050	650	290	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.94		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4747		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4747		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	409	194	1129	699	312	892
RTOR Reduction (vph)	0	143	86	0	0	0
Lane Group Flow (vph)	409	51	1742	0	312	892
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1935		364	3293
v/s Ratio Prot	c0.23	0.03	c0.37		c0.18	0.18
v/s Ratio Perm						
v/c Ratio	0.88	0.12	0.95dr		0.86	0.27
Uniform Delay, d1	46.1	36.6	36.0		49.6	9.5
Progression Factor	0.62	0.30	0.34		0.82	0.33
Incremental Delay, d2	17.7	0.5	3.0		10.9	0.1
Delay (s)	46.2	11.5	15.4		51.5	3.3
Level of Service	D	B	B		D	A
Approach Delay (s)	35.0		15.4			15.8
Approach LOS	D		B			B

Intersection Summary

HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

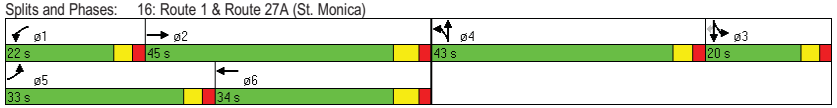
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	300	900	180	680	80	200	20	170	150
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	900	90	180	680	10	80	200	180	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	316	1042	0	189	727	0	84	400	0	21	179	158
v/c Ratio	0.91	0.58		0.87	0.51		0.20	0.89		0.11	0.87	0.50
Control Delay	95.9	24.0		91.7	29.6		44.8	61.4		53.0	92.7	13.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	95.9	24.0		91.7	29.6		44.8	61.4		53.0	92.7	13.7
Queue Length 50th (ft)	247	130		150	200		50	221		16	150	0
Queue Length 95th (ft)	#392	150		#282	268		m50	m219		43	#278	65
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1801		229	1439		517	530		204	215	322
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.84	0.58		0.83	0.51		0.16	0.75		0.10	0.83	0.49

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	900	90	180	680	10	80	200	180	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4967		1752	5024		1770	1731		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4967		1752	5024		1770	1731		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	947	95	189	716	11	84	211	189	21	179	158
RTOR Reduction (vph)	0	8	0	0	1	0	0	26	0	0	0	140
Lane Group Flow (vph)	316	1034	0	189	726	0	84	374	0	21	179	18
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	25.9	46.9		16.1	37.1		31.6	31.6		14.4	14.4	14.4
Effective Green, g (s)	25.9	46.9		16.1	37.1		31.6	31.6		14.4	14.4	14.4
Actuated g/C Ratio	0.20	0.36		0.12	0.29		0.24	0.24		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	349	1792		217	1434		430	421		196	206	175
v/s Ratio Prot	c0.18	c0.21		0.11	0.14		0.05	c0.22		0.01	c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.91	0.58		0.87	0.51		0.20	0.89		0.11	0.87	0.10
Uniform Delay, d1	50.9	33.5		55.9	38.8		39.1	47.5		52.0	56.9	52.0
Progression Factor	1.34	0.65		1.04	0.70		1.19	1.16		1.00	1.00	1.00
Incremental Delay, d2	24.6	1.3		27.5	1.2		0.0	9.6		0.1	29.0	0.1
Delay (s)	92.7	23.3		85.7	28.3		46.4	64.5		52.1	85.9	52.1
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		39.4			40.2			61.4			69.0	
Approach LOS		D			D			E			E	

Intersection Summary				
HCM Average Control Delay	46.4	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	73.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	80	220	40	70	20	20	340	30	20	310	330
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	117	104	286	52	91	26	26	442	39	26	403	429

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	117	390	169	26	481	429	429
Volume Left (vph)	117	0	52	26	0	26	0
Volume Right (vph)	0	286	26	0	39	0	429
Hadj (s)	0.53	-0.48	0.00	0.53	-0.02	0.06	-0.67
Departure Headway (s)	9.1	8.1	9.4	9.3	8.7	8.4	7.6
Degree Utilization, x	0.29	0.87	0.44	0.07	1.16	0.99	0.91
Capacity (veh/h)	390	439	352	382	429	429	460
Control Delay (s)	14.6	44.4	19.6	11.7	123.2	70.0	48.2
Approach Delay (s)	37.6		19.6	117.4		59.1	
Approach LOS	E		C	F		F	

Intersection Summary				
Delay	65.0			
HCM Level of Service	F			
Intersection Capacity Utilization	67.6%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	100	1070	450	760	140	340	1090	110	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1070	70	450	760	30	140	340	1090	50	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	1212	0	479	841	0	149	362	1160	0	170	43
v/c Ratio	0.67	0.95		0.96	0.37		0.44	1.01	0.88		0.92	0.24
Control Delay	89.0	44.1		95.5	20.2		39.8	62.2	9.2		106.9	34.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	89.0	44.1		95.5	20.2		39.8	62.2	9.2		106.9	34.3
Queue Length 50th (ft)	94	366		380	98		109	~310	156		144	16
Queue Length 95th (ft)	m153	#475		m#552	m119		m79	m209	m57		#286	54
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1271		512	2246		340	358	1316		184	179
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.52	0.95		0.94	0.37		0.44	1.01	0.88		0.92	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

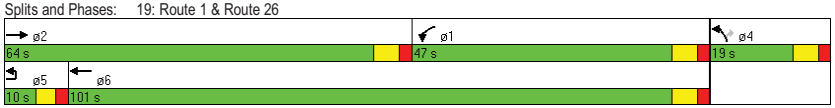
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1070	70	450	760	30	140	340	1090	50	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (prot)	1752	4985		1752	5007		1770	1863	2745		1834	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (perm)	1752	4985		1752	5007		1770	1863	2745		1834	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1138	74	479	809	32	149	362	1160	53	117	43
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	788	0	0	21
Lane Group Flow (vph)	106	1207	0	479	838	0	149	362	372	0	170	22
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	11.8	33.0		37.0	58.2		25.0	25.0	25.0		13.0	13.0
Effective Green, g (s)	11.8	33.0		37.0	58.2		25.0	25.0	25.0		13.0	13.0
Actuated g/C Ratio	0.09	0.25		0.28	0.45		0.19	0.19	0.19		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	159	1265		499	2242		340	358	528		183	158
v/s Ratio Prot	0.06	c0.24		c0.27	0.17		0.08	c0.19			c0.09	
v/s Ratio Perm									0.14			0.01
v/c Ratio	0.67	0.95		0.96	0.37		0.44	1.01	0.70		0.93	0.14
Uniform Delay, d1	57.2	47.8		45.8	23.8		46.3	52.5	49.0		58.0	53.4
Progression Factor	1.26	0.59		1.47	0.82		0.84	0.85	0.98		1.00	1.00
Incremental Delay, d2	6.9	14.8		28.1	0.4		0.0	17.1	0.3		45.5	0.1
Delay (s)	78.7	43.1		95.2	19.9		38.9	61.8	48.5		103.5	53.6
Level of Service	E	D		F	B		D	E	D		F	D
Approach Delay (s)		46.0			47.2			50.5			93.4	
Approach LOS		D			D			D			F	

Intersection Summary				
HCM Average Control Delay	50.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	92.1%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1760	580	1060	310	610
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	520	580	1060	310	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2425	0	617	1128	330	649
v/c Ratio	0.31	1.10		1.12	0.29	0.96	1.10
Control Delay	76.2	68.7		83.0	1.8	97.9	82.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	76.2	68.7		83.0	1.8	97.9	82.3
Queue Length 50th (ft)	18	~808		~593	31	145	~234
Queue Length 95th (ft)	m20	m#887		m#713	m53	#240	#473
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2212		553	3835	343	589
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.10		1.12	0.29	0.96	1.10

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	520	580	1060	310	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4864		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4864		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1872	553	617	1128	330	649
RTOR Reduction (vph)	0	42	0	0	0	0	430
Lane Group Flow (vph)	21	2383	0	617	1128	330	219
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2095		580	3758	343	158
v/s Ratio Prot	0.01	c0.49		c0.35	0.22	0.10	
v/s Ratio Perm							c0.14
v/c Ratio	0.50	1.14		1.06	0.30	0.96	1.38
Uniform Delay, d1	62.8	37.0		43.5	5.4	58.3	58.5
Progression Factor	1.15	0.57		0.34	0.34	1.00	1.00
Incremental Delay, d2	1.5	64.9		44.2	0.1	38.2	207.4
Delay (s)	74.0	86.0		59.2	1.9	96.4	265.9
Level of Service	E	F		E	A	F	F
Approach Delay (s)		85.9			22.2	208.8	
Approach LOS		F			C	F	

Intersection Summary

HCM Average Control Delay	87.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	490	1770	20	1300	100	50	20	280
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1300	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	521	1883	0	21	1511	0	0	180	53	0	181	298
v/c Ratio	1.02	0.61		0.27	0.89			0.98	0.26		0.94	0.75
Control Delay	73.4	2.9		61.9	44.0			120.6	17.1		109.0	23.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	73.4	2.9		61.9	44.0			120.6	17.1		109.0	23.3
Queue Length 50th (ft)	~410	71		17	284			154	0		154	34
Queue Length 95th (ft)	m346	m66		m42	502			#306	41		#299	#141
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3100		94	1691			183	206		192	398
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.02	0.61		0.22	0.89			0.98	0.26		0.94	0.75

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1300	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4972			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4972			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	521	1883	0	21	1383	128	74	106	53	160	21	298
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	48	0	0	228
Lane Group Flow (vph)	521	1883	0	21	1502	0	0	180	5	0	181	70
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Effective Green, g (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.29	0.60		0.03	0.34			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	512	3022		54	1683			183	158		192	170
v/s Ratio Prot	c0.30	0.37		0.01	c0.30			c0.10			c0.10	
v/s Ratio Perm									0.00			0.04
v/c Ratio	1.02	0.62		0.39	0.89			0.98	0.03		0.94	0.41
Uniform Delay, d1	46.0	16.6		61.8	40.8			58.4	52.8		57.6	54.2
Progression Factor	1.28	0.17		0.91	0.90			1.00	1.00		1.00	1.00
Incremental Delay, d2	16.6	0.1		1.6	7.2			61.2	0.0		48.0	0.6
Delay (s)	75.6	3.0		57.8	44.0			119.6	52.9		105.7	54.8
Level of Service	E	A		E	D			F	D		F	D
Approach Delay (s)		18.7			44.2			104.4			74.0	
Approach LOS		B			D			F			E	

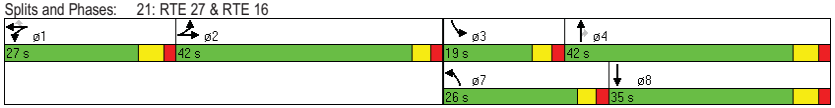
Intersection Summary				
HCM Average Control Delay	37.1	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	84.3%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	310	830	470	260	290	330	1060	820	240	790
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	830	530	470	260	290	330	1060	820	240	790	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		3150			1269			820			2979	
Travel Time (s)		71.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	1432	0	495	274	305	347	1116	863	253	874	0
v/c Ratio	0.64	1.38		0.91	0.93	0.61	1.23	1.15	1.27	1.34	0.78	
Control Delay	46.1	210.0		68.9	82.5	19.0	174.2	121.6	159.6	221.1	52.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.1	210.0		68.9	82.5	19.0	174.2	121.6	159.6	221.1	52.7	
Queue Length 50th (ft)	226	~810		202	219	75	~360	~581	~704	~280	264	
Queue Length 95th (ft)	m259	m#870		m#244	m#300	m104	#552	#718	#956	m#419	m309	
Internal Link Dist (ft)		3070			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	508	1036		555	301	506	283	971	677	189	1119	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.64	1.38		0.89	0.91	0.60	1.23	1.15	1.27	1.34	0.78	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	830	530	470	260	290	330	1060	820	240	790	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3332		3433	1863	1583	1752	3505	1568	1752	5000	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3332		3433	1863	1583	1752	3505	1568	1752	5000	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	326	874	558	495	274	305	347	1116	863	253	832	42
RTOR Reduction (vph)	0	78	0	0	0	251	0	0	243	0	4	0
Lane Group Flow (vph)	326	1354	0	495	274	54	347	1116	620	253	870	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.3	37.3		20.7	20.7	20.7	21.0	36.0	36.0	14.0	29.0	
Effective Green, g (s)	37.3	37.3		20.7	20.7	20.7	21.0	36.0	36.0	14.0	29.0	
Actuated g/C Ratio	0.29	0.29		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.22	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	508	956		547	297	252	283	971	434	189	1115	
v/s Ratio Prot	0.18	c0.41		0.14	c0.15		c0.20	0.32		0.14	0.17	
v/s Ratio Perm						0.03			c0.40			
v/c Ratio	0.64	1.42		0.90	0.92	0.22	1.23	1.15	1.43	1.34	0.78	
Uniform Delay, d1	40.5	46.4		53.7	53.9	47.6	54.5	47.0	47.0	58.0	47.5	
Progression Factor	1.02	1.00		0.94	0.94	2.40	1.00	1.00	1.00	0.89	1.01	
Incremental Delay, d2	4.1	191.3		15.4	28.0	0.1	129.0	79.3	205.9	181.0	4.9	
Delay (s)	45.3	237.9		65.9	78.6	114.2	183.5	126.3	252.9	232.4	52.7	
Level of Service	D	F		E	E	F	F	F	F	F	D	
Approach Delay (s)		202.2			82.9			181.8			93.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	154.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	117.3%	ICU Level of Service	H
Analysis Period (min)	15		

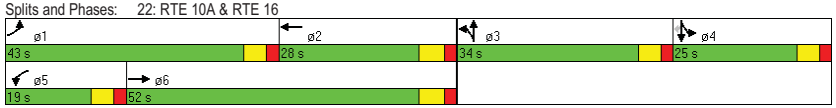
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	860	760	410	110	430	460	30	5	490
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	32.5	32.5	16.0	16.0
Total Split (s)	43.0	52.0	0.0	19.0	28.0	34.0	34.0	25.0	25.0
Total Split (%)	33.1%	40.0%	0.0%	14.6%	21.5%	26.2%	26.2%	19.2%	19.2%
Maximum Green (s)	37.5	46.0		13.5	22.0	28.5	28.5	19.5	19.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 121.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	860	760	410	110	430	20	460	30	110	30	5	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	400		0	0		400
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1065			746			868			1242	
Travel Time (s)		20.7			14.5			16.9			24.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							34%					
Lane Group Flow (vph)	956	844	456	122	500	0	337	329	0	0	39	544
v/c Ratio	0.94	0.66	0.29	0.69	0.86		0.91	0.88			0.17	0.92
Control Delay	59.2	36.2	0.5	74.7	65.1		76.4	68.4			50.5	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	59.2	36.2	0.5	74.7	65.1		76.4	68.4			50.5	33.4
Queue Length 50th (ft)	406	312	0	100	214		292	266			29	81
Queue Length 95th (ft)	#547	390	0	#182	#300		#485	#451			64	#296
Internal Link Dist (ft)		985			666			788			1162	
Turn Bay Length (ft)	350		450	350			400					400
Base Capacity (vph)	1071	1355	1583	199	645		395	398			287	628
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.89	0.62	0.29	0.61	0.78		0.85	0.83			0.14	0.87

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	860	760	410	110	430	20	460	30	110	30	5	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3516		1665	1612			1770	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3516		1665	1612			1770	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	956	844	456	122	478	22	511	33	122	33	6	544
RTOR Reduction (vph)	0	0	0	0	3	0	0	16	0	0	0	389
Lane Group Flow (vph)	956	844	456	122	497	0	337	313	0	0	39	155
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	36.1	44.0	121.2	12.2	20.1		27.0	27.0			15.5	15.5
Effective Green, g (s)	36.1	44.0	121.2	12.2	20.1		27.0	27.0			15.5	15.5
Actuated g/C Ratio	0.30	0.36	1.00	0.10	0.17		0.22	0.22			0.13	0.13
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	1023	1285	1583	178	583		371	359			226	201
v/s Ratio Prot	c0.28	0.24		0.07	c0.14		c0.20	0.19			0.02	
v/s Ratio Perm			0.29									c0.10
v/c Ratio	0.93	0.66	0.29	0.69	0.85		0.91	0.87			0.17	0.77
Uniform Delay, d1	41.4	32.3	0.0	52.6	49.1		45.9	45.4			47.1	51.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	14.7	0.9	0.5	8.4	11.2		24.7	19.4			0.1	15.3
Delay (s)	56.1	33.2	0.5	61.0	60.3		70.6	64.8			47.3	66.4
Level of Service	E	C	A	E	E		E	E			D	E
Approach Delay (s)		36.3			60.5			67.7			65.1	
Approach LOS		D			E			E			E	

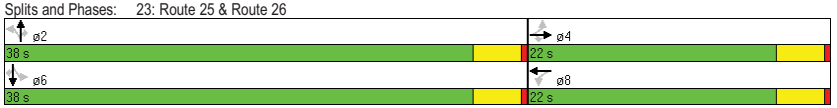
Intersection Summary				
HCM Average Control Delay	49.1	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	121.2	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	77.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	260	5	330	5	5	220	490	5	30	500	390
Turn Type	Perm		Perm	Perm		Perm		Perm	Perm		Perm
Protected Phases		4			8		2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 41
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	5	330	5	5	20	220	490	5	30	500	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		870			640			642			991	
Travel Time (s)		16.9			12.5			12.5			19.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	276	344	0	31	0	229	510	5	31	521	406
v/c Ratio		0.66	0.47		0.06		0.75	0.59	0.01	0.10	0.61	0.43
Control Delay		24.0	5.0		8.6		26.0	11.2	4.0	7.1	11.5	2.4
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.0	5.0		8.6		26.0	11.2	4.0	7.1	11.5	2.4
Queue Length 50th (ft)		50	2		1		37	73	0	3	75	0
Queue Length 95th (ft)		#188	54		19		#127	162	4	15	167	30
Internal Link Dist (ft)		790			560			562			911	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		651	951		804		541	1519	1292	556	1519	1366
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.42	0.36		0.04		0.42	0.34	0.00	0.06	0.34	0.30

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	5	330	5	5	20	220	490	5	30	500	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1776	1583		1679		1770	1863	1583	1770	1863	1583
Flt Permitted		0.71	1.00		0.95		0.36	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)		1317	1583		1605		664	1863	1583	683	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	271	5	344	5	5	21	229	510	5	31	521	406
RTOR Reduction (vph)	0	0	223	0	14	0	0	0	3	0	0	214
Lane Group Flow (vph)	0	276	121	0	17	0	229	510	2	31	521	192
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)		13.1	13.1		13.1		18.9	18.9	18.9	18.9	18.9	18.9
Effective Green, g (s)		13.1	13.1		13.1		18.9	18.9	18.9	18.9	18.9	18.9
Actuated g/C Ratio		0.33	0.33		0.33		0.47	0.47	0.47	0.47	0.47	0.47
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		431	518		526		314	880	748	323	880	748
v/s Ratio Prot								0.27			0.28	
v/s Ratio Perm		c0.21	0.08		0.01		c0.34		0.00	0.05		0.12
v/c Ratio		0.64	0.23		0.03		0.73	0.58	0.00	0.10	0.59	0.26
Uniform Delay, d1		11.4	9.8		9.1		8.5	7.7	5.6	5.8	7.7	6.3
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.4	0.1		0.0		7.0	0.6	0.0	0.0	0.7	0.1
Delay (s)		13.9	9.9		9.2		15.5	8.2	5.6	5.9	8.4	6.4
Level of Service		B	A		A		B	A	A	A	A	A
Approach Delay (s)		11.7			9.2			10.5			7.5	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	5	290	5	5	5	370	360	5	5	290	160
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	214	6	345	6	6	6	440	429	6	6	345	190
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1676	1673	345	1670	1667	429	345			435		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1676	1673	345	1670	1667	429	345			435		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	90	51	77	90	99	64			99		
cM capacity (veh/h)	50	60	698	26	61	626	1208			1120		

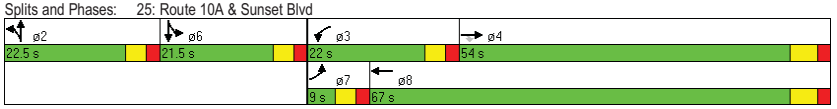
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	214	351	18	440	429	6	6	345	190
Volume Left	214	0	6	440	0	0	6	0	0
Volume Right	0	345	6	0	0	6	0	0	190
cSH	50	710	53	1208	1700	1700	1120	1700	1700
Volume to Capacity	4.31	0.49	0.34	0.36	0.25	0.00	0.01	0.20	0.11
Queue Length 95th (ft)	Err	69	30	42	0	0	0	0	0
Control Delay (s)	Err	16.1	105.2	9.7	0.0	0.0	8.2	0.0	0.0
Lane LOS	F	C	F	A			A		
Approach Delay (s)	3799.1		105.2	4.9			0.1		
Approach LOS	F		F						

Intersection Summary					
Average Delay		1077.2			
Intersection Capacity Utilization		62.4%	ICU Level of Service		B
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	1590	5	300	1200	50	5	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	54.0	54.0	22.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	45.0%	45.0%	18.3%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	48.0	48.0	17.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 109
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1590	5	300	1200	40	50	5	150	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		165	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1228			925			632			353	
Travel Time (s)		27.9			21.0			14.4			8.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1691	5	319	1320	0	53	165	0	0	54	0
v/c Ratio	0.17	1.08	0.01	1.15	0.41		0.19	0.42			0.43	
Control Delay	58.8	79.2	14.6	144.4	11.6		43.3	10.9			53.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	58.8	79.2	14.6	144.4	11.6		43.3	10.9			53.3	
Queue Length 50th (ft)	8	~721	1	~272	156		33	3			31	
Queue Length 95th (ft)	28	#902	8	#466	252		72	64			73	
Internal Link Dist (ft)		1148			845			552			273	
Turn Bay Length (ft)	180		165	420								
Base Capacity (vph)	65	1563	701	277	3182		285	391			275	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	1.08	0.01	1.15	0.41		0.19	0.42			0.20	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1590	5	300	1200	40	50	5	150	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1770	3539	1583	1770	5060		1770	1592			1759	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (perm)	1770	3539	1583	1770	5060		1770	1592			1759	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1691	5	319	1277	43	53	5	160	32	11	11
RTOR Reduction (vph)	0	0	2	0	2	0	0	135	0	0	9	0
Lane Group Flow (vph)	11	1691	3	319	1318	0	53	30	0	0	45	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Effective Green, g (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Actuated g/C Ratio	0.01	0.46	0.46	0.15	0.60		0.15	0.15			0.06	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1622	726	264	3038		271	244			97	
v/s Ratio Prot	0.01	c0.48		c0.18	0.26		c0.03	0.02			c0.03	
v/s Ratio Perm			0.00									
v/c Ratio	0.92	1.04	0.00	1.21	0.43		0.20	0.12			0.47	
Uniform Delay, d1	56.6	30.9	16.8	48.5	12.3		42.2	41.7			52.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	209.7	34.3	0.0	123.7	0.0		1.6	1.0			1.3	
Delay (s)	266.3	65.2	16.8	172.3	12.4		43.8	42.7			53.6	
Level of Service	F	E	B	F	B		D	D			D	
Approach Delay (s)		66.4			43.5			42.9			53.6	
Approach LOS		E			D			D			D	

Intersection Summary

HCM Average Control Delay	54.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	114.1	Sum of lost time (s)	21.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

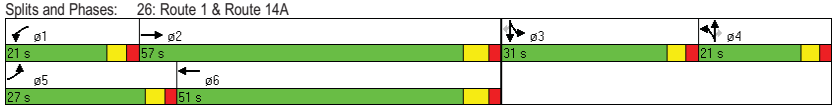
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	430	1690	290	1850	400	80	210	780	70	220
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	43.0	12.0	33.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (s)	27.0	57.0	21.0	51.0	21.0	21.0	21.0	31.0	31.0	31.0
Total Split (%)	20.8%	43.8%	16.2%	39.2%	16.2%	16.2%	16.2%	23.8%	23.8%	23.8%
Maximum Green (s)	22.0	51.0	16.0	45.0	16.0	16.0	16.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		5		0	0	0	0	10	10	10

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 22 (17%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1690	550	290	1850	340	400	80	210	780	70	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	200		200	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3050			1510			526			604	
Travel Time (s)		59.4			29.4			14.3			16.5	
Confl. Peds. (#/hr)			5									142
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							40%			46%		
Lane Group Flow (vph)	473	2461	0	319	2407	0	264	264	231	463	471	242
v/c Ratio	1.60	1.27		1.48	1.40		1.28	1.25	0.62	1.38	1.39	0.58
Control Delay	312.9	144.8		284.7	206.8		201.0	191.9	18.9	227.1	229.8	16.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	312.9	144.8		284.7	206.8		201.0	191.9	18.9	227.1	229.8	16.9
Queue Length 50th (ft)	~565	~933		~380	~978		~295	~292	24	~543	~554	33
Queue Length 95th (ft)	m#501	m#747		#574	#1070		#482	#477	110	#766	#780	121
Internal Link Dist (ft)		2970			1430			446			524	
Turn Bay Length (ft)	630			350			200		200	360		250
Base Capacity (vph)	296	1939		216	1723		207	211	370	336	340	416
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.60	1.27		1.48	1.40		1.28	1.25	0.62	1.38	1.39	0.58

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

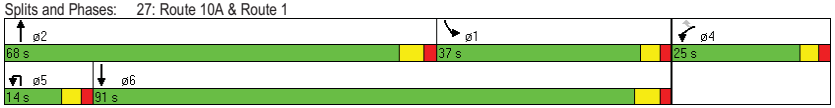
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1690	550	290	1850	340	400	80	210	780	70	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4829		1752	4919		1681	1713	1583	1681	1699	1296
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4829		1752	4919		1681	1713	1583	1681	1699	1296
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	473	1857	604	319	2033	374	440	88	231	857	77	242
RTOR Reduction (vph)	0	45	0	0	20	0	0	0	175	0	0	157
Lane Group Flow (vph)	473	2416	0	319	2387	0	264	264	56	463	471	85
Confl. Peds. (#/hr)			5									142
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Effective Green, g (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Actuated g/C Ratio	0.17	0.39		0.12	0.35		0.12	0.12	0.12	0.20	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	296	1894		216	1703		207	211	195	336	340	259
v/s Ratio Prot	c0.27	0.50		0.18	c0.49		c0.16	0.15		0.28	c0.28	
v/s Ratio Perm									0.04			0.07
v/c Ratio	1.60	1.28		1.48	1.40		1.28	1.25	0.29	1.38	1.39	0.33
Uniform Delay, d1	54.0	39.5		57.0	42.5		57.0	57.0	51.8	52.0	52.0	44.5
Progression Factor	1.18	0.52		1.40	0.60		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	273.9	125.3		235.1	183.8		155.9	145.9	0.3	187.8	190.7	0.3
Delay (s)	337.8	146.0		315.0	209.3		212.9	202.9	52.1	239.8	242.7	44.8
Level of Service	F	F		F	F		F	F	D	F	F	D
Approach Delay (s)		177.0			221.6			160.5			200.8	
Approach LOS		F			F			F			F	

Intersection Summary				
HCM Average Control Delay	195.0	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.42			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	110.6%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	650	560	50	1680	600	1330
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	18.0	18.0	9.0	35.0	12.0	25.0
Total Split (s)	25.0	25.0	14.0	68.0	37.0	91.0
Total Split (%)	19.2%	19.2%	10.8%	52.3%	28.5%	70.0%
Maximum Green (s)	20.0	20.0	9.0	62.0	32.0	85.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lead	Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 93 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	650	560	50	1680	1120	600	1330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1852			1905			3050
Travel Time (s)	36.1			37.1			59.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	684	589	53	2947	0	632	1400
v/c Ratio	1.30	1.03	0.50	1.40dr		1.47	0.41
Control Delay	189.8	63.9	68.3	149.8		246.2	4.6
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	189.8	63.9	68.3	149.8		246.2	4.6
Queue Length 50th (ft)	~378	~235	45	~1120		~728	120
Queue Length 95th (ft)	#501	#466	m62	m#1196		m#474	m70
Internal Link Dist (ft)	1772			1825			2970
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	528	572	125	2350		431	3425
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.30	1.03	0.42	1.25		1.47	0.41

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	650	560	50	1680	1120	600	1330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	1.00	0.94		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4734		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4734		1752	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	684	589	53	1768	1179	632	1400
RTOR Reduction (vph)	0	328	0	94	0	0	0
Lane Group Flow (vph)	684	261	53	2853	0	632	1400
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	20.0	20.0	6.6	61.0		33.0	87.4
Effective Green, g (s)	20.0	20.0	6.6	61.0		33.0	87.4
Actuated g/C Ratio	0.15	0.15	0.05	0.47		0.25	0.67
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	528	244	92	2221		445	3386
v/s Ratio Prot	c0.20		0.03	c0.60		c0.36	0.28
v/s Ratio Perm		0.16					
v/c Ratio	1.30	1.07	0.58	1.40dr		1.42	0.41
Uniform Delay, d1	55.0	55.0	60.3	34.5		48.5	9.7
Progression Factor	1.00	1.00	0.95	1.16		0.97	0.46
Incremental Delay, d2	146.5	76.9	3.8	130.6		190.3	0.0
Delay (s)	201.5	131.9	61.2	170.7		237.6	4.5
Level of Service	F	F	E	F		F	A
Approach Delay (s)	169.3			168.8			77.0
Approach LOS	F			F			E

Intersection Summary			
HCM Average Control Delay	139.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	122.7%	ICU Level of Service	H
Analysis Period (min)	15		

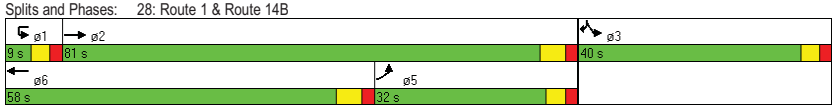
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	340	2170	5	1520	450	220
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	28.0	28.0
Total Split (s)	32.0	81.0	9.0	58.0	40.0	40.0
Total Split (%)	24.6%	62.3%	6.9%	44.6%	30.8%	30.8%
Maximum Green (s)	27.0	75.0	4.0	52.0	35.0	35.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 121 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2170	5	1520	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2667		1905		583	
Travel Time (s)		52.0		37.1		15.9	
Confl. Peds. (#/hr)							3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	354	2260	5	1864	0	469	229
v/c Ratio	0.97	0.71	0.09	0.94		0.98	0.46
Control Delay	67.7	6.2	67.8	26.5		84.6	26.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	67.7	6.2	67.8	26.5		84.6	26.4
Queue Length 50th (ft)	280	74	4	273		395	94
Queue Length 95th (ft)	m#419	m325	m8	m273		#616	175
Internal Link Dist (ft)		2587		1825		503	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	364	3184	56	1987		477	494
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.97	0.71	0.09	0.94		0.98	0.46

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2170	5	1520	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4922		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4922		1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	354	2260	5	1583	281	469	229
RTOR Reduction (vph)	0	0	0	20	0	0	68
Lane Group Flow (vph)	354	2260	5	1844	0	469	161
Confl. Peds. (#/hr)							3
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	31.0	78.2	0.8	48.0		35.0	35.0
Effective Green, g (s)	31.0	78.2	0.8	48.0		35.0	35.0
Actuated g/C Ratio	0.24	0.60	0.01	0.37		0.27	0.27
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	418	3029	11	1817		477	426
v/s Ratio Prot	c0.20	0.45	0.00	c0.37		c0.27	0.10
v/s Ratio Perm							
v/c Ratio	0.85	0.75	0.45	1.01		0.98	0.38
Uniform Delay, d1	47.2	18.7	64.4	41.0		47.2	38.6
Progression Factor	0.70	0.32	1.06	0.49		1.00	1.00
Incremental Delay, d2	8.9	1.0	7.5	21.5		36.5	0.2
Delay (s)	42.0	7.0	76.0	41.8		83.7	38.8
Level of Service	D	A	E	D		F	D
Approach Delay (s)		11.8		41.9		69.0	
Approach LOS		B		D		E	

Intersection Summary				
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	350	1250	190	970	180	250	260	740	190	450
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	18.0	18.0	12.0	25.0	25.0
Total Split (s)	31.0	56.0	24.0	49.0	15.0	18.0	18.0	32.0	35.0	35.0
Total Split (%)	23.8%	43.1%	18.5%	37.7%	11.5%	13.8%	13.8%	24.6%	26.9%	26.9%
Maximum Green (s)	26.0	50.0	19.0	43.0	10.0	12.0	12.0	27.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 39 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1250	180	190	970	630	180	250	260	740	190	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		2679			2667			634			1132	
Travel Time (s)		52.2			52.0			12.4			25.7	
Confl. Peds. (#/hr)			3						4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	368	1505	0	200	1684	0	189	263	274	779	200	474
v/c Ratio	1.05	0.76		0.85	1.08dr		0.74	0.83	0.75	1.09	0.48	0.72
Control Delay	96.0	23.8		74.3	30.9		76.7	79.4	22.7	109.4	48.5	16.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.0	23.8		74.3	30.9		76.7	79.4	22.7	109.4	48.5	16.4
Queue Length 50th (ft)	~335	432		137	~294		81	116	19	~381	148	61
Queue Length 95th (ft)	m#538	m500		m165	m#575		#130	#184	#120	#507	227	195
Internal Link Dist (ft)		2599			2587			554			1052	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1983		256	1668		264	327	370	713	416	654
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.76		0.78	1.01		0.72	0.80	0.74	1.09	0.48	0.72

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1250	180	190	970	630	180	250	260	740	190	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4931		1752	4739		3433	3539	1554	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4931		1752	4739		3433	3539	1554	3433	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	368	1316	189	200	1021	663	189	263	274	779	200	474
RTOR Reduction (vph)	0	14	0	0	89	0	0	0	228	0	0	300
Lane Group Flow (vph)	368	1491	0	200	1595	0	189	263	47	779	200	174
Confl. Peds. (#/hr)			3						4			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	26.0	51.9		17.4	43.3		9.6	11.7	11.7	27.0	29.1	29.1
Effective Green, g (s)	26.0	51.9		17.4	43.3		9.6	11.7	11.7	27.0	29.1	29.1
Actuated g/C Ratio	0.20	0.40		0.13	0.33		0.07	0.09	0.09	0.21	0.22	0.22
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1969		234	1578		254	319	140	713	417	354
v/s Ratio Prot	c0.21	0.30		0.11	c0.34		0.06	c0.07		c0.23	0.11	
v/s Ratio Perm									0.03			0.11
v/c Ratio	1.05	0.76		0.85	1.08dr		0.74	0.82	0.33	1.09	0.48	0.49
Uniform Delay, d1	52.0	33.6		55.1	43.4		59.0	58.1	55.5	51.5	43.9	44.0
Progression Factor	0.76	0.64		1.03	0.26		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.2	2.1		13.8	18.7		9.9	15.0	0.5	61.8	0.3	0.4
Delay (s)	96.0	23.7		70.4	30.2		68.9	73.2	56.0	113.3	44.2	44.4
Level of Service	F	C		E	C		E	E	E	F	D	D
Approach Delay (s)		37.9			34.5			65.6			81.3	
Approach LOS		D			C			E			F	

Intersection Summary

HCM Average Control Delay	50.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

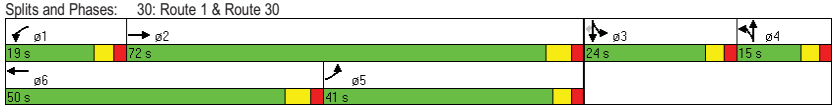
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	450	1660	90	1470	90	220	20	590
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	15.0	10.0	10.0	10.0
Total Split (s)	41.0	72.0	19.0	50.0	15.0	24.0	24.0	24.0
Total Split (%)	31.5%	55.4%	14.6%	38.5%	11.5%	18.5%	18.5%	18.5%
Maximum Green (s)	36.0	66.0	14.0	44.0	10.0	19.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 92 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1660	30	90	1470	180	20	90	20	220	20	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2679			238			2279	
Travel Time (s)		25.0			52.2			6.5			62.2	
Confl. Peds. (#/hr)			4									4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	484	1817	0	97	1775	0	0	141	0	128	131	634
v/c Ratio	1.00	0.65		0.65	0.98			0.97		0.63	0.64	0.95
Control Delay	76.6	19.8		77.6	35.8			124.8		67.5	68.0	33.9
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	76.6	19.8		77.6	35.8			124.8		67.5	68.0	33.9
Queue Length 50th (ft)	428	326		73	~583			116		106	109	71
Queue Length 95th (ft)	#632	349		m86	m#623			#256		176	181	#319
Internal Link Dist (ft)		1204			2599			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	485	2789		189	1814			145		246	248	692
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.00	0.65		0.51	0.98			0.97		0.52	0.53	0.92

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

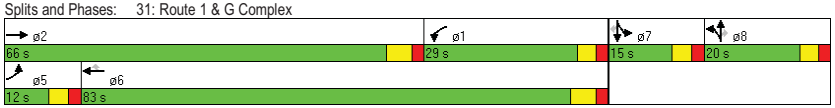
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1660	30	90	1470	180	20	90	20	220	20	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5019		1752	4953			1809		1681	1699	1553
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5019		1752	4953			1809		1681	1699	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	484	1785	32	97	1581	194	22	97	22	237	22	634
RTOR Reduction (vph)	0	1	0	0	11	0	0	6	0	0	0	479
Lane Group Flow (vph)	484	1816	0	97	1764	0	0	135	0	128	131	155
Confl. Peds. (#/hr)			4									4
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	36.0	72.2		11.1	47.3			10.0		15.7	15.7	15.7
Effective Green, g (s)	36.0	72.2		11.1	47.3			10.0		15.7	15.7	15.7
Actuated g/C Ratio	0.28	0.56		0.09	0.36			0.08		0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	485	2787		150	1802			139		203	205	188
v/s Ratio Prot	c0.28	0.36		0.06	c0.36			c0.07		0.08	0.08	
v/s Ratio Perm												c0.10
v/c Ratio	1.00	0.65		0.65	0.98			0.97		0.63	0.64	0.82
Uniform Delay, d1	47.0	20.1		57.6	40.9			59.9		54.4	54.5	55.8
Progression Factor	0.88	0.89		1.15	0.54			1.00		1.00	1.00	1.00
Incremental Delay, d2	34.1	0.9		4.0	11.7			67.8		4.6	4.7	23.3
Delay (s)	75.6	18.8		70.3	33.8			127.7		59.0	59.2	79.1
Level of Service	E	B		E	C			F		E	E	E
Approach Delay (s)		30.7			35.7			127.7			73.3	
Approach LOS		C			D			F			E	

Intersection Summary				
HCM Average Control Delay	42.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	89.8%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1090	190	920	30	200	20	120	30	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	6.5	10.0	6.5	10.0	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	28.0	12.0	24.0	24.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	12.0	66.0	29.0	83.0	83.0	20.0	20.0	20.0	15.0	15.0
Total Split (%)	9.2%	50.8%	22.3%	63.8%	63.8%	15.4%	15.4%	15.4%	11.5%	11.5%
Maximum Green (s)	7.0	60.0	24.0	77.0	77.0	15.0	15.0	15.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		15.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 17 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 1 & G Complex



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1090	370	190	920	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		1343			5039			848			380	
Travel Time (s)		26.2			98.2			19.3			13.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	12	1717	0	224	1082	35	129	130	141	0	82	12
v/c Ratio	0.13	0.68		0.83	0.46	0.03	0.76	0.76	0.49		0.63	0.10
Control Delay	62.4	25.2		47.0	3.0	0.1	84.1	83.4	14.5		80.2	27.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	62.4	25.2		47.0	3.0	0.1	84.1	83.4	14.5		80.2	27.6
Queue Length 50th (ft)	10	386		196	36	0	111	112	0		68	0
Queue Length 95th (ft)	30	427		213	33	m0	173	175	52		116	19
Internal Link Dist (ft)		1263			4959			768			300	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	94	2522		323	2343	1060	194	196	307		139	133
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.13	0.68		0.69	0.46	0.03	0.66	0.66	0.46		0.59	0.09

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1090	370	190	920	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)	1752	4845		1752	3505	1568	1681	1700	1583		1811	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)	1752	4845		1752	3505	1568	1681	1700	1583		1811	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	1282	435	224	1082	35	235	24	141	47	35	12
RTOR Reduction (vph)	0	45	0	0	0	12	0	0	127	0	0	11
Lane Group Flow (vph)	12	1672	0	224	1082	23	129	130	14	0	82	1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Effective Green, g (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Actuated g/C Ratio	0.02	0.49		0.18	0.65	0.65	0.10	0.10	0.10		0.07	0.07
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	36	2367		311	2262	1012	169	171	160		130	113
v/s Ratio Prot	0.01	c0.35		c0.13	0.31		c0.08	0.08			c0.05	
v/s Ratio Perm						0.01			0.01			0.00
v/c Ratio	0.33	0.71		0.72	0.48	0.02	0.76	0.76	0.09		0.63	0.01
Uniform Delay, d1	62.8	26.0		50.4	11.8	8.3	56.9	56.9	53.0		58.7	56.1
Progression Factor	1.00	1.00		0.48	0.21	0.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0	1.8		5.9	0.6	0.0	16.6	16.2	0.1		7.1	0.0
Delay (s)	64.7	27.8		30.0	3.2	0.0	73.6	73.2	53.1		65.8	56.1
Level of Service	E	C		C	A	A	E	E	D		E	E
Approach Delay (s)		28.0			7.6			66.2			64.6	
Approach LOS		C			A			E			E	

Intersection Summary				
HCM Average Control Delay	25.6	HCM Level of Service		C
HCM Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	65.9%	ICU Level of Service		C
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1460	1530	280	570	670
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	74.0	74.0	56.0	56.0	56.0
Total Split (%)	56.9%	56.9%	43.1%	43.1%	43.1%
Maximum Green (s)	68.0	68.0	50.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	15.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 32: RTE 1 & Route 4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1460	60	0	1530	30	0	280	570	0	670	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		115	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			979			889			385	
Travel Time (s)		7.7			19.1			17.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1652	0	0	1696	0	0	614	310	0	728	0
v/c Ratio		0.51			0.52			0.73	0.79		0.78	
Control Delay		10.4			9.3			19.4	25.3		50.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		10.4			9.3			19.4	25.3		50.0	
Queue Length 50th (ft)		127			147			180	59		303	
Queue Length 95th (ft)		226			453			62	65		332	
Internal Link Dist (ft)		313			899			809			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3226			3234			1215	565		1361	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.51			0.52			0.51	0.55		0.53	

Intersection Summary

Area Type: Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1460	60	0	1530	30	0	280	570	0	670	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.92	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		5006			5021			3133	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		5006			5021			3133	1441		3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1587	65	0	1663	33	0	304	620	0	728	0
RTOR Reduction (vph)	0	2	0	0	1	0	0	13	13	0	0	0
Lane Group Flow (vph)	0	1650	0	0	1695	0	0	601	297	0	728	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		83.7			83.7			34.3	34.3		34.3	
Effective Green, g (s)		83.7			83.7			34.3	34.3		34.3	
Actuated g/C Ratio		0.64			0.64			0.26	0.26		0.26	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3223			3233			827	380		934	
v/s Ratio Prot		0.33			c0.34			0.19			0.21	
v/s Ratio Perm									c0.21			
v/c Ratio		0.51			0.52			0.73	0.78		0.78	
Uniform Delay, d1		12.3			12.4			43.6	44.4		44.3	
Progression Factor		0.75			0.65			0.36	0.32		1.00	
Incremental Delay, d2		0.5			0.6			2.2	7.5		3.8	
Delay (s)		9.7			8.7			17.8	21.9		48.1	
Level of Service		A			A			B	C		D	
Approach Delay (s)		9.7			8.7			19.1			48.1	
Approach LOS		A			A			B			D	

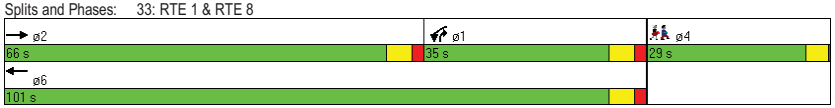
Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1720	700	1500	610	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	35.0	22.0	35.0	29.0
Total Split (s)	66.0	35.0	101.0	35.0	29.0
Total Split (%)	50.8%	26.9%	77.7%	26.9%	22%
Maximum Green (s)	60.0	29.0	95.0	29.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 50 (38%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 33: RTE 1 & RTE 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1720	370	700	1500	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	979			927	469	
Travel Time (s)	19.1			18.1	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2322	0	778	1667	0	678
v/c Ratio	0.69		1.03	0.48		0.64
Control Delay	10.7		67.5	1.7		10.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	10.7		67.5	1.7		10.7
Queue Length 50th (ft)	366		~313	17		42
Queue Length 95th (ft)	227		m#384	m30		110
Internal Link Dist (ft)	899			847	389	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3370		758	3505		1064
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.69		1.03	0.48		0.64

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1720	370	700	1500	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0		6.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4902		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4902		3400	3505		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1911	411	778	1667	0	678
RTOR Reduction (vph)	15	0	0	0	0	442
Lane Group Flow (vph)	2307	0	778	1667	0	236
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	89.0		29.0	130.0		29.0
Effective Green, g (s)	89.0		29.0	130.0		29.0
Actuated g/C Ratio	0.68		0.22	1.00		0.22
Clearance Time (s)	6.0		6.0	6.0		6.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3356		758	3505		622
v/s Ratio Prot	c0.47		c0.23	0.48		0.08
v/s Ratio Perm						
v/c Ratio	0.69		1.03	0.48		0.38
Uniform Delay, d1	12.2		50.5	0.0		42.9
Progression Factor	0.80		0.75	1.00		1.00
Incremental Delay, d2	1.0		29.3	0.2		0.1
Delay (s)	10.8		67.2	0.2		43.0
Level of Service	B		E	A		D
Approach Delay (s)	10.8			21.5	43.0	
Approach LOS	B			C	D	

Intersection Summary

HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	30	580	300	610	950	90
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	32	624	323	656	1022	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1157	469	
pX, platoon unblocked						
vC, conflicting volume	1995	511	1022			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1995	511	1022			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	52			
cM capacity (veh/h)	27	508	675			

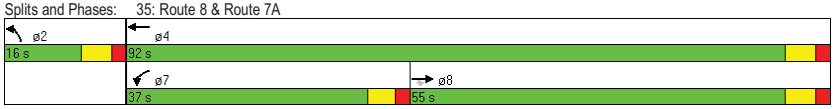
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	32	624	323	328	328	511	511	97
Volume Left	32	0	323	0	0	0	0	0
Volume Right	0	624	0	0	0	0	0	97
cSH	27	508	675	1700	1700	1700	1700	1700
Volume to Capacity	1.18	1.23	0.48	0.19	0.19	0.30	0.30	0.06
Queue Length 95th (ft)	95	604	65	0	0	0	0	0
Control Delay (s)	442.0	144.2	15.1	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	F	C					
Approach Delay (s)	158.9		5.0			0.0		
Approach LOS	F							

Intersection Summary			
Average Delay		39.6	
Intersection Capacity Utilization		68.8%	ICU Level of Service C
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1350	220	940	790	110	670
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	21.0	31.0	16.0	
Total Split (s)	55.0	55.0	37.0	92.0	16.0	0.0
Total Split (%)	50.9%	50.9%	34.3%	85.2%	14.8%	0.0%
Maximum Green (s)	49.0	49.0	31.5	86.0	10.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	0	0			0	

Intersection Summary
Cycle Length: 108
Actuated Cycle Length: 108
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1350	220	940	790	110	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1157			1264	644	
Travel Time (s)	22.5			24.6	12.5	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1709	278	1190	1000	139	848
v/c Ratio	1.06	0.33	1.19	0.35	0.85	0.54
Control Delay	71.4	6.3	130.2	3.5	88.4	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.4	6.3	130.2	3.5	88.4	1.3
Queue Length 50th (ft)	~689	27	~513	81	96	0
Queue Length 95th (ft)	#652	55	#520	84	#168	0
Internal Link Dist (ft)	1077			1184	564	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1606	832	1001	2818	164	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.33	1.19	0.35	0.85	0.54

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1350	220	940	790	110	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	1770	1583
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	1709	278	1190	1000	139	848
RTOR Reduction (vph)	0	114	0	0	0	0
Lane Group Flow (vph)	1709	164	1190	1000	139	848
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	49.0	49.0	31.5	86.0	10.0	108.0
Effective Green, g (s)	49.0	49.0	31.5	86.0	10.0	108.0
Actuated g/C Ratio	0.45	0.45	0.29	0.80	0.09	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1606	718	1001	2818	164	1583
v/s Ratio Prot	c0.48		c0.35	0.28	0.08	
v/s Ratio Perm		0.10				c0.54
v/c Ratio	1.06	0.23	1.19	0.35	0.85	0.54
Uniform Delay, d1	29.5	18.0	38.2	3.1	48.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	41.7	0.1	95.1	0.0	30.2	1.3
Delay (s)	71.2	18.0	133.3	3.2	78.4	1.3
Level of Service	E	B	F	A	E	A
Approach Delay (s)	63.8			73.9	12.2	
Approach LOS	E			E	B	

Intersection Summary			
HCM Average Control Delay	58.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		

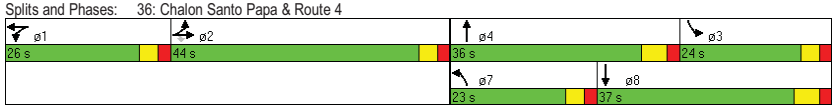
c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	280	180	150	120	680	130	730
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	25.0	25.0	26.0	8.0	22.0	8.0	22.0
Total Split (s)	44.0	44.0	26.0	23.0	36.0	24.0	37.0
Total Split (%)	33.8%	33.8%	20.0%	17.7%	27.7%	18.5%	28.5%
Maximum Green (s)	39.0	39.0	21.0	18.0	30.0	19.0	31.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	180	100	150	80	120	680	170	130	730	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			810			850	
Travel Time (s)		28.3			11.8			15.8			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	205	0	375	0	136	966	0	148	887	0
v/c Ratio		0.89	0.39		0.79		0.72	0.59		0.65	0.51	
Control Delay		67.8	9.6		62.5		62.1	37.3		37.5	15.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.8	9.6		62.5		62.1	37.3		37.5	15.3	
Queue Length 50th (ft)		331	17		151		115	277		84	70	
Queue Length 95th (ft)		421	72		196		m171	m332		168	186	
Internal Link Dist (ft)		1164			439			730			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		553	600		566		245	1628		259	1750	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.74	0.34		0.66		0.56	0.59		0.57	0.51	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

36: Chalon Santo Papa & Route 4

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	180	100	150	80	120	680	170	130	730	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.97		1.00	0.99	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1842	1583		3359		1770	4933		1770	5036	
Flt Permitted		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1842	1583		3359		1770	4933		1770	5036	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	91	318	205	114	170	91	136	773	193	148	830	57
RTOR Reduction (vph)	0	0	133	0	24	0	0	29	0	0	5	0
Lane Group Flow (vph)	0	409	72	0	351	0	136	937	0	148	882	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		32.6	32.6		17.5		13.9	42.0		16.9	45.0	
Effective Green, g (s)		32.6	32.6		17.5		13.9	42.0		16.9	45.0	
Actuated g/C Ratio		0.25	0.25		0.13		0.11	0.32		0.13	0.35	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		462	397		452		189	1594		230	1743	
v/s Ratio Prot		c0.22			c0.10		c0.08	c0.19		c0.08	0.18	
v/s Ratio Perm			0.05									
v/c Ratio		0.89	0.18		0.78		0.72	0.59		0.64	0.51	
Uniform Delay, d1		46.9	38.2		54.4		56.2	36.8		53.7	33.7	
Progression Factor		1.00	1.00		1.00		0.81	0.97		0.46	0.40	
Incremental Delay, d2		17.6	0.1		7.5		8.5	1.3		4.2	1.0	
Delay (s)		64.5	38.3		61.8		53.8	37.0		29.2	14.5	
Level of Service		E	D		E		D	D		C	B	
Approach Delay (s)		55.7			61.8			39.1			16.6	
Approach LOS		E			E			D			B	

Intersection Summary				
HCM Average Control Delay	37.6	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	70.4%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

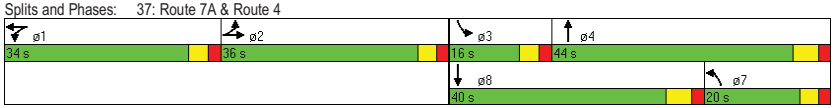
37: Route 7A & Route 4

Phasings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	200	280	460	400	160	620	100	790
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.0	29.0	27.0	27.0	13.0	25.0	13.0	29.0
Total Split (s)	36.0	36.0	34.0	34.0	20.0	44.0	16.0	40.0
Total Split (%)	27.7%	27.7%	26.2%	26.2%	15.4%	33.8%	12.3%	30.8%
Maximum Green (s)	31.0	31.0	29.0	29.0	15.0	38.0	11.0	34.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 126 (97%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	280	90	460	400	90	160	620	330	100	790	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		827			967			716			810	
Travel Time (s)		18.8			22.0			13.9			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				32%								
Lane Group Flow (vph)	217	402	0	340	693	0	174	1033	0	109	1055	0
v/c Ratio	0.53	0.94		0.95	0.94		0.89	0.67		0.77	0.77	
Control Delay	48.8	79.3		85.8	69.4		96.9	38.2		66.1	31.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.8	79.3		85.8	69.4		96.9	38.2		66.1	31.1	
Queue Length 50th (ft)	160	324		312	312		146	256		94	318	
Queue Length 95th (ft)	244	#518		#519	#437		#275	309		m#178	361	
Internal Link Dist (ft)		747			887			636			730	
Turn Bay Length (ft)				250			250			200		
Base Capacity (vph)	422	437		359	741		204	1537		150	1374	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.51	0.92		0.95	0.94		0.85	0.67		0.73	0.77	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	280	90	460	400	90	160	620	330	100	790	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.96		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1795		1610	3280		1770	4820		1770	4944	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1795		1610	3280		1770	4820		1770	4944	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	304	98	500	435	98	174	674	359	109	859	196
RTOR Reduction (vph)	0	9	0	0	9	0	0	73	0	0	28	0
Lane Group Flow (vph)	217	393	0	340	684	0	174	960	0	109	1027	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	30.2	30.2		29.0	29.0		14.5	39.4		10.4	35.3	
Effective Green, g (s)	30.2	30.2		29.0	29.0		14.5	39.4		10.4	35.3	
Actuated g/C Ratio	0.23	0.23		0.22	0.22		0.11	0.30		0.08	0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	411	417		359	732		197	1461		142	1342	
v/s Ratio Prot	0.12	c0.22		c0.21	0.21		c0.10	0.20		0.06	c0.21	
v/s Ratio Perm												
v/c Ratio	0.53	0.94		0.95	0.93		0.88	0.66		0.77	0.76	
Uniform Delay, d1	43.7	49.0		49.7	49.6		56.9	39.4		58.6	43.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.60	0.64	
Incremental Delay, d2	0.6	29.4		33.3	18.7		33.2	2.3		17.8	3.7	
Delay (s)	44.2	78.4		83.1	68.2		90.1	41.7		52.8	31.8	
Level of Service	D	E		F	E		F	D		D	C	
Approach Delay (s)		66.4			73.1			48.7			33.8	
Approach LOS		E			E			D			C	

Intersection Summary					
HCM Average Control Delay	53.4	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.88				
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		21.0	
Intersection Capacity Utilization	84.1%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	110	210	90	910	1400	110
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	124	236	101	1022	1573	124
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1030	
pX, platoon unblocked	0.79	0.79	0.79			
vC, conflicting volume	2348	848	1697			
vC1, stage 1 conf vol	1635					
vC2, stage 2 conf vol	713					
vCu, unblocked vol	2173	271	1347			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	19	59	75			
cM capacity (veh/h)	153	573	400			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	360	101	511	511	1049	648
Volume Left	124	101	0	0	0	0
Volume Right	236	0	0	0	0	124
cSH	295	400	1700	1700	1700	1700
Volume to Capacity	1.22	0.25	0.30	0.30	0.62	0.38
Queue Length 95th (ft)	407	25	0	0	0	0
Control Delay (s)	161.3	17.0	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	161.3	1.5			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay		18.8		
Intersection Capacity Utilization		76.2%	ICU Level of Service	D
Analysis Period (min)		15		

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	220	190	150	40
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	32.0	36.0	36.0
Total Split (%)	24.4%	35.6%	40.0%	40.0%
Maximum Green (s)	18.0	28.0	32.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 77.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	220	330	510	190	20	150	40	380	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		350			827			400			205	
Travel Time (s)		8.0			18.8			9.1			4.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	590	0	0	766	0	160	447	0	0	0	0
v/c Ratio		0.77			1.09dl		0.22	0.49				
Control Delay		20.0			33.3		18.2	5.4				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		20.0			33.3		18.2	5.4				
Queue Length 50th (ft)		56			179		49	12				
Queue Length 95th (ft)		118			268		112	86				
Internal Link Dist (ft)		270			747			320			125	
Turn Bay Length (ft)												
Base Capacity (vph)		1026			1246		739	907				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.58			0.61		0.22	0.49				

Intersection Summary

Area Type: Other

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	220	330	510	190	20	150	40	380	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.91			1.00		1.00	0.86				
Flt Protected		1.00			0.97		0.95	1.00				
Satd. Flow (prot)		3222			3404		1770	1610				
Flt Permitted		1.00			0.97		0.95	1.00				
Satd. Flow (perm)		3222			3404		1770	1610				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	234	351	543	202	21	160	43	404	0	0	0
RTOR Reduction (vph)	0	300	0	0	2	0	0	235	0	0	0	0
Lane Group Flow (vph)	0	290	0	0	764	0	160	212	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		11.3			21.8		32.5	32.5				
Effective Green, g (s)		11.3			21.8		32.5	32.5				
Actuated g/C Ratio		0.15			0.28		0.42	0.42				
Clearance Time (s)		4.0			4.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		469			956		741	674				
v/s Ratio Prot		c0.09			c0.22		0.09	c0.13				
v/s Ratio Perm												
v/c Ratio		0.62			1.09dl		0.22	0.31				
Uniform Delay, d1		31.1			25.9		14.4	15.1				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		1.7			4.4		0.7	1.2				
Delay (s)		32.8			30.3		15.1	16.3				
Level of Service		C			C		B	B				
Approach Delay (s)		32.8			30.3			16.0			0.0	
Approach LOS		C			C			B			A	

Intersection Summary				
HCM Average Control Delay	26.6	HCM Level of Service		C
HCM Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	77.6	Sum of lost time (s)		12.0
Intersection Capacity Utilization	80.7%	ICU Level of Service		D
Analysis Period (min)	15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

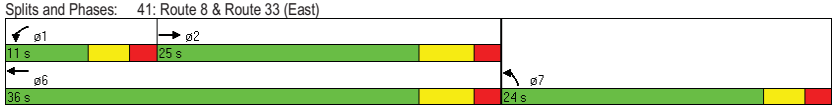
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	590	90	450	220
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	6.0	2.5	2.0	2.5
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	25.0	11.0	36.0	24.0
Total Split (%)	41.7%	18.3%	60.0%	40.0%
Maximum Green (s)	19.0	6.0	30.0	19.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.0	6.0	5.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 52.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	590	130	90	450	220	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2670			2651	2228	
Travel Time (s)	52.0			51.6	43.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	847	0	106	529	435	0
v/c Ratio	0.75		0.51	0.32	0.79	
Control Delay	20.7		37.2	8.9	28.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	20.7		37.2	8.9	28.6	
Queue Length 50th (ft)	130		36	52	118	
Queue Length 95th (ft)	177		#94	75	#238	
Internal Link Dist (ft)	2590			2571	2148	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	1438		224	2210	720	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.59		0.47	0.24	0.60	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

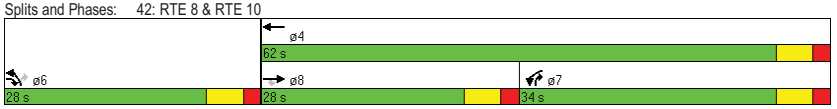
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	590	130	90	450	220	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	5.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.97		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3443		1770	3539	1710	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	3443		1770	3539	1710	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	694	153	106	529	259	176
RTOR Reduction (vph)	31	0	0	0	42	0
Lane Group Flow (vph)	816	0	106	529	393	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	16.6		4.3	25.9	15.5	
Effective Green, g (s)	16.6		4.3	25.9	15.5	
Actuated g/C Ratio	0.32		0.08	0.49	0.30	
Clearance Time (s)	6.0		5.0	6.0	5.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	1091		145	1749	506	
v/s Ratio Prot	c0.24		c0.06	0.15	c0.23	
v/s Ratio Perm						
v/c Ratio	0.75		0.73	0.30	0.78	
Uniform Delay, d1	16.0		23.5	7.9	16.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	2.5		15.0	0.0	6.7	
Delay (s)	18.5		38.5	7.9	23.6	
Level of Service	B		D	A	C	
Approach Delay (s)	18.5			13.0	23.6	
Approach LOS	B			B	C	

Intersection Summary				
HCM Average Control Delay	17.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	52.4	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	60.1%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	640	540	890	480	440	700
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	28.0	34.0	62.0	28.0	34.0
Total Split (%)	31.1%	31.1%	37.8%	68.9%	31.1%	37.8%
Maximum Green (s)	22.0	22.0	28.0	56.0	22.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	640	540	890	480	440	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			433	789	
Travel Time (s)	14.8			8.4	15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	681	574	947	511	468	745
v/c Ratio	0.76	0.65	0.90	0.23	0.59	0.43
Control Delay	37.8	17.9	38.9	6.3	33.8	9.4
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	17.9	38.9	6.3	33.8	9.4
Queue Length 50th (ft)	191	207	266	47	120	104
Queue Length 95th (ft)	#257	323	#379	58	169	144
Internal Link Dist (ft)	682			353	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	898	877	1058	2222	839	1719
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	11	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.65	0.90	0.23	0.56	0.43

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	640	540	890	480	440	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	681	574	947	511	468	745
RTOR Reduction (vph)	0	9	0	0	0	20
Lane Group Flow (vph)	681	565	947	511	468	725
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	23.1	44.0	28.0	57.1	20.9	48.9
Effective Green, g (s)	23.1	44.0	28.0	57.1	20.9	48.9
Actuated g/C Ratio	0.26	0.49	0.31	0.63	0.23	0.54
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	900	871	1058	2224	797	1700
v/s Ratio Prot	c0.19	c0.15	c0.28	0.15	0.14	0.13
v/s Ratio Perm		0.21				0.13
v/c Ratio	0.76	0.65	0.90	0.23	0.59	0.43
Uniform Delay, d1	30.9	17.2	29.6	7.0	30.7	12.2
Progression Factor	1.00	1.00	0.92	0.83	1.00	1.00
Incremental Delay, d2	5.9	1.3	8.8	0.2	0.7	0.1
Delay (s)	36.8	18.5	36.2	6.1	31.4	12.3
Level of Service	D	B	D	A	C	B
Approach Delay (s)	28.4			25.6	19.7	
Approach LOS	C			C	B	

Intersection Summary

HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1240	60	1290	80	50
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	7.0	7.0
Minimum Split (s)	26.0	16.0	26.0	13.0	13.0
Total Split (s)	59.0	16.0	75.0	15.0	15.0
Total Split (%)	65.6%	17.8%	83.3%	16.7%	16.7%
Maximum Green (s)	53.0	10.0	69.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1240	50	60	1290	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	220
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	433			505	486	
Travel Time (s)	8.4			9.8	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1358	0	63	1358	84	53
v/c Ratio	0.58		0.32	0.47	0.53	0.28
Control Delay	5.1		41.9	4.0	51.1	15.1
Queue Delay	0.4		0.0	0.0	0.0	0.0
Total Delay	5.5		41.9	4.0	51.1	15.1
Queue Length 50th (ft)	98		34	118	46	0
Queue Length 95th (ft)	114		73	155	92	34
Internal Link Dist (ft)	353			425	406	
Turn Bay Length (ft)			200			220
Base Capacity (vph)	2358		195	2869	177	206
Starvation Cap Reductn	479		0	0	0	0
Spillback Cap Reductn	0		0	106	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.72		0.32	0.49	0.47	0.26

Intersection Summary

Area Type: Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1240	50	60	1290	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3484		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3484		1752	3505	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1305	53	63	1358	84	53
RTOR Reduction (vph)	3	0	0	0	0	49
Lane Group Flow (vph)	1355	0	63	1358	84	4
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	57.3		8.0	71.3	6.7	6.7
Effective Green, g (s)	57.3		8.0	71.3	6.7	6.7
Actuated g/C Ratio	0.64		0.09	0.79	0.07	0.07
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2218		156	2777	132	118
v/s Ratio Prot	c0.39		0.04	c0.39	c0.05	
v/s Ratio Perm						0.00
v/c Ratio	0.61		0.40	0.49	0.64	0.03
Uniform Delay, d1	9.7		38.7	3.2	40.5	38.6
Progression Factor	0.40		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0		0.6	0.0	7.2	0.0
Delay (s)	4.9		39.4	3.2	47.6	38.7
Level of Service	A		D	A	D	D
Approach Delay (s)	4.9			4.8	44.2	
Approach LOS	A			A	D	

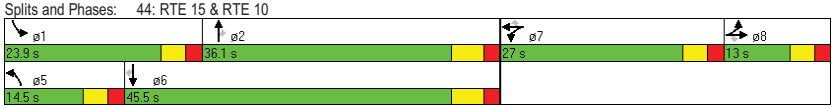
Intersection Summary				
HCM Average Control Delay	6.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	70	110	280	50	200	100	820	420	230	1070	110
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	10.0	10.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.5	16.0	16.0	11.5	36.0	36.0
Total Split (s)	13.0	13.0	13.0	27.0	27.0	27.0	14.5	36.1	36.1	23.9	45.5	45.5
Total Split (%)	13.0%	13.0%	13.0%	27.0%	27.0%	27.0%	14.5%	36.1%	36.1%	23.9%	45.5%	45.5%
Maximum Green (s)	8.0	8.0	8.0	22.0	22.0	22.0	9.5	30.1	30.1	18.9	39.5	39.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	70	110	280	50	200	100	820	420	230	1070	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		611			945			3059			773	
Travel Time (s)		11.9			18.4			59.6			15.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	13%											
Lane Group Flow (vph)	89	93	125	318	57	227	114	932	477	261	1216	125
v/c Ratio	0.70	0.70	0.53	0.89	0.15	0.45	0.73	0.78	0.56	0.85	0.82	0.17
Control Delay	73.4	72.2	17.0	65.7	32.9	7.7	77.8	23.0	3.3	65.5	32.0	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.4	72.2	17.0	65.7	32.9	7.7	77.8	23.0	3.3	65.5	32.0	4.4
Queue Length 50th (ft)	58	62	0	194	29	0	77	219	17	160	368	1
Queue Length 95th (ft)	#131	#133	52	#323	62	56	m107	#320	37	#270	447	34
Internal Link Dist (ft)		531			865			2979			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	134	140	241	385	406	522	168	1191	849	335	1488	737
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.66	0.52	0.83	0.14	0.43	0.68	0.78	0.56	0.78	0.82	0.17

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	70	110	280	50	200	100	820	420	230	1070	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1740	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1740	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	80	125	318	57	227	114	932	477	261	1216	125
RTOR Reduction (vph)	0	0	115	0	0	181	0	0	317	0	0	71
Lane Group Flow (vph)	89	93	10	318	57	46	114	932	160	261	1216	54
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	7.7	7.7	7.7	20.4	20.4	20.4	8.9	33.6	33.6	17.3	42.0	42.0
Effective Green, g (s)	7.7	7.7	7.7	20.4	20.4	20.4	8.9	33.6	33.6	17.3	42.0	42.0
Actuated g/C Ratio	0.08	0.08	0.08	0.20	0.20	0.20	0.09	0.34	0.34	0.17	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	128	134	121	357	376	320	158	1189	532	306	1486	665
v/s Ratio Prot	c0.05	0.05		c0.18	0.03		0.06	0.26		c0.15	c0.34	
v/s Ratio Perm			0.01			0.03			0.10			0.03
v/c Ratio	0.70	0.69	0.08	0.89	0.15	0.14	0.72	0.78	0.30	0.85	0.82	0.08
Uniform Delay, d1	45.0	45.0	42.9	38.7	32.7	32.6	44.3	29.9	24.5	40.1	25.6	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.36	0.60	0.57	1.00	1.00	1.00
Incremental Delay, d2	12.4	11.8	0.1	22.6	0.1	0.1	8.7	3.5	0.9	19.3	5.1	0.2
Delay (s)	57.4	56.8	43.0	61.3	32.8	32.7	69.2	21.5	14.9	59.4	30.8	17.6
Level of Service	E	E	D	E	C	C	E	C	B	E	C	B
Approach Delay (s)		51.4			47.8			23.0			34.4	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

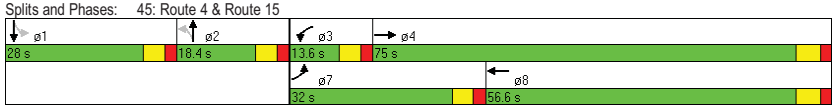
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	220	1310	30	800	20	10	40	5
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	16.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	32.0	75.0	13.6	56.6	18.4	18.4	28.0	28.0
Total Split (%)	23.7%	55.6%	10.1%	41.9%	13.6%	13.6%	20.7%	20.7%
Maximum Green (s)	26.5	69.0	8.1	50.6	12.9	12.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 114.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	1310	60	30	800	70	20	10	30	40	5	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		749			563			294			294	
Travel Time (s)		14.6			11.0			5.7			5.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	1612	0	35	1023	0	0	71	0	0	194	0
v/c Ratio	0.80	0.91		0.28	0.74			0.49			0.83	
Control Delay	65.5	35.0		63.2	35.0			48.8			55.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	65.5	35.0		63.2	35.0			48.8			55.8	
Queue Length 50th (ft)	188	543		26	340			31			82	
Queue Length 95th (ft)	296	688		63	457			81			#169	
Internal Link Dist (ft)		669			483			214			214	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	420	2174		129	1590			189			302	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.62	0.74		0.27	0.64			0.38			0.64	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

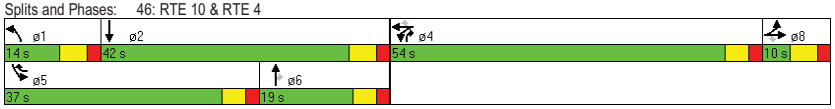
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	1310	60	30	800	70	20	10	30	40	5	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3516		1770	3497			1710			1660	
Flt Permitted	0.95	1.00		0.95	1.00			0.81			0.69	
Satd. Flow (perm)	1770	3516		1770	3497			1411			1160	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	259	1541	71	35	941	82	24	12	35	47	6	141
RTOR Reduction (vph)	0	2	0	0	5	0	0	27	0	0	73	0
Lane Group Flow (vph)	259	1610	0	35	1018	0	0	44	0	0	121	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	21.0	57.9		8.3	45.2			9.6			16.0	
Effective Green, g (s)	21.0	57.9		8.3	45.2			9.6			16.0	
Actuated g/C Ratio	0.18	0.51		0.07	0.40			0.08			0.14	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	325	1781		129	1383			119			162	
v/s Ratio Prot	c0.15	c0.46		0.02	0.29							
v/s Ratio Perm								c0.03			c0.10	
v/c Ratio	0.80	0.90		0.27	0.74			0.37			0.75	
Uniform Delay, d1	44.6	25.7		50.1	29.5			49.5			47.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	11.9	6.7		0.4	1.8			0.7			15.0	
Delay (s)	56.5	32.4		50.6	31.3			50.2			62.2	
Level of Service	E	C		D	C			D			E	
Approach Delay (s)		35.7			31.9			50.2			62.2	
Approach LOS		D			C			D			E	

Intersection Summary				
HCM Average Control Delay	36.4	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	114.3	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	70.7%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	20	5	20	620	5	250	400	690	420
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	9.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.0	9.5	13.5	16.0
Total Split (s)	10.0	10.0	54.0	37.0	14.0	19.0	54.0	37.0	42.0
Total Split (%)	8.3%	8.3%	45.0%	30.8%	11.7%	15.8%	45.0%	30.8%	35.0%
Maximum Green (s)	4.0	4.0	48.5	31.5	8.0	13.5	48.5	31.5	36.0
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		17.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 110.7
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	5	570	20	620	5	250	400	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			734			914	
Travel Time (s)		7.3			12.6			14.3			17.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	6	0	671	705	6	284	455	784	500	0
v/c Ratio		0.68	0.09		0.93	0.63	0.05	0.72	0.49	0.88	0.68	
Control Delay		101.1	35.2		53.2	7.4	53.4	60.6	14.3	52.4	35.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		101.1	35.2		53.2	7.4	53.4	60.6	14.3	52.4	35.9	
Queue Length 50th (ft)		36	0		490	122	4	113	167	300	303	
Queue Length 95th (ft)		#103	15		#704	177	19	158	243	#372	#547	
Internal Link Dist (ft)		295			565			654			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		68	65		802	1169	132	445	1003	1007	742	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.68	0.09		0.84	0.60	0.05	0.64	0.45	0.78	0.67	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	5	570	20	620	5	250	400	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1777	1583	1770	3539	1583	3433	1850	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1777	1583	1770	3539	1583	3433	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	23	23	6	648	23	705	6	284	455	784	477	23
RTOR Reduction (vph)	0	0	6	0	0	49	0	0	36	0	1	0
Lane Group Flow (vph)	0	46	0	0	671	656	6	284	419	784	499	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		3.0	3.0		45.0	73.9	1.5	17.4	62.4	28.9	43.8	
Effective Green, g (s)		3.0	3.0		45.0	73.9	1.5	17.4	62.4	28.9	43.8	
Actuated g/C Ratio		0.03	0.03		0.39	0.63	0.01	0.15	0.53	0.25	0.37	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		47	41		685	1002	23	527	920	849	694	
v/s Ratio Prot		c0.03			c0.38	0.16	0.00	0.08	0.18	c0.23	c0.27	
v/s Ratio Perm			0.00			0.25			0.09			
v/c Ratio		0.98	0.00		0.98	0.65	0.26	0.54	0.46	0.92	0.72	
Uniform Delay, d1		56.9	55.4		35.4	13.4	57.1	46.0	16.7	42.9	31.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		121.6	0.0		28.8	1.2	2.2	0.5	0.1	15.2	3.0	
Delay (s)		178.5	55.5		64.3	14.6	59.3	46.5	16.9	58.1	34.2	
Level of Service		F	E		E	B	E	D	B	E	C	
Approach Delay (s)		164.3			38.8			28.5			48.8	
Approach LOS		F			D			C			D	

Intersection Summary			
HCM Average Control Delay	42.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	116.8	Sum of lost time (s)	17.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1110	990	60
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	32.0	32.0	13.0	22.0	33.0	33.0
Total Split (s)	43.0	43.0	15.0	87.0	72.0	72.0
Total Split (%)	33.1%	33.1%	11.5%	66.9%	55.4%	55.4%
Maximum Green (s)	38.0	38.0	10.0	81.0	66.0	66.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 103 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1110	990	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	784			300	778	
Travel Time (s)	21.4			5.8	15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	116	21	1168	1042	63
v/c Ratio	0.81	0.44	0.19	0.46	0.45	0.06
Control Delay	71.0	50.4	69.0	1.8	12.8	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	50.4	69.0	1.8	12.8	10.6
Queue Length 50th (ft)	197	87	15	98	230	19
Queue Length 95th (ft)	273	137	m31	19	336	46
Internal Link Dist (ft)	704			220	698	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	463	414	135	2551	2339	1046
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.28	0.16	0.46	0.45	0.06

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1110	990	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	116	21	1168	1042	63
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	242	116	21	1168	1042	63
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	24.4	24.4	4.9	94.6	84.7	84.7
Effective Green, g (s)	24.4	24.4	4.9	94.6	84.7	84.7
Actuated g/C Ratio	0.19	0.19	0.04	0.73	0.65	0.65
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	297	266	66	2551	2284	1022
v/s Ratio Prot	c0.15		0.01	c0.33	0.30	
v/s Ratio Perm		0.08				0.04
v/c Ratio	0.81	0.44	0.32	0.46	0.46	0.06
Uniform Delay, d1	50.6	46.7	60.9	7.2	11.2	8.2
Progression Factor	1.00	1.00	1.12	0.16	1.00	1.00
Incremental Delay, d2	14.9	0.4	0.9	0.5	0.7	0.1
Delay (s)	65.5	47.1	69.3	1.7	11.9	8.3
Level of Service	E	D	E	A	B	A
Approach Delay (s)	59.6			2.9	11.7	
Approach LOS	E			A	B	

Intersection Summary				
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	110	30	980	80	960
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	25.0	25.0	28.0	13.5	22.0
Total Split (s)	27.0	27.0	83.0	20.0	103.0
Total Split (%)	20.8%	20.8%	63.8%	15.4%	79.2%
Maximum Green (s)	22.0	22.0	77.0	15.0	97.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 61 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6 & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	980	160	80	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		553			1337
Travel Time (s)	16.0		10.8			26.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	34	1310	0	92	1103
v/c Ratio	0.66	0.17	0.56		0.60	0.39
Control Delay	71.8	17.2	7.0		61.5	11.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	71.8	17.2	7.0		61.5	11.1
Queue Length 50th (ft)	104	0	117		77	263
Queue Length 95th (ft)	159	29	147		128	427
Internal Link Dist (ft)	506		473			1257
Turn Bay Length (ft)					200	
Base Capacity (vph)	300	296	2348		202	2831
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.42	0.11	0.56		0.46	0.39

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	980	160	80	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3431		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3431		1752	3505
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	126	34	1126	184	92	1103
RTOR Reduction (vph)	0	30	8	0	0	0
Lane Group Flow (vph)	126	4	1302	0	92	1103
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	14.0	14.0	88.7		11.3	105.0
Effective Green, g (s)	14.0	14.0	88.7		11.3	105.0
Actuated g/C Ratio	0.11	0.11	0.68		0.09	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	191	170	2341		152	2831
v/s Ratio Prot	c0.07		c0.38		c0.05	0.31
v/s Ratio Perm		0.00				
v/c Ratio	0.66	0.02	0.56		0.61	0.39
Uniform Delay, d1	55.7	51.9	10.6		57.2	3.5
Progression Factor	1.00	1.00	0.53		0.81	2.82
Incremental Delay, d2	6.1	0.0	0.9		4.3	0.4
Delay (s)	61.9	51.9	6.5		50.8	10.3
Level of Service	E	D	A		D	B
Approach Delay (s)	59.7		6.5			13.4
Approach LOS	E		A			B

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	40	30	1100	960
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	26.0	13.0	22.0	30.0
Total Split (s)	31.0	17.0	99.0	82.0
Total Split (%)	23.8%	13.1%	76.2%	63.1%
Maximum Green (s)	26.0	12.0	93.0	76.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 83 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1100	960	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2042			2039	7256	
Travel Time (s)	39.8			39.7	141.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	33	1222	1089	0
v/c Ratio	0.61		0.29	0.41	0.40	
Control Delay	45.7		69.3	2.0	2.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	45.7		69.3	2.0	2.8	
Queue Length 50th (ft)	48		28	34	116	
Queue Length 95th (ft)	107		m62	55	6	
Internal Link Dist (ft)	1962			1959	7176	
Turn Bay Length (ft)			125			
Base Capacity (vph)	378		163	2962	2706	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.29		0.20	0.41	0.40	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1100	960	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	1.00	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1678		1770	3539	3494	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1678		1770	3539	3494	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	67	33	1222	1067	22
RTOR Reduction (vph)	49	0	0	0	1	0
Lane Group Flow (vph)	62	0	33	1222	1088	0
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	10.2		5.1	108.8	98.7	
Effective Green, g (s)	10.2		5.1	108.8	98.7	
Actuated g/C Ratio	0.08		0.04	0.84	0.76	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	132		69	2962	2653	
v/s Ratio Prot	c0.04		0.02	c0.35	0.31	
v/s Ratio Perm						
v/c Ratio	0.47		0.48	0.41	0.41	
Uniform Delay, d1	57.3		61.1	2.6	5.5	
Progression Factor	1.00		1.09	0.56	0.41	
Incremental Delay, d2	1.0		1.7	0.4	0.4	
Delay (s)	58.3		68.3	1.9	2.7	
Level of Service	E		E	A	A	
Approach Delay (s)	58.3			3.6	2.7	
Approach LOS	E			A	A	

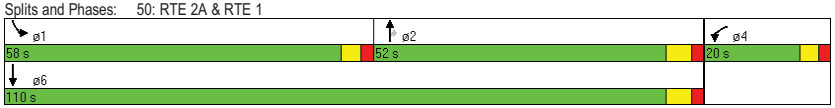
Intersection Summary				
HCM Average Control Delay	5.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	580	170	930	270
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	20.0		33.0	33.0	9.0	21.0
Total Split (s)	20.0	0.0	52.0	52.0	58.0	110.0
Total Split (%)	15.4%	0.0%	40.0%	40.0%	44.6%	84.6%
Maximum Green (s)	15.0		46.0	46.0	53.0	104.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 33 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	580	170	930	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	763		960			531
Travel Time (s)	14.9		18.7			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	588	682	200	1094	318
v/c Ratio	0.62	0.37	0.48	0.27	0.83	0.11
Control Delay	74.6	0.7	31.3	4.7	33.9	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	0.7	31.3	4.7	33.9	1.4
Queue Length 50th (ft)	78	0	226	0	436	12
Queue Length 95th (ft)	125	0	282	42	325	11
Internal Link Dist (ft)	683		880			451
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	204	1583	1418	753	1395	2910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.37	0.48	0.27	0.78	0.11

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	580	170	930	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3505	1568	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3505	1568	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	94	588	682	200	1094	318
RTOR Reduction (vph)	0	0	0	119	0	0
Lane Group Flow (vph)	94	588	682	81	1094	318
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	11.1	130.0	52.6	52.6	50.3	107.9
Effective Green, g (s)	11.1	130.0	52.6	52.6	50.3	107.9
Actuated g/C Ratio	0.09	1.00	0.40	0.40	0.39	0.83
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	151	1583	1418	634	1316	2909
v/s Ratio Prot	c0.05		c0.19		c0.32	0.09
v/s Ratio Perm		0.37		0.05		
v/c Ratio	0.62	0.37	0.48	0.13	0.83	0.11
Uniform Delay, d1	57.4	0.0	28.6	24.3	36.0	2.1
Progression Factor	1.00	1.00	1.00	1.00	0.78	0.58
Incremental Delay, d2	5.6	0.7	1.2	0.4	5.0	0.1
Delay (s)	63.1	0.7	29.8	24.7	33.0	1.3
Level of Service	E	A	C	C	C	A
Approach Delay (s)	9.3		28.6			25.8
Approach LOS	A		C			C

Intersection Summary				
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

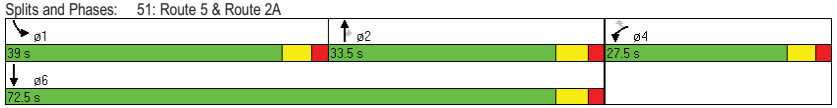
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	27.5	27.5	33.5	33.5	39.0	72.5
Total Split (%)	27.5%	27.5%	33.5%	33.5%	39.0%	72.5%
Maximum Green (s)	22.0	22.0	27.5	27.5	33.5	66.5
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 73.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1099		864			879
Travel Time (s)	21.4		16.8			17.1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	172	290	75	387	462
v/c Ratio	0.26	0.51	0.22	0.12	0.80	0.18
Control Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Length 50th (ft)	23	0	44	0	160	26
Queue Length 95th (ft)	61	56	91	29	264	44
Internal Link Dist (ft)	1019		784			799
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	534	598	1334	644	813	3215
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.29	0.22	0.12	0.48	0.14

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	172	290	75	387	462
RTOR Reduction (vph)	0	152	0	47	0	0
Lane Group Flow (vph)	54	20	290	28	387	462
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.5	8.5	27.8	27.8	20.1	53.4
Effective Green, g (s)	8.5	8.5	27.8	27.8	20.1	53.4
Actuated g/C Ratio	0.12	0.12	0.38	0.38	0.27	0.73
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	205	183	1340	600	485	2575
v/s Ratio Prot	c0.03		c0.08		c0.22	0.13
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.26	0.11	0.22	0.05	0.80	0.18
Uniform Delay, d1	29.6	29.1	15.4	14.4	24.8	3.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.4	0.1	8.3	0.0
Delay (s)	29.8	29.2	15.8	14.6	33.1	3.1
Level of Service	C	C	B	B	C	A
Approach Delay (s)	29.3		15.5			16.8
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	33.0	33.0	49.0	49.0	38.0	87.0
Total Split (%)	27.5%	27.5%	40.8%	40.8%	31.7%	72.5%
Maximum Green (s)	27.5	27.5	43.0	43.0	32.5	81.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 58.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1682		1244			1258
Travel Time (s)	32.8		24.2			24.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	113	320	144	227	567
v/c Ratio	0.48	0.29	0.62	0.27	0.57	0.51
Control Delay	28.7	8.0	25.4	5.4	27.9	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.7	8.0	25.4	5.4	27.9	8.5
Queue Length 50th (ft)	49	0	91	0	66	90
Queue Length 95th (ft)	131	40	210	38	166	195
Internal Link Dist (ft)	1602		1164			1178
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	880	844	1448	1262	1039	1863
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.13	0.22	0.11	0.22	0.30

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	113	320	144	227	567
RTOR Reduction (vph)	0	91	0	103	0	0
Lane Group Flow (vph)	165	22	320	41	227	567
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.2	11.2	16.2	16.2	13.1	34.8
Effective Green, g (s)	11.2	11.2	16.2	16.2	13.1	34.8
Actuated g/C Ratio	0.19	0.19	0.28	0.28	0.23	0.61
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	345	308	525	446	403	1128
v/s Ratio Prot	c0.09		c0.17		0.13	c0.30
v/s Ratio Perm		0.01		0.03		
v/c Ratio	0.48	0.07	0.61	0.09	0.56	0.50
Uniform Delay, d1	20.6	18.9	17.9	15.2	19.7	6.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	1.4	0.0	1.1	0.1
Delay (s)	20.9	18.9	19.3	15.3	20.7	6.6
Level of Service	C	B	B	B	C	A
Approach Delay (s)	20.1		18.0			10.6
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	17.5
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	360	80	70	20	30	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	434	96	84	24	36	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	84				1048	84
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	84				1048	84
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	71				80	85
cM capacity (veh/h)	1512				180	975

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	530	84	24	36	145
Volume Left	434	0	0	36	0
Volume Right	0	0	24	0	145
cSH	1512	1700	1700	180	975
Volume to Capacity	0.29	0.05	0.01	0.20	0.15
Queue Length 95th (ft)	30	0	0	18	13
Control Delay (s)	7.3	0.0	0.0	30.0	9.3
Lane LOS	A			D	A
Approach Delay (s)	7.3	0.0		13.5	
Approach LOS				B	

Intersection Summary				
Average Delay	7.7			
Intersection Capacity Utilization	40.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	5	30	40	5	20	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	7	41	54	7	27	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	152	57			61	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	152	57			61	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	96			98	
cM capacity (veh/h)	825	1009			1543	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	47	61	68
Volume Left	7	0	27
Volume Right	41	7	0
cSH	978	1700	1543
Volume to Capacity	0.05	0.04	0.02
Queue Length 95th (ft)	4	0	1
Control Delay (s)	8.9	0.0	3.0
Lane LOS	A		A
Approach Delay (s)	8.9	0.0	3.0
Approach LOS	A		

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	19.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	170	130	130	120	60	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	254	194	194	179	90	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			448		918	351
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			448		918	351
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			83		64	83
cM capacity (veh/h)			1113		249	693

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	448	373	209
Volume Left	0	194	90
Volume Right	194	0	119
cSH	1700	1113	393
Volume to Capacity	0.26	0.17	0.53
Queue Length 95th (ft)	0	16	75
Control Delay (s)	0.0	5.5	24.1
Lane LOS		A	C
Approach Delay (s)	0.0	5.5	24.1
Approach LOS			C

Intersection Summary				
Average Delay			6.9	
Intersection Capacity Utilization			48.6%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	210	30	20	200	370
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	22.0	22.0	10.0	43.0	43.0
Total Split (%)	29.3%	29.3%	13.3%	57.3%	57.3%
Maximum Green (s)	16.5	16.5	4.5	37.0	37.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 57.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	200	370	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	454	
Travel Time (s)	16.3			14.6	8.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	247	35	24	235	764	0
v/c Ratio	0.60	0.09	0.16	0.25	0.84	
Control Delay	29.5	9.9	34.3	10.1	22.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.5	9.9	34.3	10.1	22.6	
Queue Length 50th (ft)	65	0	7	34	149	
Queue Length 95th (ft)	166	20	32	95	#404	
Internal Link Dist (ft)	758			671	374	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	547	513	149	1291	1238	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.45	0.07	0.16	0.18	0.62	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	200	370	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1754	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1754	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	247	35	24	235	435	329
RTOR Reduction (vph)	0	27	0	0	38	0
Lane Group Flow (vph)	247	8	24	235	726	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	13.2	13.2	1.4	28.5	28.5	
Effective Green, g (s)	13.2	13.2	1.4	28.5	28.5	
Actuated g/C Ratio	0.22	0.22	0.02	0.47	0.47	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	389	348	41	883	832	
v/s Ratio Prot	c0.14		c0.01	0.13	c0.41	
v/s Ratio Perm		0.00				
v/c Ratio	0.63	0.02	0.59	0.27	0.87	
Uniform Delay, d1	21.3	18.4	29.1	9.5	14.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.5	0.0	13.0	0.1	9.7	
Delay (s)	23.8	18.4	42.0	9.6	23.9	
Level of Service	C	B	D	A	C	
Approach Delay (s)	23.1			12.6	23.9	
Approach LOS	C			B	C	

Intersection Summary			
HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	100	200	80	70	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	52	104	208	83	73	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	292				458	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	292				458	250
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				86	92
cM capacity (veh/h)	1270				538	789

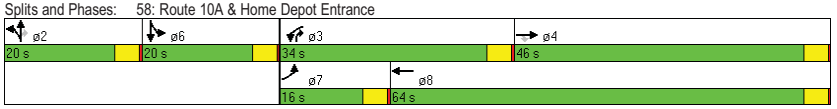
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	156	292	135
Volume Left	52	0	73
Volume Right	0	83	62
cSH	1270	1700	630
Volume to Capacity	0.04	0.17	0.21
Queue Length 95th (ft)	3	0	20
Control Delay (s)	2.9	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	2.9	0.0	12.3
Approach LOS			B

Intersection Summary				
Average Delay		3.6		
Intersection Capacity Utilization		41.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	930	710	390	810	310	30	730	80	40
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	46.0	46.0	34.0	64.0	20.0	20.0	34.0	20.0	20.0
Total Split (%)	13.3%	38.3%	38.3%	28.3%	53.3%	16.7%	16.7%	28.3%	16.7%	16.7%
Maximum Green (s)	12.0	42.0	42.0	30.0	60.0	16.0	16.0	30.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 112.7
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	710	390	810	50	310	30	730	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1852			1228			703			493	
Travel Time (s)		42.1			23.9			13.7			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	1011	772	424	934	0	337	33	793	87	163	0
v/c Ratio	0.59	0.76	1.13	0.46	0.46		0.77	0.14	1.12	0.54	0.68	
Control Delay	66.8	36.4	104.1	37.4	16.5		61.0	46.2	94.1	61.8	36.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	66.8	36.4	104.1	37.4	16.5		61.0	46.2	94.1	61.8	36.5	
Queue Length 50th (ft)	62	338	~588	134	209		123	22	~498	62	47	
Queue Length 95th (ft)	119	458	#887	196	309		182	55	#914	115	118	
Internal Link Dist (ft)		1772			1148			623			413	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	189	1322	684	916	2021		489	265	711	252	319	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.46	0.76	1.13	0.46	0.46		0.69	0.12	1.12	0.35	0.51	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	710	390	810	50	310	30	730	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3509		3433	1863	1583	1770	1657	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3509		3433	1863	1583	1770	1657	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1011	772	424	880	54	337	33	793	87	43	120
RTOR Reduction (vph)	0	0	91	0	3	0	0	0	88	0	88	0
Lane Group Flow (vph)	87	1011	681	424	931	0	337	33	705	87	75	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	8.2	43.0	43.0	30.1	64.9		14.3	14.3	44.4	10.2	10.2	
Effective Green, g (s)	8.2	43.0	43.0	30.1	64.9		14.3	14.3	44.4	10.2	10.2	
Actuated g/C Ratio	0.07	0.38	0.38	0.26	0.57		0.13	0.13	0.39	0.09	0.09	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	128	1340	599	910	2005		432	235	619	159	149	
v/s Ratio Prot	0.05	0.29		0.12	0.27		0.10	0.02	c0.30	c0.05	0.05	
v/s Ratio Perm			c0.43						0.14			
v/c Ratio	0.68	0.75	1.14	0.47	0.46		0.78	0.14	1.14	0.55	0.50	
Uniform Delay, d1	51.4	30.7	35.3	35.0	14.2		48.1	44.2	34.6	49.5	49.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.7	2.2	80.4	0.1	0.1		8.2	0.1	80.7	2.1	1.0	
Delay (s)	62.1	32.9	115.7	35.1	14.3		56.3	44.3	115.3	51.5	50.2	
Level of Service	E	C	F	D	B		E	D	F	D	D	
Approach Delay (s)		68.5			20.8			96.2			50.7	
Approach LOS		E			C			F			D	

Intersection Summary			
HCM Average Control Delay	60.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	113.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

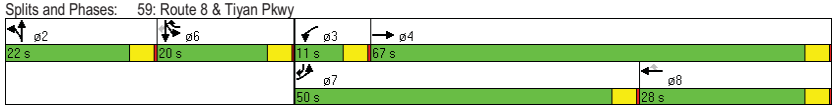
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	920	930	40	670	170	80	60	360	90	960
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	50.0	67.0	11.0	28.0	20.0	22.0	22.0	20.0	20.0	50.0
Total Split (%)	41.7%	55.8%	9.2%	23.3%	16.7%	18.3%	18.3%	16.7%	16.7%	41.7%
Maximum Green (s)	46.0	63.0	7.0	24.0	16.0	18.0	18.0	16.0	16.0	46.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 112.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	920	930	110	40	670	170	80	60	50	360	90	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2791			2670			614			1053	
Travel Time (s)		54.4			52.0			14.0			20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										38%		
Lane Group Flow (vph)	1000	1131	0	43	728	185	87	119	0	242	247	1043
v/c Ratio	0.71	0.56		0.44	0.96	0.27	0.53	0.64		1.01	1.01	1.02
Control Delay	31.6	16.6		66.2	69.5	3.3	60.4	52.3		110.2	109.3	52.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	31.6	16.6		66.2	69.5	3.3	60.4	52.3		110.2	109.3	52.9
Queue Length 50th (ft)	304	260		30	275	0	61	63		~189	~192	~727
Queue Length 95th (ft)	412	362		71	#428	33	113	124		#384	#390	#1047
Internal Link Dist (ft)		2711			2590			534			973	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1405	2037		110	756	683	283	303		239	244	1023
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.71	0.56		0.39	0.96	0.27	0.31	0.39		1.01	1.01	1.02

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	920	930	110	40	670	170	80	60	50	360	90	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	3433	3483		1770	3539	1583	1770	1736		1681	1718	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	3433	3483		1770	3539	1583	1770	1736		1681	1718	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1000	1011	120	43	728	185	87	65	54	391	98	1043
RTOR Reduction (vph)	0	7	0	0	0	118	0	26	0	0	0	102
Lane Group Flow (vph)	1000	1124	0	43	728	67	87	93	0	242	247	941
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Effective Green, g (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Actuated g/C Ratio	0.41	0.58		0.05	0.22	0.36	0.09	0.09		0.14	0.14	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1394	2017		83	778	571	162	159		237	243	922
v/s Ratio Prot	0.29	0.32		0.02	c0.21	0.02	0.05	c0.05		0.14	0.14	c0.41
v/s Ratio Perm						0.03						0.18
v/c Ratio	0.72	0.56		0.52	0.94	0.12	0.54	0.58		1.02	1.02	1.02
Uniform Delay, d1	28.2	14.8		52.8	43.4	24.2	49.2	49.4		48.6	48.6	25.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.5	0.2		2.3	18.1	0.0	1.7	3.5		64.0	62.0	34.8
Delay (s)	29.7	15.0		55.0	61.5	24.2	50.9	52.8		112.7	110.7	60.5
Level of Service	C	B		E	E	C	D	D		F	F	E
Approach Delay (s)		21.9			54.0			52.0			76.8	
Approach LOS		C			D			D			E	

Intersection Summary					
HCM Average Control Delay	47.0	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.95				
Actuated Cycle Length (s)	113.3	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	94.2%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	10	220	2060	50	2180
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	23.0	23.0	99.0	8.0	107.0
Total Split (%)	17.7%	17.7%	76.2%	6.2%	82.3%
Maximum Green (s)	19.0	19.0	95.0	4.0	103.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	220	2060	1160	50	2180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1181		1114			966
Travel Time (s)	26.8		21.7			18.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	239	3500	0	54	2370
v/c Ratio	0.05	0.91	1.01dr		0.77	0.59
Control Delay	70.0	68.6	6.6		120.9	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	70.0	68.6	6.6		120.9	3.1
Queue Length 50th (ft)	9	169	81		~45	109
Queue Length 95th (ft)	m9	m161	m54		m#85	m109
Internal Link Dist (ft)	1101		1034			886
Turn Bay Length (ft)					300	
Base Capacity (vph)	259	283	3573		70	4051
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.04	0.84	0.98		0.77	0.59

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	220	2060	1160	50	2180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4764		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4764		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	239	2239	1261	54	2370
RTOR Reduction (vph)	0	52	77	0	0	0
Lane Group Flow (vph)	11	187	3423	0	54	2370
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	17.4	17.4	95.4		5.2	104.6
Effective Green, g (s)	17.4	17.4	95.4		5.2	104.6
Actuated g/C Ratio	0.13	0.13	0.73		0.04	0.80
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	237	212	3496		70	4052
v/s Ratio Prot	0.01		c0.72		c0.03	0.47
v/s Ratio Perm		c0.12				
v/c Ratio	0.05	0.88	1.01dr		0.77	0.58
Uniform Delay, d1	49.1	55.3	16.4		61.8	4.7
Progression Factor	1.46	1.58	0.24		1.25	0.52
Incremental Delay, d2	0.0	4.2	1.8		31.0	0.5
Delay (s)	71.5	91.4	5.7		108.1	2.9
Level of Service	E	F	A		F	A
Approach Delay (s)	90.5		5.7			5.3
Approach LOS	F		A			A

Intersection Summary

HCM Average Control Delay	9.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

INTERSECTION ANALYSIS

Synchro Output

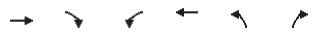
Year 2030 Finegayan Cantonment/Housing (Alternative A) Conditions

Weekday a.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	40	500	720	10	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	50	625	900	12	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1290				
pX, platoon unblocked					0.98	
vC, conflicting volume	912				1631	906
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	912				1634	906
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				88	96
cM capacity (veh/h)	743				101	334

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	50	625	912	25
Volume Left	50	0	0	12
Volume Right	0	0	12	12
cSH	743	1700	1700	155
Volume to Capacity	0.07	0.37	0.54	0.16
Queue Length 95th (ft)	5	0	0	14
Control Delay (s)	10.2	0.0	0.0	32.6
Lane LOS	B			D
Approach Delay (s)	0.8		0.0	32.6
Approach LOS				D

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		48.5%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	470	40	20	490	230	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	588	50	25	612	288	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			638		1275	612
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			638		1275	612
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		0	87
cM capacity (veh/h)			946		179	493

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	638	638	350
Volume Left	0	25	288
Volume Right	50	0	62
cSH	1700	946	202
Volume to Capacity	0.38	0.03	1.73
Queue Length 95th (ft)	0	2	599
Control Delay (s)	0.0	0.7	389.0
Lane LOS		A	F
Approach Delay (s)	0.0	0.7	389.0
Approach LOS			F

Intersection Summary				
Average Delay	84.1			
Intersection Capacity Utilization	64.5%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	520	510	40	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	12	650	638	50	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	688				1338	662
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	688				1338	662
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	97
cM capacity (veh/h)	902				166	462

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	662	688	25
Volume Left	12	0	12
Volume Right	0	50	12
cSH	902	1700	245
Volume to Capacity	0.01	0.40	0.10
Queue Length 95th (ft)	1	0	8
Control Delay (s)	0.4	0.0	21.4
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	21.4
Approach LOS			C

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	45.4%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	160	570	930	30	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	180	640	1045	34	11	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		704				
pX, platoon unblocked					0.92	
vC, conflicting volume	1079				2062	1062
vC1, stage 1 conf vol					1062	
vC2, stage 2 conf vol					1000	
vCu, unblocked vol	1079				2114	1062
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	72				94	92
cM capacity (veh/h)	643				194	272

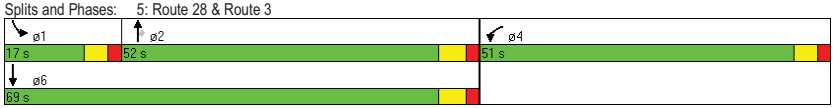
Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	180	640	1079	34
Volume Left	180	0	0	11
Volume Right	0	0	34	22
cSH	643	1700	1700	407
Volume to Capacity	0.28	0.38	0.63	0.08
Queue Length 95th (ft)	29	0	0	7
Control Delay (s)	12.8	0.0	0.0	21.2
Lane LOS	B			C
Approach Delay (s)	2.8		0.0	21.2
Approach LOS				C

Intersection Summary			
Average Delay		1.6	
Intersection Capacity Utilization		73.0%	ICU Level of Service C
Analysis Period (min)		15	

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	930	530	290	120	1030
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	51.0	52.0	52.0	17.0	69.0
Total Split (%)	42.5%	43.3%	43.3%	14.2%	57.5%
Maximum Green (s)	45.5	46.0	46.0	11.5	63.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	160	530	290	120	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1253	0	609	333	138	1184
v/c Ratio	0.97		0.85	0.42	0.83	0.64
Control Delay	54.5		46.8	6.2	90.0	22.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	54.5		46.8	6.2	90.0	22.5
Queue Length 50th (ft)	479		427	19	107	333
Queue Length 95th (ft)	#593		#570	74	#206	385
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1297		716	789	168	1841
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.97		0.85	0.42	0.82	0.64

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	160	530	290	120	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3390		1863	1583	1752	3505
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3390		1863	1583	1752	3505
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1069	184	609	333	138	1184
RTOR Reduction (vph)	12	0	0	180	0	0
Lane Group Flow (vph)	1241	0	609	153	138	1184
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	45.5		46.1	46.1	11.4	63.0
Effective Green, g (s)	45.5		46.1	46.1	11.4	63.0
Actuated g/C Ratio	0.38		0.38	0.38	0.10	0.52
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1285		716	608	166	1840
v/s Ratio Prot	c0.37		c0.33		c0.08	0.34
v/s Ratio Perm				0.10		
v/c Ratio	0.97		0.85	0.25	0.83	0.64
Uniform Delay, d1	36.5		33.8	25.2	53.4	20.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	17.5		12.1	1.0	28.9	1.7
Delay (s)	54.0		45.9	26.2	82.3	22.2
Level of Service	D		D	C	F	C
Approach Delay (s)	54.0		38.9			28.5
Approach LOS	D		D			C

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	20	10	750	2030	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	23	12	872	2360	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2831	1192	2384			
vC1, stage 1 conf vol	2372					
vC2, stage 2 conf vol	459					
vCu, unblocked vol	2831	1192	2384			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	79	87	94			
cM capacity (veh/h)	55	180	200			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	35	12	436	436	1574	810
Volume Left	12	12	0	0	0	0
Volume Right	23	0	0	0	0	23
cSH	102	200	1700	1700	1700	1700
Volume to Capacity	0.34	0.06	0.26	0.26	0.93	0.48
Queue Length 95th (ft)	34	5	0	0	0	0
Control Delay (s)	57.8	24.1	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	57.8	0.3			0.0	
Approach LOS	F					

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		66.8%	ICU Level of Service C
Analysis Period (min)		15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	290	550	190	240
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	17.0	0.0	42.0	0.0	31.0	73.0
Total Split (%)	18.9%	0.0%	46.7%	0.0%	34.4%	81.1%
Maximum Green (s)	13.0		36.0		25.5	67.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 85.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	290	550	190	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	89	322	611	211	267
v/c Ratio	0.47	0.06	0.32	0.39	0.70	0.18
Control Delay	41.2	0.1	12.9	0.7	45.7	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	0.1	12.9	0.7	45.7	2.8
Queue Length 50th (ft)	41	0	88	0	108	26
Queue Length 95th (ft)	71	0	175	0	171	52
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	524	1583	1015	1568	524	1450
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.06	0.32	0.39	0.40	0.18

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	290	550	190	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1845	1568	1752	1845
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1845	1568	1752	1845
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	89	322	611	211	267
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	156	89	322	611	211	267
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	8.2	85.2	46.9	85.2	14.6	67.0
Effective Green, g (s)	8.2	85.2	46.9	85.2	14.6	67.0
Actuated g/C Ratio	0.10	1.00	0.55	1.00	0.17	0.79
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	330	1583	1016	1568	300	1451
v/s Ratio Prot	0.05		0.17		c0.12	0.14
v/s Ratio Perm		0.06		c0.39		
v/c Ratio	0.47	0.06	0.32	0.39	0.70	0.18
Uniform Delay, d1	36.5	0.0	10.4	0.0	33.3	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.8	0.7	6.0	0.3
Delay (s)	36.8	0.1	11.2	0.7	39.2	2.6
Level of Service	D	A	B	A	D	A
Approach Delay (s)	23.5		4.4			18.8
Approach LOS	C		A			B

Intersection Summary				
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	85.2	Sum of lost time (s)	5.5
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

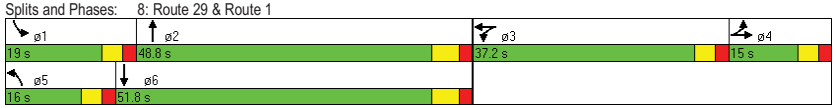
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	730	150	840
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	70	70	730	280	150	840	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				40%								
Lane Group Flow (vph)	0	87	0	355	343	0	75	1086	0	161	968	0
v/c Ratio		0.58		0.88	0.85		0.57	0.77		0.79	0.59	
Control Delay		39.4		67.2	61.3		89.9	16.9		78.6	27.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		67.2	61.3		89.9	16.9		78.6	27.5	
Queue Length 50th (ft)		25		273	253		62	287		120	302	
Queue Length 95th (ft)		77		#420	#378		m92	#327		#235	411	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	452		162	1410		214	1631	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.79	0.76		0.46	0.77		0.75	0.59	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	70	70	730	280	150	840	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.97		1.00	0.96		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1655		1752	3359		1752	3470	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1655		1752	3359		1752	3470	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	75	75	785	301	161	903	65
RTOR Reduction (vph)	0	51	0	0	8	0	0	31	0	0	4	0
Lane Group Flow (vph)	0	36	0	355	335	0	75	1055	0	161	964	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		28.7	28.7		7.9	49.3		13.9	55.3	
Effective Green, g (s)		7.1		28.7	28.7		7.9	49.3		13.9	55.3	
Actuated g/C Ratio		0.06		0.24	0.24		0.07	0.41		0.12	0.46	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		402	396		115	1380		203	1599	
v/s Ratio Prot		c0.02		c0.21	0.20		0.04	c0.31		c0.09	0.28	
v/s Ratio Perm												
v/c Ratio		0.36		0.88	0.85		0.65	0.76		0.79	0.60	
Uniform Delay, d1		54.3		44.0	43.5		54.7	30.4		51.7	24.2	
Progression Factor		1.00		1.00	1.00		1.45	0.43		1.00	1.00	
Incremental Delay, d2		0.8		19.4	14.6		7.4	3.1		17.7	1.7	
Delay (s)		55.1		63.4	58.1		86.5	16.2		69.4	25.8	
Level of Service		E		E	E		F	B		E	C	
Approach Delay (s)		55.1			60.8			20.7			32.1	
Approach LOS		E			E			C			C	

Intersection Summary				
HCM Average Control Delay	35.0	HCM Level of Service		C
HCM Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	75.6%	ICU Level of Service		D
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	20	40	50	40	10	30	330	20	10	300	200
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	176	22	44	55	44	11	33	363	22	11	330	220
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	934	912	440	956	1011	374	549			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934	912	440	956	1011	374	549			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	12	92	93	73	81	98	97			99		
cM capacity (veh/h)	200	262	617	200	230	673	1015			1168		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	110	418	560
Volume Left	176	55	33	11
Volume Right	44	11	22	220
cSH	234	228	1015	1168
Volume to Capacity	1.03	0.48	0.03	0.01
Queue Length 95th (ft)	251	60	3	1
Control Delay (s)	113.0	34.7	1.0	0.3
Lane LOS	F	D	A	A
Approach Delay (s)	113.0	34.7	1.0	0.3
Approach LOS	F	D		

Intersection Summary				
Average Delay	23.9			
Intersection Capacity Utilization	59.7%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	310	120	1000	160	1510
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	120	1000	150	160	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	337	130	1250	0	174	1641
v/c Ratio	0.87	0.32	0.69		0.80	0.68
Control Delay	66.9	17.7	12.0		76.2	13.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	66.9	17.7	12.0		76.2	13.3
Queue Length 50th (ft)	251	32	137		142	304
Queue Length 95th (ft)	347	82	m440		m#223	346
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	467	476	1799		239	2408
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.72	0.27	0.69		0.73	0.68

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	120	1000	150	160	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3436		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3436		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	130	1087	163	174	1641
RTOR Reduction (vph)	0	61	9	0	0	0
Lane Group Flow (vph)	337	69	1241	0	174	1641
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	26.6	26.6	62.5		14.9	82.4
Effective Green, g (s)	26.6	26.6	62.5		14.9	82.4
Actuated g/C Ratio	0.22	0.22	0.52		0.12	0.69
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	388	348	1790		218	2407
v/s Ratio Prot	c0.19		0.36		c0.10	c0.47
v/s Ratio Perm		0.04				
v/c Ratio	0.87	0.20	0.69		0.80	0.68
Uniform Delay, d1	45.0	38.0	21.6		51.1	11.1
Progression Factor	1.00	1.00	0.43		1.06	0.99
Incremental Delay, d2	17.7	0.1	2.1		14.6	1.3
Delay (s)	62.7	38.1	11.4		68.8	12.3
Level of Service	E	D	B		E	B
Approach Delay (s)	55.8		11.4			17.7
Approach LOS	E		B			B

Intersection Summary				
HCM Average Control Delay	20.5	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0	
Intersection Capacity Utilization	71.8%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	170	90	150	300	190
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	137	233	123	205	411	260
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	993	541	671			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	993	541	671			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	42	57	87			
cM capacity (veh/h)	234	539	915			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	370	329	671
Volume Left	137	123	0
Volume Right	233	0	260
cSH	364	915	1700
Volume to Capacity	1.02	0.13	0.39
Queue Length 95th (ft)	304	12	0
Control Delay (s)	86.0	4.5	0.0
Lane LOS	F	A	
Approach Delay (s)	86.0	4.5	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	24.3		
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	630	370	1740	280	1940	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	630	370	0	1740	320	280	1940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	685	402	0	2239	0	304	2109
v/c Ratio	1.80	0.13		1.31		0.57	1.65
Control Delay	390.5	10.6		171.8		40.6	316.9
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	390.5	10.6		171.8		40.6	316.9
Queue Length 50th (ft)	~822	72		~817		199	~1142
Queue Length 95th (ft)	#1060	m58		#884		294	#1293
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	380	3022		1703		531	1280
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.80	0.13		1.31		0.57	1.65

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	630	370	0	1740	320	280	1940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4919		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4919		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	685	402	0	1891	348	304	2109
RTOR Reduction (vph)	0	0	0	22	0	0	456
Lane Group Flow (vph)	685	402	0	2217	0	304	1653
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	380	3022		1681		531	825
v/s Ratio Prot	c0.39	0.08		c0.45		0.17	
v/s Ratio Perm							c0.60
v/c Ratio	1.80	0.13		1.32		0.57	2.00
Uniform Delay, d1	47.0	10.4		39.5		35.5	42.0
Progression Factor	0.50	1.00		0.70		1.00	1.00
Incremental Delay, d2	368.4	0.1		147.1		0.9	456.1
Delay (s)	391.9	10.5		174.6		36.4	498.1
Level of Service	F	B		F		D	F
Approach Delay (s)		250.8		174.6		439.9	
Approach LOS		F		F		F	

Intersection Summary				
HCM Average Control Delay	300.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	118.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	770	750	2480	410	310
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	750	2480	410	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1085	0	798	2638	436	330
v/c Ratio	0.15	0.77		1.12	0.73	0.75	0.61
Control Delay	59.1	37.6		83.6	9.8	36.9	6.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	59.1	37.6		83.6	9.8	36.9	6.1
Queue Length 50th (ft)	8	137		~725	302	75	2
Queue Length 95th (ft)	m25	m#222		m266	m216	106	18
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1404		715	3593	765	609
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	0.77		1.12	0.73	0.57	0.54

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	750	2480	410	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4851		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4851		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	819	266	798	2638	436	330
RTOR Reduction (vph)	0	47	0	0	0	0	274
Lane Group Flow (vph)	11	1038	0	798	2638	436	56
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	29.6		53.0	81.6	20.4	20.4
Effective Green, g (s)	1.0	29.6		53.0	81.6	20.4	20.4
Actuated g/C Ratio	0.01	0.25		0.44	0.68	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1197		774	3424	578	267
v/s Ratio Prot	0.01	c0.21		c0.46	0.52	c0.13	
v/s Ratio Perm							0.04
v/c Ratio	0.73	0.87		1.03	0.77	0.75	0.21
Uniform Delay, d1	59.4	43.3		33.5	12.9	47.4	42.9
Progression Factor	0.99	0.88		0.82	0.81	0.63	0.41
Incremental Delay, d2	88.3	8.0		19.1	0.2	4.1	0.1
Delay (s)	147.0	46.0		46.4	10.6	33.8	17.7
Level of Service	F	D		D	B	C	B
Approach Delay (s)		47.0			18.9	26.9	
Approach LOS		D			B	C	

Intersection Summary

HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	290	120	240	780	10	2000
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	780	10	2000	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	322	133	267	867	11	3078	0
v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.03	
Control Delay	89.2	14.5	95.8	3.4	60.2	36.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.2	14.5	95.8	3.4	60.2	36.5	
Queue Length 50th (ft)	129	0	217	42	9	~471	
Queue Length 95th (ft)	#219	60	#384	80	m13	#220	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	278	277	3995	60	2993	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.03	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	780	10	2000	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4826	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4826	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	322	133	267	867	11	2222	856
RTOR Reduction (vph)	0	120	0	0	0	58	0
Lane Group Flow (vph)	322	13	267	867	11	3020	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Effective Green, g (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Actuated g/C Ratio	0.10	0.10	0.16	0.76	0.01	0.61	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	277	3827	12	2936	
v/s Ratio Prot	c0.09		c0.15	0.17	0.01	c0.63	
v/s Ratio Perm		0.01					
v/c Ratio	0.94	0.08	0.96	0.23	0.92	1.03	
Uniform Delay, d1	53.6	49.0	50.2	4.2	59.6	23.5	
Progression Factor	1.00	1.00	1.08	0.99	0.98	0.60	
Incremental Delay, d2	32.3	0.1	39.7	0.1	171.7	21.9	
Delay (s)	86.0	49.1	94.0	4.2	229.9	35.9	
Level of Service	F	D	F	A	F	D	
Approach Delay (s)	75.2			25.4		36.5	
Approach LOS	E			C		D	

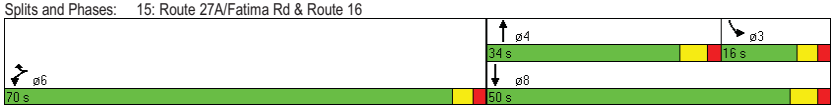
Intersection Summary				
HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	650	250	600	80	1120
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	600	200	80	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	774	298	952	0	95	1333
v/c Ratio	0.88	0.32	0.68		0.59	0.64
Control Delay	36.1	1.8	29.7		47.1	17.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.1	1.8	29.7		47.1	17.4
Queue Length 50th (ft)	569	12	235		66	196
Queue Length 95th (ft)	611	6	m270		m78	m215
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	984	1405		161	2082
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.81	0.30	0.68		0.59	0.64

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	600	200	80	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4847		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4847		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	774	298	714	238	95	1333
RTOR Reduction (vph)	0	140	48	0	0	0
Lane Group Flow (vph)	774	158	904	0	95	1333
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	59.4	59.4	33.6		11.0	49.6
Effective Green, g (s)	59.4	59.4	33.6		11.0	49.6
Actuated g/C Ratio	0.49	0.49	0.28		0.09	0.41
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	876	784	1357		161	2082
v/s Ratio Prot	c0.44	0.10	0.19		0.05	c0.26
v/s Ratio Perm						
v/c Ratio	0.88	0.20	0.67		0.59	0.64
Uniform Delay, d1	27.2	17.0	38.2		52.3	28.1
Progression Factor	0.88	0.39	0.74		0.71	0.56
Incremental Delay, d2	10.1	0.0	2.2		2.4	0.9
Delay (s)	33.9	6.7	30.6		39.3	16.7
Level of Service	C	A	C		D	B
Approach Delay (s)	26.3		30.6			18.2
Approach LOS	C		C			B

Intersection Summary				
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

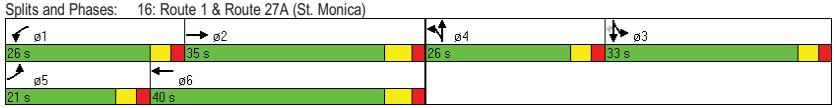
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	140	480	150	1100	120	120	30	230	460
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1100	10	120	120	100	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	626	0	165	1220	0	132	242	0	33	253	505
v/c Ratio	0.77	0.34		0.73	0.63		0.50	0.85		0.11	0.78	0.84
Control Delay	84.4	9.1		85.1	22.6		68.2	81.5		39.8	63.5	23.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	84.4	9.1		85.1	22.6		68.2	81.5		39.8	63.5	23.6
Queue Length 50th (ft)	99	75		130	137		107	179		22	190	79
Queue Length 95th (ft)	#185	113		m205	m257		m165	#277		48	263	211
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	234	1850		307	1947		310	329		413	435	674
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.34		0.54	0.63		0.43	0.74		0.08	0.58	0.75

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1100	10	120	120	100	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4916		1752	5029		1770	1736		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4916		1752	5029		1770	1736		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	154	527	99	165	1209	11	132	132	110	33	253	505
RTOR Reduction (vph)	0	19	0	0	1	0	0	26	0	0	0	328
Lane Group Flow (vph)	154	607	0	165	1219	0	132	217	0	33	253	177
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	44.6		15.5	46.4		18.0	18.0		20.9	20.9	20.9
Effective Green, g (s)	13.7	44.6		15.5	46.4		18.0	18.0		20.9	20.9	20.9
Actuated g/C Ratio	0.11	0.37		0.13	0.39		0.15	0.15		0.17	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	200	1827		226	1945		266	260		308	324	276
v/s Ratio Prot	0.09	0.12		c0.09	c0.24		0.07	c0.12		0.02	c0.14	
v/s Ratio Perm												0.11
v/c Ratio	0.77	0.33		0.73	0.63		0.50	0.83		0.11	0.78	0.64
Uniform Delay, d1	51.6	27.0		50.2	29.8		46.8	49.5		41.7	47.4	46.1
Progression Factor	1.19	0.30		1.40	0.66		1.36	1.40		1.00	1.00	1.00
Incremental Delay, d2	14.8	0.5		8.3	1.3		0.4	16.1		0.1	10.7	3.8
Delay (s)	76.1	8.7		78.7	21.0		64.0	85.3		41.8	58.1	49.9
Level of Service	E	A		E	C		E	F		D	E	D
Approach Delay (s)		22.0			27.9			77.8			52.1	
Approach LOS		C			C			E			D	

Intersection Summary				
HCM Average Control Delay	37.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	70.0%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	40	150	20	30	10	60	200	20	20	250	130
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	45	170	23	34	11	68	227	23	23	284	148

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	80	216	68	68	250	307	148
Volume Left (vph)	80	0	23	68	0	23	0
Volume Right (vph)	0	170	11	0	23	0	148
Hadj (s)	0.53	-0.52	0.00	0.53	-0.03	0.07	-0.67
Departure Headway (s)	7.2	6.1	7.0	6.8	6.3	6.2	5.5
Degree Utilization, x	0.16	0.37	0.13	0.13	0.43	0.53	0.22
Capacity (veh/h)	468	550	459	500	549	559	627
Control Delay (s)	10.3	11.4	11.1	9.6	12.8	14.8	8.8
Approach Delay (s)	11.1		11.1	12.1		12.8	
Approach LOS	B		B	B		B	

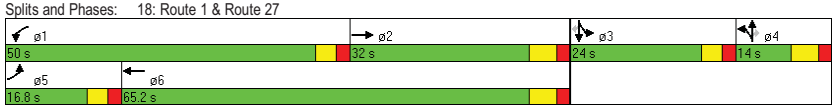
Intersection Summary				
Delay	12.1			
HCM Level of Service	B			
Intersection Capacity Utilization	54.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	70	590	870	1330	110	150	690	300	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	870	1330	30	110	150	690	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	728	0	946	1479	0	120	163	750	0	369	43
v/c Ratio	0.57	0.67		1.44	0.55		1.02	1.31	0.85		1.26	0.17
Control Delay	87.6	33.2		235.3	13.2		81.3	188.1	14.5		183.0	35.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.6	33.2		235.3	13.2		81.3	188.1	14.5		183.0	35.8
Queue Length 50th (ft)	62	183		~994	191		~98	~166	103		~358	21
Queue Length 95th (ft)	m111	235		m#1190	m241		m#137	m#200	m84		#550	56
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	172	1085		657	2675		118	124	883		293	257
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.44	0.67		1.44	0.55		1.02	1.31	0.85		1.26	0.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	870	1330	30	110	150	690	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	641	87	946	1446	33	120	163	750	43	326	43
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	700	0	0	10
Lane Group Flow (vph)	76	713	0	946	1477	0	120	163	50	0	369	33
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.07	0.22		0.38	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	118	1070		657	2631		118	124	183		293	247
v/s Ratio Prot	0.04	c0.14		c0.54	0.29		0.07	c0.09			c0.20	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.64	0.67		1.44	0.56		1.02	1.31	0.27		1.26	0.13
Uniform Delay, d1	54.5	43.0		37.5	19.2		56.0	56.0	53.2		50.5	43.4
Progression Factor	1.36	0.71		0.99	0.64		0.92	0.93	4.01		1.00	1.00
Incremental Delay, d2	8.4	3.2		204.6	0.7		29.2	146.8	0.0		141.4	0.1
Delay (s)	82.6	33.8		241.9	13.1		80.9	198.8	213.4		191.9	43.5
Level of Service	F	C		F	B		F	F	F		F	D
Approach Delay (s)		38.5			102.3			195.7			176.4	
Approach LOS		D			F			F			F	

Intersection Summary				
HCM Average Control Delay	118.5	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.19			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	114.3%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	890	640	1780	560	370
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	890	370	640	1780	560	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1341	0	681	1894	596	394
v/c Ratio	0.18	0.94		0.99	0.53	0.99	0.65
Control Delay	78.4	33.4		39.8	2.4	84.4	10.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	78.4	33.4		39.8	2.4	84.4	10.0
Queue Length 50th (ft)	9	175		551	55	240	0
Queue Length 95th (ft)	m11	m#227		m548	m59	#360	93
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1426		686	3575	601	602
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.18	0.94		0.99	0.53	0.99	0.65

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	890	370	640	1780	560	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4814		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4814		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	947	394	681	1894	596	394
RTOR Reduction (vph)	0	65	0	0	0	0	325
Lane Group Flow (vph)	11	1276	0	681	1894	596	69
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	30.0		51.0	81.2	21.0	21.0
Effective Green, g (s)	0.8	30.0		51.0	81.2	21.0	21.0
Actuated g/C Ratio	0.01	0.25		0.42	0.68	0.18	0.18
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1204		745	3408	601	277
v/s Ratio Prot	0.01	c0.27		c0.39	0.38	c0.17	
v/s Ratio Perm							0.04
v/c Ratio	0.92	1.06		0.91	0.56	0.99	0.25
Uniform Delay, d1	59.6	45.0		32.4	10.1	49.4	42.7
Progression Factor	1.31	0.60		0.62	0.27	1.00	1.00
Incremental Delay, d2	158.4	38.0		4.7	0.2	34.4	0.2
Delay (s)	236.4	65.2		24.7	2.9	83.8	42.9
Level of Service	F	E		C	A	F	D
Approach Delay (s)		66.6			8.6	67.5	
Approach LOS		E			A	E	

Intersection Summary

HCM Average Control Delay	36.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	200	950	20	1970	50	10	30	380
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	950	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	1000	0	21	2190	0	0	106	11	0	211	400
v/c Ratio	1.07	0.36		0.24	1.00			0.81	0.09		0.99	1.09
Control Delay	122.3	4.5		66.3	41.6			95.0	26.6		110.4	98.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	122.3	4.5		66.3	41.6			95.0	26.6		110.4	98.7
Queue Length 50th (ft)	~186	36		16	~645			82	0		165	~204
Queue Length 95th (ft)	m#248	m49		m26	#738			#179	19		#324	#404
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2780		92	2193			136	129		214	366
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.07	0.36		0.23	1.00			0.78	0.09		0.99	1.09

Intersection Summary

Area Type: CBD
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	950	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4496			1636	1425		1608	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4496			1636	1425		1608	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	1000	0	21	2074	116	53	53	11	179	32	400
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	176
Lane Group Flow (vph)	211	1000	0	21	2185	0	0	106	1	0	211	224
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	197	2666		37	2188			131	114		214	190
v/s Ratio Prot	c0.13	0.22		0.01	c0.49			c0.06			0.13	
v/s Ratio Perm									0.00			c0.16
v/c Ratio	1.07	0.38		0.57	1.00			0.81	0.01		0.99	1.18
Uniform Delay, d1	52.5	13.0		58.0	30.8			54.3	50.8		51.9	52.0
Progression Factor	1.19	0.35		1.12	0.78			1.00	1.00		1.00	1.00
Incremental Delay, d2	65.0	0.2		9.0	16.8			28.1	0.0		56.9	121.9
Delay (s)	127.5	4.7		74.1	40.8			82.4	50.8		108.8	173.9
Level of Service	F	A		E	D			F	D		F	F
Approach Delay (s)		26.1			41.2			79.4			151.4	
Approach LOS		C			D			E			F	

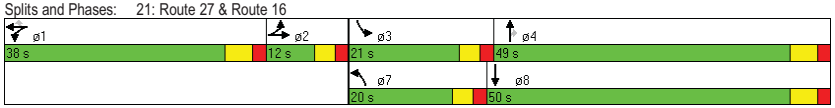
Intersection Summary				
HCM Average Control Delay	54.1	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.02			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	91.2%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	310	710	760	210	580	550	480	170	1280
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	210	580	550	480	170	1280	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		3085			2934			862			2992	
Travel Time (s)		70.1			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	724	0	816	874	241	667	632	552	195	1643	0
v/c Ratio	1.12	2.09		0.89	1.76	0.47	3.05	0.49	0.60	0.87	0.90	
Control Delay	164.9	520.4		41.5	371.1	13.6	951.5	31.4	5.3	80.5	37.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	164.9	520.4		41.5	371.1	13.6	951.5	31.4	5.3	80.5	37.4	
Queue Length 50th (ft)	~102	~401		332	~1028	72	~899	200	0	152	293	
Queue Length 95th (ft)	#212	#500		m285	m#830	m62	#1086	246	60	m#244	371	
Internal Link Dist (ft)		3005			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	346		915	497	513	219	1277	922	234	1829	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.12	2.09		0.89	1.76	0.47	3.05	0.49	0.60	0.83	0.90	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	210	580	550	480	170	1280	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4957	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4957	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	115	356	368	816	874	241	667	632	552	195	1471	172
RTOR Reduction (vph)	0	155	0	0	0	91	0	0	351	0	12	0
Lane Group Flow (vph)	115	569	0	816	874	150	667	632	201	195	1631	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.36	0.36	0.13	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	191		915	497	422	219	1276	571	223	1818	
v/s Ratio Prot	0.06	c0.17		0.24	c0.47		c0.38	0.18		0.11	c0.33	
v/s Ratio Perm						0.09			0.13			
v/c Ratio	1.12	2.98		0.89	1.76	0.36	3.05	0.50	0.35	0.87	0.90	
Uniform Delay, d1	56.5	56.5		42.3	44.0	35.6	52.5	29.6	27.8	51.4	35.9	
Progression Factor	0.81	0.68		0.85	0.86	0.71	1.00	1.00	1.00	1.05	0.89	
Incremental Delay, d2	121.0	902.9		3.9	344.1	0.1	932.6	1.4	1.7	21.8	5.4	
Delay (s)	166.8	941.1		40.1	382.0	25.4	985.1	31.0	29.5	75.7	37.4	
Level of Service	F	F		D	F	C	F	C	C	E	D	
Approach Delay (s)		835.0			193.0			374.4			41.5	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	285.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		

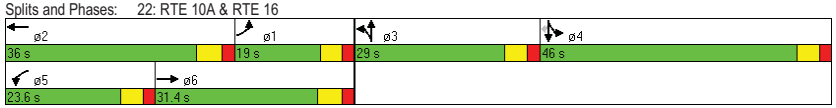
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	370	190	260	100	1010	740	10	10	960
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	15.5	15.5	15.5	15.5
Total Split (s)	19.0	31.4	0.0	23.6	36.0	29.0	29.0	46.0	46.0
Total Split (%)	14.6%	24.2%	0.0%	18.2%	27.7%	22.3%	22.3%	35.4%	35.4%
Maximum Green (s)	13.5	25.4		18.1	30.0	23.5	23.5	40.5	40.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Minimum Gap (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		5			5	5	5	5	5

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 131
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	190	260	100	1010	20	740	10	20	10	10	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1270			779			868			1242	
Travel Time (s)		24.7			15.2			16.9			24.2	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	457	235	321	123	1272	0	475	476	0	0	24	1185
v/c Ratio	1.26	0.30	0.20	0.63	1.57		1.55	1.55			0.04	1.83
Control Delay	184.6	44.4	0.3	70.0	298.0		297.0	296.1			32.7	405.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	184.6	44.4	0.3	70.0	298.0		297.0	296.1			32.7	405.2
Queue Length 50th (ft)	~251	87	0	100	~802		~597	~602			14	~1376
Queue Length 95th (ft)	#306	120	0	151	#854		#706	#710			34	#1464
Internal Link Dist (ft)		1190			699			788			1162	
Turn Bay Length (ft)	350		450	350								
Base Capacity (vph)	362	793	1583	244	809		307	308			557	646
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.26	0.30	0.20	0.50	1.57		1.55	1.55			0.04	1.83

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	190	260	100	1010	20	740	10	20	10	10	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.98	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3529		1665	1662			1800	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.98	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3529		1665	1662			1800	1568
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	457	235	321	123	1247	25	914	12	25	12	12	1185
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	0	161
Lane Group Flow (vph)	457	235	321	123	1271	0	475	474	0	0	24	1024
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Effective Green, g (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Actuated g/C Ratio	0.11	0.22	1.00	0.11	0.23		0.18	0.18			0.31	0.31
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	3.5	4.0		3.5	4.0		3.5	3.5			3.5	3.5
Lane Grp Cap (vph)	364	794	1583	196	808		307	307			556	484
v/s Ratio Prot	c0.13	0.07		0.07	c0.36		0.29	c0.29			0.01	
v/s Ratio Perm			0.20									c0.65
v/c Ratio	1.26	0.30	0.20	0.63	1.57		1.55	1.55			0.04	2.12
Uniform Delay, d1	58.6	42.3	0.0	55.7	50.5		53.4	53.4			31.7	45.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	135.6	0.3	0.3	6.4	264.0		261.8	261.0			0.0	509.0
Delay (s)	194.2	42.5	0.3	62.2	314.5		315.3	314.4			31.8	554.3
Level of Service	F	D	A	E	F		F	F			C	F
Approach Delay (s)		97.6			292.3			314.8			543.9	
Approach LOS		F			F			F			F	

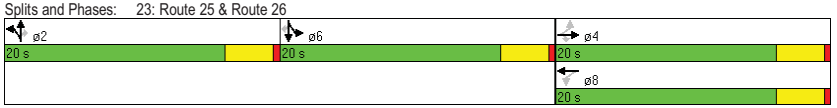
Intersection Summary					
HCM Average Control Delay	320.4	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.73				
Actuated Cycle Length (s)	131.1	Sum of lost time (s)		22.5	
Intersection Capacity Utilization	123.5%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	90	10	150	10	10	440	450	10	20	380	510
Turn Type	Perm		Perm	Perm		Split		Perm	Split		Perm
Protected Phases		4			8	2	2		6	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 51.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	10	150	10	10	60	440	450	10	20	380	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		636			405			396			486	
Travel Time (s)		12.4			7.9			7.7			9.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	170	0	90	0	500	511	11	23	432	580
v/c Ratio		0.43	0.41		0.28		0.89	0.86	0.02	0.04	0.73	0.65
Control Delay		24.9	7.3		10.2		41.6	37.6	9.9	14.8	27.5	6.3
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.9	7.3		10.2		41.6	37.6	9.9	14.8	27.5	6.3
Queue Length 50th (ft)		32	0		6		149	151	1	5	121	4
Queue Length 95th (ft)		68	37		34		#335	#335	10	19	#268	64
Internal Link Dist (ft)		556			325			316			406	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		487	619		552		562	592	509	562	592	887
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.23	0.27		0.16		0.89	0.86	0.02	0.04	0.73	0.65

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	10	150	10	10	60	440	450	10	20	380	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1782	1583		1663		1770	1863	1583	1770	1863	1583
Flt Permitted		0.82	1.00		0.95		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1533	1583		1591		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	11	170	11	11	68	500	511	11	23	432	580
RTOR Reduction (vph)	0	0	146	0	58	0	0	0	6	0	0	387
Lane Group Flow (vph)	0	113	24	0	32	0	500	511	5	23	432	193
Turn Type	Perm		Perm	Perm			Split		Perm	Split		Perm
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)		7.5	7.5		7.5		16.3	16.3	16.3	16.3	16.3	16.3
Effective Green, g (s)		7.5	7.5		7.5		16.3	16.3	16.3	16.3	16.3	16.3
Actuated g/C Ratio		0.14	0.14		0.14		0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		221	228		229		554	583	495	554	583	495
v/s Ratio Prot							c0.28	0.27		0.01	c0.23	
v/s Ratio Perm		c0.07	0.02		0.02				0.00			0.12
v/c Ratio		0.51	0.11		0.14		0.90	0.88	0.01	0.04	0.74	0.39
Uniform Delay, d1		20.6	19.4		19.5		17.1	16.9	12.3	12.5	16.0	14.0
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.8	0.1		0.1		20.5	16.8	0.0	0.1	8.2	2.3
Delay (s)		21.4	19.5		19.6		37.6	33.8	12.4	12.6	24.3	16.3
Level of Service		C	B		B		D	C	B	B	C	B
Approach Delay (s)		20.3			19.6			35.4			19.6	
Approach LOS		C			B			D			B	

Intersection Summary			
HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	52.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	10	340	10	10	10	250	270	10	20	410	270
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	151	12	395	12	12	12	291	314	12	23	477	314
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1436	1430	477	1424	1419	314	477			326		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1436	1430	477	1424	1419	314	477			326		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	88	33	56	88	98	73			98		
cM capacity (veh/h)	78	96	588	26	98	726	1080			1228		

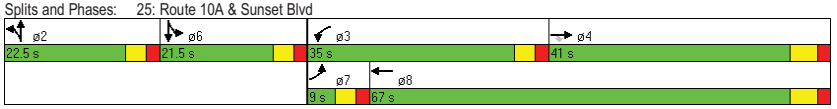
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	151	407	35	291	314	12	23	477	314
Volume Left	151	0	12	291	0	0	23	0	0
Volume Right	0	395	12	0	0	12	0	0	314
cSH	78	606	61	1080	1700	1700	1228	1700	1700
Volume to Capacity	1.94	0.67	0.57	0.27	0.18	0.01	0.02	0.28	0.18
Queue Length 95th (ft)	334	127	59	27	0	0	1	0	0
Control Delay (s)	552.0	23.4	124.7	9.6	0.0	0.0	8.0	0.0	0.0
Lane LOS	F	C	F	A			A		
Approach Delay (s)	166.6		124.7	4.5			0.2		
Approach LOS	F		F						

Intersection Summary					
Average Delay		49.6			
Intersection Capacity Utilization		59.3%	ICU Level of Service		B
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	660	10	310	2140	20	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	41.0	41.0	35.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	34.2%	34.2%	29.2%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	35.0	35.0	30.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 102.6
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	660	10	310	2140	50	20	10	100	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			892			650			525	
Travel Time (s)		26.3			20.3			14.8			11.9	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	795	12	373	2638	0	24	132	0	0	48	0
v/c Ratio	0.17	0.67	0.02	0.86	0.85		0.08	0.35			0.38	
Control Delay	57.1	34.7	13.4	57.5	21.1		39.9	12.4			46.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	57.1	34.7	13.4	57.5	21.1		39.9	12.4			46.9	
Queue Length 50th (ft)	8	248	0	223	476		13	7			23	
Queue Length 95th (ft)	27	308	13	332	621		37	51			58	
Internal Link Dist (ft)		1075			812			570			445	
Turn Bay Length (ft)	180		180	420								
Base Capacity (vph)	69	1248	566	521	3098		304	376			294	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	0.64	0.02	0.72	0.85		0.08	0.35			0.16	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	660	10	310	2140	50	20	10	100	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3539	1583	1770	5068		1770	1609			1756	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	1770	3539	1583	1770	5068		1770	1609			1756	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	12	795	12	373	2578	60	24	12	120	24	12	12
RTOR Reduction (vph)	0	0	8	0	2	0	0	100	0	0	11	0
Lane Group Flow (vph)	12	795	4	373	2636	0	24	32	0	0	37	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.7	38.3	38.3	25.1	62.7		17.6	17.6			5.7	
Effective Green, g (s)	0.7	38.3	38.3	25.1	62.7		17.6	17.6			5.7	
Actuated g/C Ratio	0.01	0.36	0.36	0.23	0.58		0.16	0.16			0.05	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1259	563	413	2950		289	263			93	
v/s Ratio Prot	0.01	0.22		c0.21	c0.52		0.01	c0.02			c0.02	
v/s Ratio Perm			0.00									
v/c Ratio	1.00	0.63	0.01	0.90	0.89		0.08	0.12			0.39	
Uniform Delay, d1	53.5	28.8	22.4	40.1	19.6		38.2	38.4			49.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	259.8	0.8	0.0	22.1	3.8		0.6	0.9			1.0	
Delay (s)	313.3	29.6	22.4	62.2	23.4		38.8	39.4			50.3	
Level of Service	F	C	C	E	C		D	D			D	
Approach Delay (s)		33.7			28.2			39.3			50.3	
Approach LOS		C			C			D			D	

Intersection Summary					
HCM Average Control Delay	30.0	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	107.7	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	68.0%	ICU Level of Service		C	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	250	1000	130	1650	120	40	90	370	30	150
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	39.0	12.0	33.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	24.0	63.0	22.0	61.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (%)	20.0%	52.5%	18.3%	50.8%	12.5%	12.5%	12.5%	16.7%	16.7%	16.7%
Maximum Green (s)	19.0	57.0	17.0	55.0	10.0	10.0	10.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1000	270	130	1650	420	120	40	90	370	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	150		150	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3056			1501			676			669	
Travel Time (s)		59.5			29.2			18.4			18.2	
Confl. Peds. (#/hr)						1			160			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							34%			46%		
Lane Group Flow (vph)	272	1380	0	141	2250	0	86	87	98	217	218	163
v/c Ratio	0.98	0.54		0.72	0.97		0.68	0.67	0.53	1.03	1.03	0.48
Control Delay	62.5	16.4		70.9	25.9		80.5	78.7	20.9	122.5	121.0	12.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	16.4		70.9	25.9		80.5	78.7	20.9	122.5	121.0	12.3
Queue Length 50th (ft)	222	177		113	339		69	69	0	~189	~189	0
Queue Length 95th (ft)	m211	m172		m133	#727		#141	#138	54	#355	#355	63
Internal Link Dist (ft)		2976			1421			596			589	
Turn Bay Length (ft)	630			350			150		150	360		250
Base Capacity (vph)	277	2538		248	2311		140	144	196	210	212	341
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.54		0.57	0.97		0.61	0.60	0.50	1.03	1.03	0.48

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

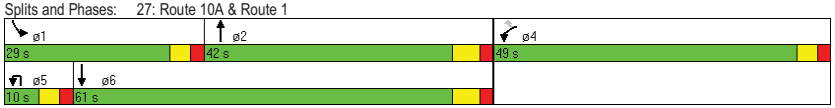
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1000	270	130	1650	420	120	40	90	370	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.81	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4876		1752	4869		1681	1726	1276	1681	1698	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4876		1752	4869		1681	1726	1276	1681	1698	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	1087	293	141	1793	457	130	43	98	402	33	163
RTOR Reduction (vph)	0	38	0	0	37	0	0	0	91	0	0	143
Lane Group Flow (vph)	272	1342	0	141	2213	0	86	87	7	217	218	20
Confl. Peds. (#/hr)						1			160			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Effective Green, g (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Actuated g/C Ratio	0.16	0.51		0.11	0.47		0.08	0.08	0.08	0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	277	2499		197	2272		126	129	96	210	212	198
v/s Ratio Prot	c0.16	0.28		0.08	c0.45		c0.05	0.05		c0.13	0.13	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.98	0.54		0.72	0.97		0.68	0.67	0.08	1.03	1.03	0.10
Uniform Delay, d1	50.3	19.7		51.4	31.3		54.1	54.1	51.6	52.5	52.5	46.5
Progression Factor	0.98	0.85		1.18	0.53		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	0.1		5.2	8.7		11.5	10.4	0.1	71.1	69.4	0.1
Delay (s)	61.7	16.8		65.7	25.2		65.6	64.5	51.8	123.6	121.9	46.6
Level of Service	E	B		E	C		E	E	D	F	F	D
Approach Delay (s)		24.2			27.6			60.2			102.0	
Approach LOS		C			C			E			F	

Intersection Summary				
HCM Average Control Delay	37.3	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	94.2%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1160	710	20	1010	330	1500
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	35.0	35.0	9.0	33.0	12.0	22.0
Total Split (s)	49.0	49.0	10.0	42.0	29.0	61.0
Total Split (%)	40.8%	40.8%	8.3%	35.0%	24.2%	50.8%
Maximum Green (s)	44.0	44.0	5.0	36.0	24.0	55.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		5		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 76 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1160	710	20	1010	450	330	1500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1896			1896			3056
Travel Time (s)	36.9			36.9			59.5
Confl. Peds. (#/hr)					11		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1303	798	22	1641	0	371	1685
v/c Ratio	1.03	0.97	0.30	1.10		1.06	0.68
Control Delay	72.4	45.5	73.6	71.5		96.7	8.1
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	72.4	45.5	73.6	71.5		96.7	8.1
Queue Length 50th (ft)	~559	378	16	~477		~307	201
Queue Length 95th (ft)	#680	#651	m40	m#548		m#347	m225
Internal Link Dist (ft)	1816			1816			2976
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	1259	821	75	1496		350	2476
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.97	0.29	1.10		1.06	0.68

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1160	710	20	1010	450	330	1500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	0.95		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4763		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4763		1752	5036
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1303	798	22	1135	506	371	1685
RTOR Reduction (vph)	0	241	0	67	0	0	0
Lane Group Flow (vph)	1303	557	22	1574	0	371	1685
Confl. Peds. (#/hr)					11		
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	44.0	44.0	3.0	36.0		24.0	57.0
Effective Green, g (s)	44.0	44.0	3.0	36.0		24.0	57.0
Actuated g/C Ratio	0.37	0.37	0.02	0.30		0.20	0.48
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1259	580	45	1429		350	2392
v/s Ratio Prot	c0.38		0.01	c0.33		c0.21	0.33
v/s Ratio Perm		0.35					
v/c Ratio	1.03	0.96	0.49	1.10		1.06	0.70
Uniform Delay, d1	38.0	37.2	57.7	42.0		48.0	24.9
Progression Factor	1.00	1.00	1.15	0.39		1.08	0.31
Incremental Delay, d2	34.8	27.6	2.6	55.3		47.3	0.7
Delay (s)	72.8	64.7	69.1	71.9		99.3	8.4
Level of Service	E	E	E	E		F	A
Approach Delay (s)	69.8			71.8			24.8
Approach LOS	E			E			C

Intersection Summary

HCM Average Control Delay	54.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	260	1260	10	2000	340	210
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	20.0	20.0
Total Split (s)	24.0	81.0	9.0	66.0	30.0	30.0
Total Split (%)	20.0%	67.5%	7.5%	55.0%	25.0%	25.0%
Maximum Green (s)	19.0	75.0	4.0	60.0	25.0	25.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 90 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1260	10	2000	320	340	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2658		1896		2759	
Travel Time (s)		51.8		36.9		75.2	
Confl. Peds. (#/hr)					4		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	286	1385	11	2550	0	374	231
v/c Ratio	1.03	0.40	0.18	1.03		1.01	0.55
Control Delay	80.7	13.3	52.1	45.5		97.8	25.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	80.7	13.3	52.1	45.5		97.8	25.9
Queue Length 50th (ft)	~207	258	8	~768		~299	77
Queue Length 95th (ft)	m#328	m388	m10	m#789		#498	161
Internal Link Dist (ft)		2578		1816		2679	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	277	3450	60	2473		369	422
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.40	0.18	1.03		1.01	0.55

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

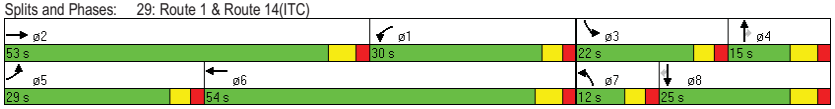
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1260	10	2000	320	340	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4910		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4910		1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	286	1385	11	2198	352	374	231
RTOR Reduction (vph)	0	0	0	18	0	0	93
Lane Group Flow (vph)	286	1385	11	2532	0	374	138
Confl. Peds. (#/hr)					4		
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	19.0	78.2	0.8	60.0		25.0	25.0
Effective Green, g (s)	19.0	78.2	0.8	60.0		25.0	25.0
Actuated g/C Ratio	0.16	0.65	0.01	0.50		0.21	0.21
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	277	3282	12	2455		369	330
v/s Ratio Prot	c0.16	0.28	c0.01	c0.52		c0.21	0.09
v/s Ratio Perm							
v/c Ratio	1.03	0.42	0.92	1.03		1.01	0.42
Uniform Delay, d1	50.5	10.0	59.6	30.0		47.5	41.2
Progression Factor	0.58	1.53	0.85	0.76		1.00	1.00
Incremental Delay, d2	48.5	0.2	148.1	22.2		50.3	0.3
Delay (s)	78.0	15.5	199.0	45.0		97.8	41.5
Level of Service	E	B	F	D		F	D
Approach Delay (s)		26.2		45.7		76.3	
Approach LOS		C		D		E	

Intersection Summary				
HCM Average Control Delay	42.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	370	960	190	1340	50	140	70	470	110	420
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	15.0	15.0	12.0	18.0	18.0
Total Split (s)	29.0	53.0	30.0	54.0	12.0	15.0	15.0	22.0	25.0	25.0
Total Split (%)	24.2%	44.2%	25.0%	45.0%	10.0%	12.5%	12.5%	18.3%	20.8%	20.8%
Maximum Green (s)	24.0	47.0	25.0	48.0	7.0	9.0	9.0	17.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	960	140	190	1340	560	50	140	70	470	110	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		2690			2658			634			1131	
Travel Time (s)		52.4			51.8			14.4			25.7	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	446	1326	0	229	2289	0	60	169	84	566	133	506
v/c Ratio	1.27	0.73		0.54	1.14		0.34	0.67	0.44	1.16	0.40	0.84
Control Delay	172.6	20.5		21.6	81.2		59.9	67.6	18.7	139.9	49.1	26.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	172.6	20.5		21.6	81.2		59.9	67.6	18.7	139.9	49.1	26.0
Queue Length 50th (ft)	~430	350		129	~731		23	67	0	~268	94	90
Queue Length 95th (ft)	#554	102		m141	m#694		42	97	42	#335	145	#211
Internal Link Dist (ft)		2610			2578			554			1051	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1951		422	2005		200	265	195	486	331	600
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.27	0.68		0.54	1.14		0.30	0.64	0.43	1.16	0.40	0.84

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	960	140	190	1340	560	50	140	70	470	110	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4940		1752	4813		3433	3539	1562	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4940		1752	4813		3433	3539	1562	3433	1863	1583
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	446	1157	169	229	1614	675	60	169	84	566	133	506
RTOR Reduction (vph)	0	17	0	0	64	0	0	0	77	0	0	319
Lane Group Flow (vph)	446	1309	0	229	2225	0	60	169	7	566	133	187
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	24.0	42.5		28.9	47.4		5.3	9.6	9.6	17.0	21.3	21.3
Effective Green, g (s)	24.0	42.5		28.9	47.4		5.3	9.6	9.6	17.0	21.3	21.3
Actuated g/C Ratio	0.20	0.35		0.24	0.39		0.04	0.08	0.08	0.14	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1750		422	1901		152	283	125	486	331	281
v/s Ratio Prot	c0.25	0.27		0.13	c0.46		0.02	0.05		c0.16	0.07	
v/s Ratio Perm									0.00			c0.12
v/c Ratio	1.27	0.75		0.54	1.17		0.39	0.60	0.05	1.16	0.40	0.67
Uniform Delay, d1	48.0	34.0		39.8	36.3		55.8	53.3	51.0	51.5	43.7	46.0
Progression Factor	0.71	0.56		0.48	0.32		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	141.2	2.5		0.2	78.8		0.6	2.3	0.1	94.6	0.3	4.5
Delay (s)	175.2	21.7		19.3	90.3		56.4	55.6	51.1	146.1	44.0	50.6
Level of Service	F	C		B	F		E	E	D	F	D	D
Approach Delay (s)		60.4			83.8			54.5			94.7	
Approach LOS		E			F			D			F	

Intersection Summary

HCM Average Control Delay	77.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	470	1380	50	1650	50	130	10	510
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	20.0	12.0	12.0	12.0
Total Split (s)	36.0	70.0	14.0	48.0	20.0	16.0	16.0	16.0
Total Split (%)	30.0%	58.3%	11.7%	40.0%	16.7%	13.3%	13.3%	13.3%
Maximum Green (s)	31.0	64.0	9.0	42.0	15.0	11.0	11.0	11.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	10	10	10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1380	10	50	1650	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2690			238			2279	
Travel Time (s)		25.0			52.4			6.5			62.2	
Confl. Peds. (#/hr)												24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	553	1636	0	59	2059	0	0	95	0	83	82	600
v/c Ratio	1.22	0.54		0.53	1.06			0.59		0.54	0.53	1.02
Control Delay	146.6	14.3		60.9	45.4			64.2		65.7	64.9	53.3
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	146.6	14.3		60.9	45.4			64.2		65.7	64.9	53.3
Queue Length 50th (ft)	~518	341		48	~621			68		66	65	~118
Queue Length 95th (ft)	#678	393		m47	m#571			114		114	113	#279
Internal Link Dist (ft)		1204			2610			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	453	3018		131	1946			231		154	156	588
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.22	0.54		0.45	1.06			0.41		0.54	0.53	1.02

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1380	10	50	1650	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5030		1752	4993			1808		1681	1697	1503
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5030		1752	4993			1808		1681	1697	1503
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	553	1624	12	59	1941	118	24	59	12	153	12	600
RTOR Reduction (vph)	0	0	0	0	6	0	0	5	0	0	0	451
Lane Group Flow (vph)	553	1636	0	59	2053	0	0	90	0	83	82	149
Confl. Peds. (#/hr)												24
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Effective Green, g (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Actuated g/C Ratio	0.26	0.59		0.06	0.39			0.09		0.09	0.09	0.09
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	453	2972		98	1939			157		154	156	138
v/s Ratio Prot	c0.32	0.33		0.03	c0.41			c0.05		0.05	0.05	
v/s Ratio Perm												c0.10
v/c Ratio	1.22	0.55		0.60	1.06			0.58		0.54	0.53	1.08
Uniform Delay, d1	44.5	14.9		55.3	36.7			52.7		52.1	52.0	54.5
Progression Factor	0.82	0.89		1.09	0.40			1.00		1.00	1.00	1.00
Incremental Delay, d2	112.9	0.5		0.6	28.0			3.2		1.8	1.5	100.6
Delay (s)	149.4	13.8		61.1	42.5			55.8		53.9	53.5	155.1
Level of Service	F	B		E	D			E		D	D	F
Approach Delay (s)		48.0			43.0			55.8			133.2	
Approach LOS		D			D			E			F	

Intersection Summary				
HCM Average Control Delay	58.7	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	88.3%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1050	140	1360	40	240	10	160	10	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	10.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	12.0	62.0	22.0	72.0	72.0	21.0	21.0	21.0	15.0	15.0
Total Split (%)	10.0%	51.7%	18.3%	60.0%	60.0%	17.5%	17.5%	17.5%	12.5%	12.5%
Maximum Green (s)	7.0	56.0	17.0	66.0	66.0	16.0	16.0	16.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		17.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 6 (Easterly Adelup) &

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1050	340	140	1360	40	240	10	160	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		722			5590			835			321	
Travel Time (s)		14.1			108.9			19.0			10.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	11	1495	0	151	1462	43	134	135	172	0	22	11
v/c Ratio	0.14	0.52		0.74	0.58	0.04	0.73	0.73	0.53		0.24	0.12
Control Delay	58.5	16.7		88.9	1.2	0.1	73.5	73.3	13.2		60.2	28.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	58.5	16.7		88.9	1.2	0.1	73.5	73.3	13.2		60.2	28.9
Queue Length 50th (ft)	8	253		101	0	0	106	107	0		17	0
Queue Length 95th (ft)	28	337		m158	0	m0	175	177	64		44	20
Internal Link Dist (ft)		642			5510			755			241	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	102	2860		248	2524	1140	224	226	360		152	142
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.11	0.52		0.61	0.58	0.04	0.60	0.60	0.48		0.14	0.08

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1050	340	140	1360	40	240	10	160	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)	1752	4851		1752	3505	1568	1681	1692	1583		1817	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (perm)	1752	4851		1752	3505	1568	1681	1692	1583		1817	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	1129	366	151	1462	43	258	11	172	11	11	11
RTOR Reduction (vph)	0	40	0	0	0	13	0	0	153	0	0	11
Lane Group Flow (vph)	11	1455	0	151	1462	30	134	135	19	0	22	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Effective Green, g (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Actuated g/C Ratio	0.01	0.57		0.12	0.67	0.67	0.11	0.11	0.11		0.03	0.03
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	19	2745		203	2351	1052	184	185	173		62	54
v/s Ratio Prot	0.01	0.30		c0.09	c0.42		0.08	c0.08			c0.01	
v/s Ratio Perm						0.02			0.01			0.00
v/c Ratio	0.58	0.53		0.74	0.62	0.03	0.73	0.73	0.11		0.35	0.01
Uniform Delay, d1	59.1	16.2		51.3	11.2	6.6	51.7	51.7	48.2		56.7	56.0
Progression Factor	1.00	1.00		1.43	0.05	0.01	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	23.8	0.7		8.8	0.9	0.0	11.5	11.5	0.1		1.3	0.0
Delay (s)	82.9	16.9		82.4	1.4	0.1	63.2	63.3	48.3		57.9	56.0
Level of Service	F	B		F	A	A	E	E	D		E	E
Approach Delay (s)		17.4			8.8			57.4			57.3	
Approach LOS		B			A			E			E	

Intersection Summary				
HCM Average Control Delay	18.7	HCM Level of Service		B
HCM Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		15.0
Intersection Capacity Utilization	67.8%	ICU Level of Service		C
Analysis Period (min)	15			

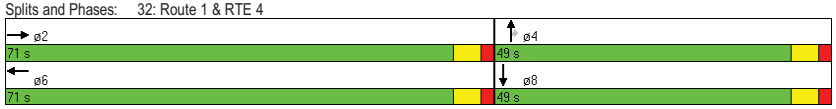
c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1140	1990	360	660	420
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	71.0	71.0	49.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%	40.8%
Maximum Green (s)	65.0	65.0	43.0	43.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	14.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 32: Route 1 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1140	60	0	1990	10	0	360	660	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			489			921			385	
Travel Time (s)		7.7			9.5			17.9			7.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1291	0	0	2151	0	0	742	355	0	452	0
v/c Ratio		0.42			0.69			0.80	0.80		0.45	
Control Delay		2.9			7.5			16.1	19.0		36.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		2.9			7.5			16.1	19.0		36.0	
Queue Length 50th (ft)		26			220			69	50		151	
Queue Length 95th (ft)		46			363			78	m73		180	
Internal Link Dist (ft)		313			409			841			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3087			3105			1161	550		1268	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.42			0.69			0.64	0.65		0.36	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1140	60	0	1990	10	0	360	660	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		4998			5032			3147	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		4998			5032			3147	1441		3539	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1226	65	0	2140	11	0	387	710	0	452	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	37	37	0	0	0
Lane Group Flow (vph)	0	1287	0	0	2151	0	0	705	318	0	452	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		74.0			74.0			34.0	34.0		34.0	
Effective Green, g (s)		74.0			74.0			34.0	34.0		34.0	
Actuated g/C Ratio		0.62			0.62			0.28	0.28		0.28	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3082			3103			892	408		1003	
v/s Ratio Prot		0.26			c0.43			c0.22			0.13	
v/s Ratio Perm									0.22			
v/c Ratio		0.42			0.69			0.79	0.78		0.45	
Uniform Delay, d1		11.9			15.4			39.7	39.5		35.3	
Progression Factor		0.20			0.39			0.28	0.22		1.00	
Incremental Delay, d2		0.4			1.0			3.8	7.0		0.1	
Delay (s)		2.8			7.0			14.8	15.7		35.4	
Level of Service		A			A			B	B		D	
Approach Delay (s)		2.8			7.0			15.1			35.4	
Approach LOS		A			A			B			D	

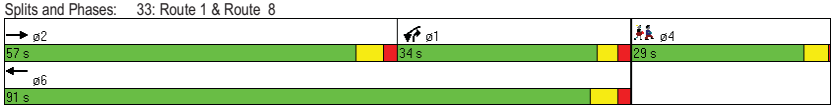
Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1430	440	1900	830	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	28.0	33.0	28.0	29.0
Total Split (s)	57.0	34.0	91.0	34.0	29.0
Total Split (%)	47.5%	28.3%	75.8%	28.3%	24%
Maximum Green (s)	51.0	29.0	85.0	29.0	25.0
Yellow Time (s)	4.0	3.0	4.0	3.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	5.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	C-Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 33: Route 1 & Route 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1430	290	440	1900	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	490			1938	458	
Travel Time (s)	9.5			37.8	8.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2023	0	518	2235	0	976
v/c Ratio	0.62		0.63	0.64		0.84
Control Delay	14.5		18.8	8.0		22.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	14.5		18.8	8.0		22.4
Queue Length 50th (ft)	414		131	245		151
Queue Length 95th (ft)	283		m113	m263		210
Internal Link Dist (ft)	410			1858	378	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3288		822	3505		1157
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.62		0.63	0.64		0.84

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1430	290	440	1900	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0		5.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4909		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4909		3400	3505		2787
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1682	341	518	2235	0	976
RTOR Reduction (vph)	15	0	0	0	0	483
Lane Group Flow (vph)	2008	0	518	2235	0	493
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	80.0		29.0	120.0		29.0
Effective Green, g (s)	80.0		29.0	120.0		29.0
Actuated g/C Ratio	0.67		0.24	1.00		0.24
Clearance Time (s)	6.0		5.0	6.0		5.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3273		822	3505		674
v/s Ratio Prot	0.41		0.15	c0.64		0.18
v/s Ratio Perm						
v/c Ratio	0.61		0.63	0.64		0.73
Uniform Delay, d1	11.3		40.7	0.0		41.9
Progression Factor	1.23		0.43	1.00		1.00
Incremental Delay, d2	0.8		0.3	0.3		3.5
Delay (s)	14.7		17.9	0.3		45.4
Level of Service	B		B	A		D
Approach Delay (s)	14.7			3.6	45.4	
Approach LOS	B			A	D	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	210	540	880	610	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	12	250	643	1048	726	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1210	458	
pX, platoon unblocked						
vC, conflicting volume	2536	363	726			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2536	363	726			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	61	26			
cM capacity (veh/h)	6	634	873			

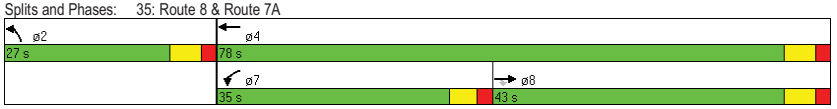
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	250	643	524	524	363	363	119
Volume Left	12	0	643	0	0	0	0	0
Volume Right	0	250	0	0	0	0	0	119
cSH	6	634	873	1700	1700	1700	1700	1700
Volume to Capacity	2.02	0.39	0.74	0.31	0.31	0.21	0.21	0.07
Queue Length 95th (ft)	63	47	170	0	0	0	0	0
Control Delay (s)	1625.1	14.3	19.7	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	C					
Approach Delay (s)	87.6		7.5			0.0		
Approach LOS	F							

Intersection Summary			
Average Delay		12.7	
Intersection Capacity Utilization		60.1%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	790	60	660	1270	200	650
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	20.5	31.0	16.0	
Total Split (s)	43.0	43.0	35.0	78.0	27.0	0.0
Total Split (%)	41.0%	41.0%	33.3%	74.3%	25.7%	0.0%
Maximum Green (s)	37.0	37.0	29.5	72.0	21.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	5	5			5	

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 97.5
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	790	60	660	1270	200	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1210			1375	661	
Travel Time (s)	23.6			26.8	12.9	
Confl. Peds. (#/hr)		5				5
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	952	72	795	1530	241	783
v/c Ratio	0.78	0.12	0.84	0.64	0.70	0.50
Control Delay	34.8	6.7	43.4	10.8	49.0	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	6.7	43.4	10.8	49.0	1.2
Queue Length 50th (ft)	291	0	254	258	151	0
Queue Length 95th (ft)	361	26	319	342	212	0
Internal Link Dist (ft)	1130			1295	581	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1370	646	1060	2667	408	1562
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.11	0.75	0.57	0.59	0.50

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	790	60	660	1270	200	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1556	3433	3539	1770	1562
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1556	3433	3539	1770	1562
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	952	72	795	1530	241	783
RTOR Reduction (vph)	0	47	0	0	0	0
Lane Group Flow (vph)	952	25	795	1530	241	783
Confl. Peds. (#/hr)		5				5
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	33.7	33.7	27.0	66.2	19.0	97.2
Effective Green, g (s)	33.7	33.7	27.0	66.2	19.0	97.2
Actuated g/C Ratio	0.35	0.35	0.28	0.68	0.20	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1227	539	954	2410	346	1562
v/s Ratio Prot	c0.27		c0.23	0.43	c0.14	
v/s Ratio Perm		0.02				0.50
v/c Ratio	0.78	0.05	0.83	0.63	0.70	0.50
Uniform Delay, d1	28.4	21.1	33.0	8.7	36.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.0	6.6	0.6	6.5	1.2
Delay (s)	31.7	21.1	39.6	9.3	42.9	1.2
Level of Service	C	C	D	A	D	A
Approach Delay (s)	31.0			19.7	11.0	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	97.2	Sum of lost time (s)	17.5
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

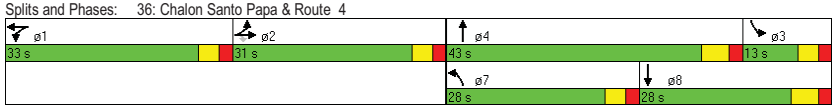
c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	130	90	260	170	830	40	420
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	26.0	12.0	28.0	12.0	28.0
Total Split (s)	31.0	31.0	33.0	28.0	43.0	13.0	28.0
Total Split (%)	25.8%	25.8%	27.5%	23.3%	35.8%	10.8%	23.3%
Maximum Green (s)	26.0	26.0	28.0	23.0	37.0	8.0	22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 70 (58%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	260	160	170	830	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			780			850	
Travel Time (s)		28.3			11.8			15.2			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	102	0	625	0	193	1057	0	45	591	0
v/c Ratio		0.81	0.29		0.87		0.76	0.52		0.42	0.38	
Control Delay		67.3	9.7		55.5		42.8	16.6		43.8	15.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.3	9.7		55.5		42.8	16.6		43.8	15.0	
Queue Length 50th (ft)		188	0		228		106	178		34	39	
Queue Length 95th (ft)		260	43		282		m126	m324		71	160	
Internal Link Dist (ft)		1164			439			700			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		395	423		817		339	2042		118	1548	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.63	0.24		0.76		0.57	0.52		0.38	0.38	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

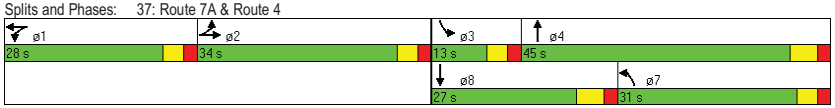
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	260	160	170	830	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.98		1.00	0.97	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1826	1583		3345		1770	5003		1770	4938	
Flt Permitted		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1826	1583		3345		1770	5003		1770	4938	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	148	102	148	295	182	193	943	114	45	477	114
RTOR Reduction (vph)	0	0	85	0	38	0	0	11	0	0	28	0
Lane Group Flow (vph)	0	250	17	0	587	0	193	1046	0	45	563	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		20.3	20.3		24.5		17.2	47.8		6.4	37.0	
Effective Green, g (s)		20.3	20.3		24.5		17.2	47.8		6.4	37.0	
Actuated g/C Ratio		0.17	0.17		0.20		0.14	0.40		0.05	0.31	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		309	268		683		254	1993		94	1523	
v/s Ratio Prot		c0.14			c0.18		c0.11	c0.21		c0.03	0.11	
v/s Ratio Perm			0.01									
v/c Ratio		0.81	0.06		0.86		0.76	0.52		0.48	0.37	
Uniform Delay, d1		48.0	41.9		46.1		49.4	27.5		55.2	32.4	
Progression Factor		1.00	1.00		1.00		0.62	0.56		0.60	0.43	
Incremental Delay, d2		13.6	0.0		10.1		7.2	0.6		1.4	0.7	
Delay (s)		61.6	41.9		56.2		37.6	16.0		34.5	14.7	
Level of Service		E	D		E		D	B		C	B	
Approach Delay (s)		55.9			56.2			19.3			16.1	
Approach LOS		E			E			B			B	

Intersection Summary				
HCM Average Control Delay	31.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	170	340	260	490	330	940	50	360
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.5	29.5	28.0	28.0	13.0	28.0	13.0	21.0
Total Split (s)	34.0	34.0	28.0	28.0	31.0	45.0	13.0	27.0
Total Split (%)	28.3%	28.3%	23.3%	23.3%	25.8%	37.5%	10.8%	22.5%
Maximum Green (s)	29.0	29.0	23.0	23.0	26.0	39.0	8.0	21.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	340	20	260	490	40	330	940	360	50	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	215		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		609			967			740			780	
Travel Time (s)		13.8			22.0			14.4			15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	189	400	0	260	617	0	367	1444	0	56	644	0
v/c Ratio	0.46	0.93		0.84	0.96		0.96	0.81		0.47	0.66	
Control Delay	43.4	74.0		70.8	73.8		83.0	38.1		52.8	29.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.4	74.0		70.8	73.8		83.0	38.1		52.8	29.1	
Queue Length 50th (ft)	125	300		215	260		283	367		42	145	
Queue Length 95th (ft)	198	#481		#373	#383		#474	431		m82	168	
Internal Link Dist (ft)		529			887			660			700	
Turn Bay Length (ft)				215			250			200		
Base Capacity (vph)	428	448		309	646		384	1790		118	975	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.89		0.84	0.96		0.96	0.81		0.47	0.66	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	340	20	260	490	40	330	940	360	50	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1847		1610	3346		1770	4874		1770	4796	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1847		1610	3346		1770	4874		1770	4796	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	189	378	22	289	544	44	367	1044	400	56	400	244
RTOR Reduction (vph)	0	2	0	0	5	0	0	55	0	0	91	0
Lane Group Flow (vph)	189	398	0	260	612	0	367	1389	0	56	553	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	27.9	27.9		23.0	23.0		27.0	41.7		6.4	21.1	
Effective Green, g (s)	27.9	27.9		23.0	23.0		27.0	41.7		6.4	21.1	
Actuated g/C Ratio	0.23	0.23		0.19	0.19		0.22	0.35		0.05	0.18	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	412	429		309	641		398	1694		94	843	
v/s Ratio Prot	0.11	c0.22		0.16	c0.18		c0.21	c0.28		0.03	c0.12	
v/s Ratio Perm												
v/c Ratio	0.46	0.93		0.84	0.95		0.92	0.82		0.60	0.66	
Uniform Delay, d1	39.6	45.1		46.7	48.0		45.5	35.7		55.5	46.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.75	0.68	
Incremental Delay, d2	0.3	25.9		17.6	24.5		26.2	4.6		6.0	3.6	
Delay (s)	39.9	71.0		64.4	72.5		71.7	40.3		47.5	35.1	
Level of Service	D	E		E	E		E	D		D	D	
Approach Delay (s)		61.0			70.1			46.7			36.1	
Approach LOS		E			E			D			D	

Intersection Summary

HCM Average Control Delay	52.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	80	170	150	1690	600	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	91	193	170	1920	682	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1031	
pX, platoon unblocked	0.91	0.91	0.91			
vC, conflicting volume	2006	364	727			
vC1, stage 1 conf vol	705					
vC2, stage 2 conf vol	1301					
vCu, unblocked vol	1903	91	492			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	46	78	82			
cM capacity (veh/h)	169	860	968			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	284	170	960	960	455	273
Volume Left	91	170	0	0	0	0
Volume Right	193	0	0	0	0	45
cSH	372	968	1700	1700	1700	1700
Volume to Capacity	0.76	0.18	0.56	0.56	0.27	0.16
Queue Length 95th (ft)	155	16	0	0	0	0
Control Delay (s)	39.9	9.5	0.0	0.0	0.0	0.0
Lane LOS	E	A				
Approach Delay (s)	39.9	0.8			0.0	
Approach LOS	E					

Intersection Summary				
Average Delay		4.2		
Intersection Capacity Utilization		68.3%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	70	280	220	70
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	20.0	20.0
Total Split (s)	21.0	35.0	34.0	34.0
Total Split (%)	23.3%	38.9%	37.8%	37.8%
Maximum Green (s)	16.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	2.0	2.0	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 75.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route - 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	510	280	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		345			618			271			199	
Travel Time (s)		7.8			14.0			6.2			3.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	364	0	0	1188	0	259	764	0	0	0	0
v/c Ratio		0.67			0.86		0.48	0.91				
Control Delay		19.3			31.0		24.6	25.7				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		19.3			31.0		24.6	25.7				
Queue Length 50th (ft)		32			285		97	122				
Queue Length 95th (ft)		66			#433		162	#288				
Internal Link Dist (ft)		265			538			191			119	
Turn Bay Length (ft)												
Base Capacity (vph)		869			1374		715	949				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.42			0.86		0.36	0.81				

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	510	280	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.90			0.97		1.00	0.87				
Flt Protected		0.99			0.98		0.95	1.00				
Satd. Flow (prot)		3176			3339		1770	1613				
Flt Permitted		0.99			0.98		0.95	1.00				
Satd. Flow (perm)		3176			3339		1770	1613				
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	82	235	600	329	259	259	82	682	0	0	0
RTOR Reduction (vph)	0	210	0	0	25	0	0	348	0	0	0	0
Lane Group Flow (vph)	0	154	0	0	1163	0	259	416	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		8.0			30.6		22.9	22.9				
Effective Green, g (s)		8.0			30.6		22.9	22.9				
Actuated g/C Ratio		0.11			0.41		0.30	0.30				
Clearance Time (s)		5.0			5.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		337			1353		537	489				
v/s Ratio Prot		c0.05			c0.35		0.15	c0.26				
v/s Ratio Perm												
v/c Ratio		0.46			0.86		0.48	0.85				
Uniform Delay, d1		31.7			20.5		21.5	24.7				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		0.4			5.5		0.2	12.9				
Delay (s)		32.1			26.0		21.7	37.6				
Level of Service		C			C		C	D				
Approach Delay (s)		32.1			26.0			33.6			0.0	
Approach LOS		C			C			C			A	

Intersection Summary

HCM Average Control Delay	29.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	14.0
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		

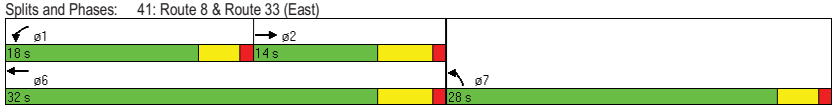
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	350	340	1030	330
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	7.0	4.0	7.0	4.0
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	14.0	18.0	32.0	28.0
Total Split (%)	23.3%	30.0%	53.3%	46.7%
Maximum Green (s)	9.0	14.0	27.0	24.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	4.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	4.0	2.0	4.0	2.0
Minimum Gap (s)	2.0	0.5	2.0	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 62.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	350	180	340	1030	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2965			2384	2961	
Travel Time (s)	57.8			46.4	57.7	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	616	0	395	1198	756	0
v/c Ratio	0.87		0.99	0.72	1.06	
Control Delay	33.9		72.3	16.1	70.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	33.9		72.3	16.1	70.9	
Queue Length 50th (ft)	~95		141	178	~256	
Queue Length 95th (ft)	135		#353	221	#563	
Internal Link Dist (ft)	2885			2304	2881	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	711		398	1662	714	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.87		0.99	0.72	1.06	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	350	180	340	1030	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	5.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.95		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3359		1770	3539	1696	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	3359		1770	3539	1696	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	407	209	395	1198	384	372
RTOR Reduction (vph)	105	0	0	0	60	0
Lane Group Flow (vph)	511	0	395	1198	696	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	11.3		14.1	29.4	24.1	
Effective Green, g (s)	11.3		14.1	29.4	24.1	
Actuated g/C Ratio	0.18		0.23	0.47	0.39	
Clearance Time (s)	5.0		4.0	5.0	4.0	
Vehicle Extension (s)	4.0		2.0	4.0	2.0	
Lane Grp Cap (vph)	607		399	1665	654	
v/s Ratio Prot	0.15		c0.22	c0.34	c0.41	
v/s Ratio Perm						
v/c Ratio	0.84		0.99	0.72	1.06	
Uniform Delay, d1	24.7		24.1	13.2	19.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	10.7		41.8	1.6	53.7	
Delay (s)	35.4		65.9	14.9	72.9	
Level of Service	D		E	B	E	
Approach Delay (s)	35.4			27.5	72.9	
Approach LOS	D			C	E	

Intersection Summary				
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	420	290	730	630	770	1170
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	36.0	36.0	64.0	36.0	36.0
Total Split (%)	28.0%	36.0%	36.0%	64.0%	36.0%	36.0%
Maximum Green (s)	22.0	30.0	30.0	58.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	420	290	730	630	770	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			454	789	
Travel Time (s)	14.8			8.8	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	462	319	802	692	846	1286
v/c Ratio	0.55	0.35	0.79	0.33	0.88	0.71
Control Delay	36.6	11.2	33.9	9.0	46.4	13.0
Queue Delay	0.1	0.0	0.1	0.0	0.0	0.4
Total Delay	36.7	11.2	33.9	9.0	46.4	13.4
Queue Length 50th (ft)	139	90	246	93	258	237
Queue Length 95th (ft)	193	144	318	116	332	313
Internal Link Dist (ft)	682			374	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	847	896	1020	2109	1030	1821
Starvation Cap Reductn	0	0	6	0	0	0
Spillback Cap Reductn	43	0	0	0	0	162
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.36	0.79	0.33	0.82	0.78

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	420	290	730	630	770	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	462	319	802	692	846	1286
RTOR Reduction (vph)	0	14	0	0	0	49
Lane Group Flow (vph)	462	305	802	692	846	1237
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	24.2	52.0	30.0	60.2	27.8	57.8
Effective Green, g (s)	24.2	52.0	30.0	60.2	27.8	57.8
Actuated g/C Ratio	0.24	0.52	0.30	0.60	0.28	0.58
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	848	909	1020	2110	954	1778
v/s Ratio Prot	c0.13	0.09	c0.24	0.20	c0.25	0.21
v/s Ratio Perm		0.10				0.24
v/c Ratio	0.54	0.34	0.79	0.33	0.89	0.70
Uniform Delay, d1	33.1	14.0	32.1	9.9	34.6	14.9
Progression Factor	1.00	1.00	0.87	0.84	1.00	1.00
Incremental Delay, d2	2.5	0.1	3.4	0.4	9.7	1.0
Delay (s)	35.6	14.0	31.3	8.6	44.3	15.9
Level of Service	D	B	C	A	D	B
Approach Delay (s)	26.8			20.8	27.2	
Approach LOS	C			C	C	

Intersection Summary				
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1310	130	1020	150	110
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	8.0	8.0
Minimum Split (s)	26.0	16.0	26.0	14.0	14.0
Total Split (s)	63.0	17.0	80.0	20.0	20.0
Total Split (%)	63.0%	17.0%	80.0%	20.0%	20.0%
Maximum Green (s)	57.0	11.0	74.0	14.0	14.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	Min	Max	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 52 (52%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1310	180	130	1020	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	454			482	431	
Travel Time (s)	8.8			9.4	8.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1732	0	151	1186	174	128
v/c Ratio	0.86		0.78	0.45	0.78	0.41
Control Delay	17.2		71.1	5.4	65.7	11.4
Queue Delay	3.0		0.0	0.0	0.0	0.0
Total Delay	20.2		71.1	5.4	65.7	11.4
Queue Length 50th (ft)	310		95	131	107	0
Queue Length 95th (ft)	380		#184	153	#183	46
Internal Link Dist (ft)	374			402	351	
Turn Bay Length (ft)			200			200
Base Capacity (vph)	2020		193	2642	248	332
Starvation Cap Reductn	194		0	0	0	0
Spillback Cap Reductn	0		0	9	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.95		0.78	0.45	0.70	0.39

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1310	180	130	1020	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3441		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3441		1752	3505	1770	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1523	209	151	1186	174	128
RTOR Reduction (vph)	10	0	0	0	0	112
Lane Group Flow (vph)	1722	0	151	1186	174	16
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	58.4		11.0	75.4	12.6	12.6
Effective Green, g (s)	58.4		11.0	75.4	12.6	12.6
Actuated g/C Ratio	0.58		0.11	0.75	0.13	0.13
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2010		193	2643	223	199
v/s Ratio Prot	c0.50		c0.09	0.34	c0.10	
v/s Ratio Perm						0.01
v/c Ratio	0.86		0.78	0.45	0.78	0.08
Uniform Delay, d1	17.3		43.3	4.6	42.4	38.6
Progression Factor	0.74		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7		17.1	0.6	14.9	0.1
Delay (s)	16.5		60.5	5.1	57.3	38.7
Level of Service	B		E	A	E	D
Approach Delay (s)	16.5			11.4	49.4	
Approach LOS	B			B	D	

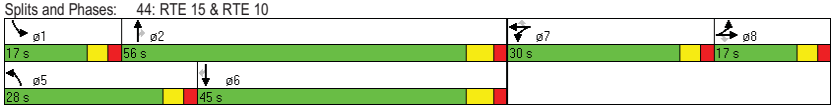
Intersection Summary				
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	300	80	330	240	1240	260	140	790	130
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	8.0	21.0	21.0	8.0	36.0	36.0
Total Split (s)	17.0	17.0	17.0	30.0	30.0	30.0	28.0	56.0	56.0	17.0	45.0	45.0
Total Split (%)	14.2%	14.2%	14.2%	25.0%	25.0%	25.0%	23.3%	46.7%	46.7%	14.2%	37.5%	37.5%
Maximum Green (s)	12.0	12.0	12.0	25.0	25.0	25.0	23.0	50.0	50.0	12.0	39.0	39.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	300	80	330	240	1240	260	140	790	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		549			1964			2453			773	
Travel Time (s)		10.7			38.3			47.8			15.1	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	41%											
Lane Group Flow (vph)	146	146	135	337	90	371	270	1393	292	157	888	146
v/c Ratio	0.89	0.87	0.49	0.95	0.24	0.77	0.87	0.93	0.37	0.90	0.72	0.23
Control Delay	100.5	97.0	14.8	83.5	41.7	31.6	77.7	27.4	1.7	99.8	38.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.5	97.0	14.8	83.5	41.7	31.6	77.7	27.4	1.7	99.8	38.7	5.5
Queue Length 50th (ft)	118	118	0	258	58	124	197	425	3	122	325	0
Queue Length 95th (ft)	#244	#241	59	#426	105	239	m243	#666	m9	#244	397	45
Internal Link Dist (ft)		469			1884			2373			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	167	170	278	365	384	488	339	1505	798	177	1236	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.86	0.49	0.92	0.23	0.76	0.80	0.93	0.37	0.89	0.72	0.23

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	300	80	330	240	1240	260	140	790	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1694	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1694	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	247	45	135	337	90	371	270	1393	292	157	888	146
RTOR Reduction (vph)	0	0	122	0	0	163	0	0	125	0	0	95
Lane Group Flow (vph)	146	146	13	337	90	208	270	1393	167	157	888	51
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	11.8	11.8	11.8	24.4	24.4	24.4	21.0	51.0	51.0	11.8	41.8	41.8
Effective Green, g (s)	11.8	11.8	11.8	24.4	24.4	24.4	21.0	51.0	51.0	11.8	41.8	41.8
Actuated g/C Ratio	0.10	0.10	0.10	0.20	0.20	0.20	0.18	0.42	0.42	0.10	0.35	0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	164	167	154	356	375	319	310	1504	673	174	1233	551
v/s Ratio Prot	c0.09	0.09		c0.19	0.05		c0.15	c0.39		0.09	0.25	
v/s Ratio Perm			0.01			0.13			0.11			0.03
v/c Ratio	0.89	0.87	0.09	0.95	0.24	0.65	0.87	0.93	0.25	0.90	0.72	0.09
Uniform Delay, d1	53.5	53.4	49.2	47.2	40.0	43.9	48.2	32.7	22.2	53.5	34.0	26.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.25	0.59	0.14	1.00	1.00	1.00
Incremental Delay, d2	39.6	35.3	0.1	33.4	0.1	3.6	14.0	7.2	0.5	40.7	3.7	0.3
Delay (s)	93.1	88.7	49.3	80.6	40.2	47.6	74.4	26.3	3.7	94.2	37.7	26.7
Level of Service	F	F	D	F	D	D	E	C	A	F	D	C
Approach Delay (s)		77.7			60.7			29.6			43.8	
Approach LOS		E			E			C			D	

Intersection Summary

HCM Average Control Delay	43.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

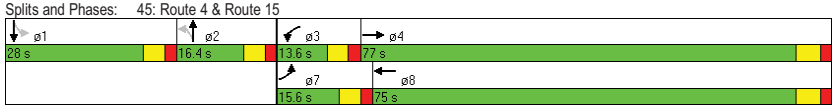
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	110	650	10	1690	40	10	50	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	15.6	77.0	13.6	75.0	16.4	16.4	28.0	28.0
Total Split (%)	11.6%	57.0%	10.1%	55.6%	12.1%	12.1%	20.7%	20.7%
Maximum Green (s)	10.1	71.0	8.1	69.0	10.9	10.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0	3.5	4.0	3.5	3.5	0.5	0.5
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.7
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	650	10	10	1690	40	40	10	40	50	10	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			548			338			351	
Travel Time (s)		12.5			10.7			6.6			6.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	750	0	11	1965	0	0	101	0	0	375	0
v/c Ratio	0.95	0.40		0.10	1.09			0.87			1.07	
Control Delay	126.0	19.9		62.5	81.1			101.7			98.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	126.0	19.9		62.5	81.1			101.7			98.5	
Queue Length 50th (ft)	111	201		9	~1020			69			~250	
Queue Length 95th (ft)	#233	242		29	#1113			#173			#433	
Internal Link Dist (ft)		561			468			258			271	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	132	1864		106	1808			118			352	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.95	0.40		0.10	1.09			0.86			1.07	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

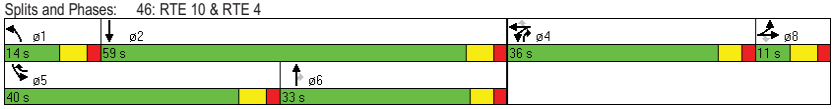
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	650	10	10	1690	40	40	10	40	50	10	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3531		1770	3527			1713			1644	
Flt Permitted	0.95	1.00		0.95	1.00			0.69			0.84	
Satd. Flow (perm)	1770	3531		1770	3527			1200			1395	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	125	739	11	11	1920	45	45	11	45	57	11	307
RTOR Reduction (vph)	0	1	0	0	1	0	0	21	0	0	120	0
Lane Group Flow (vph)	125	749	0	11	1964	0	0	80	0	0	255	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	10.1	71.1		8.0	69.0			10.6			22.5	
Effective Green, g (s)	10.1	71.1		8.0	69.0			10.6			22.5	
Actuated g/C Ratio	0.07	0.53		0.06	0.51			0.08			0.17	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	3.5	4.0		3.5	4.0			3.5			0.5	
Lane Grp Cap (vph)	133	1864		105	1807			94			233	
v/s Ratio Prot	c0.07	0.21		0.01	c0.56							
v/s Ratio Perm								c0.07			c0.18	
v/c Ratio	0.94	0.40		0.10	1.09			0.85			1.09	
Uniform Delay, d1	62.0	19.1		60.0	32.8			61.3			56.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	59.6	0.2		0.5	49.0			48.2			86.6	
Delay (s)	121.6	19.3		60.5	81.9			109.4			142.7	
Level of Service	F	B		E	F			F			F	
Approach Delay (s)		33.9			81.8			109.4			142.7	
Approach LOS		C			F			F			F	

Intersection Summary				
HCM Average Control Delay	76.9	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.05			
Actuated Cycle Length (s)	134.7	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	89.6%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	30	10	10	820	10	660	760	630	220
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	10.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	14.0	14.0	15.5	9.5	14.0	16.0
Total Split (s)	11.0	11.0	36.0	40.0	14.0	33.0	36.0	40.0	59.0
Total Split (%)	9.2%	9.2%	30.0%	33.3%	11.7%	27.5%	30.0%	33.3%	49.2%
Maximum Green (s)	5.0	5.0	30.5	34.0	8.0	27.5	30.5	34.0	53.0
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	5.5	5.5	6.0	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		20.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 118.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	340	10	820	10	660	760	630	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			759			914	
Travel Time (s)		7.3			12.6			14.8			17.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	11	0	381	891	11	717	826	685	261	0
v/c Ratio		0.86	0.14		0.84	1.01	0.09	0.92	0.95	0.69	0.27	
Control Delay		125.1	31.2		59.9	50.8	54.5	62.9	44.5	42.2	16.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		125.1	31.2		59.9	50.8	54.5	62.9	44.5	42.2	16.7	
Queue Length 50th (ft)		52	0		281	~445	8	284	527	244	97	
Queue Length 95th (ft)		#140	20		#444	#959	28	#387	#828	312	191	
Internal Link Dist (ft)		295			565			679			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		77	78		459	886	120	824	877	989	980	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.86	0.14		0.83	1.01	0.09	0.87	0.94	0.69	0.27	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	340	10	820	10	660	760	630	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	5.5	5.5	6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	33	11	370	11	891	11	717	826	685	239	22
RTOR Reduction (vph)	0	0	11	0	0	35	0	0	48	0	2	0
Lane Group Flow (vph)	0	66	0	0	381	856	11	717	778	685	259	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		5.0	5.0		30.1	64.1	1.6	30.9	61.0	34.0	62.8	
Effective Green, g (s)		5.0	5.0		30.1	64.1	1.6	30.9	61.0	34.0	62.8	
Actuated g/C Ratio		0.04	0.04		0.24	0.52	0.01	0.25	0.50	0.28	0.51	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	5.5	5.5	6.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		74	64		435	825	23	889	856	949	939	
v/s Ratio Prot		c0.04			0.21	c0.29	0.01	0.20	c0.22	0.20	0.14	
v/s Ratio Perm			0.00			0.25			0.27			
v/c Ratio		0.89	0.01		0.88	1.04	0.48	0.81	0.91	0.72	0.28	
Uniform Delay, d1		58.7	56.6		44.7	29.5	60.3	43.2	28.4	40.2	17.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		67.4	0.0		17.1	41.3	5.6	5.1	13.0	2.3	0.1	
Delay (s)		126.2	56.6		61.8	70.8	65.9	48.3	41.4	42.5	17.2	
Level of Service		F	E		E	E	E	D	D	D	B	
Approach Delay (s)		116.2			68.1			44.8			35.6	
Approach LOS		F			E			D			D	

Intersection Summary			
HCM Average Control Delay	51.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	23.5
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1100	1200	280
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	24.0	24.0	13.0	22.0	33.0	33.0
Total Split (s)	24.0	24.0	21.0	96.0	75.0	75.0
Total Split (%)	20.0%	20.0%	17.5%	80.0%	62.5%	62.5%
Maximum Green (s)	19.0	19.0	16.0	90.0	69.0	69.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1100	1200	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	438			286	526	
Travel Time (s)	11.9			5.6	10.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	45	125	1250	1364	318
v/c Ratio	0.45	0.40	0.68	0.41	0.55	0.29
Control Delay	63.7	62.4	57.3	5.7	11.0	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	62.4	57.3	5.7	11.0	8.8
Queue Length 50th (ft)	43	34	95	138	257	88
Queue Length 95th (ft)	83	69	154	379	367	155
Internal Link Dist (ft)	358			206	446	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	251	224	234	3016	2469	1105
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.53	0.41	0.55	0.29

Intersection Summary

Area Type: Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1100	1200	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	57	45	125	1250	1364	318
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	57	45	125	1250	1364	318
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	8.0	8.0	12.5	101.0	83.5	83.5
Effective Green, g (s)	8.0	8.0	12.5	101.0	83.5	83.5
Actuated g/C Ratio	0.07	0.07	0.10	0.84	0.70	0.70
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	106	94	183	2950	2439	1091
v/s Ratio Prot	c0.04		c0.07	0.36	c0.39	
v/s Ratio Perm		0.03				0.20
v/c Ratio	0.54	0.48	0.68	0.42	0.56	0.29
Uniform Delay, d1	54.2	54.0	51.8	2.3	9.1	7.0
Progression Factor	1.00	1.00	0.79	2.09	1.00	1.00
Incremental Delay, d2	2.6	1.4	7.2	0.4	0.9	0.7
Delay (s)	56.8	55.4	47.9	5.3	10.0	7.6
Level of Service	E	E	D	A	B	A
Approach Delay (s)	56.2			9.2	9.6	
Approach LOS	E			A	A	

Intersection Summary				
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	90	100	1110	80	1140
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	23.0	23.0	28.0	13.0	22.0
Total Split (s)	26.0	26.0	74.0	20.0	94.0
Total Split (%)	21.7%	21.7%	61.7%	16.7%	78.3%
Maximum Green (s)	21.0	21.0	68.0	15.0	88.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6(V.Cementary) & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1110	90	80	1140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		550			1355
Travel Time (s)	16.0		10.7			26.4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	108	1291	0	86	1226
v/c Ratio	0.55	0.43	0.53		0.55	0.43
Control Delay	63.3	14.3	7.2		76.3	1.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	63.3	14.3	7.2		76.3	1.9
Queue Length 50th (ft)	74	0	120		72	61
Queue Length 95th (ft)	126	53	127		127	31
Internal Link Dist (ft)	506		470			1275
Turn Bay Length (ft)					200	
Base Capacity (vph)	310	366	2431		219	2837
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.31	0.30	0.53		0.39	0.43

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1110	90	80	1140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3465		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3465		1752	3505
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	108	1194	97	86	1226
RTOR Reduction (vph)	0	97	4	0	0	0
Lane Group Flow (vph)	97	11	1287	0	86	1226
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	11.9	11.9	83.0		9.1	97.1
Effective Green, g (s)	11.9	11.9	83.0		9.1	97.1
Actuated g/C Ratio	0.10	0.10	0.69		0.08	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	176	157	2397		133	2836
v/s Ratio Prot	c0.05		c0.37		c0.05	0.35
v/s Ratio Perm		0.01				
v/c Ratio	0.55	0.07	0.54		0.65	0.43
Uniform Delay, d1	51.5	49.0	9.1		53.9	3.4
Progression Factor	1.00	1.00	0.66		1.25	0.41
Incremental Delay, d2	2.1	0.1	0.8		6.7	0.4
Delay (s)	53.6	49.1	6.8		74.1	1.8
Level of Service	D	D	A		E	A
Approach Delay (s)	51.2		6.8			6.5
Approach LOS	D		A			A

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	20	220	1180	1180
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	20.0	13.0	22.0	30.0
Total Split (s)	20.0	31.0	100.0	69.0
Total Split (%)	16.7%	25.8%	83.3%	57.5%
Maximum Green (s)	15.0	26.0	94.0	63.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1180	1180	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2159			1944	7258	
Travel Time (s)	42.1			37.9	141.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	237	1269	1366	0
v/c Ratio	0.37		0.79	0.42	0.61	
Control Delay	34.5		58.7	2.2	11.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	34.5		58.7	2.2	11.3	
Queue Length 50th (ft)	16		157	66	193	
Queue Length 95th (ft)	58		m231	91	261	
Internal Link Dist (ft)	2079			1864	7178	
Turn Bay Length (ft)			125			
Base Capacity (vph)	238		385	3050	2249	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.23		0.62	0.42	0.61	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1180	1180	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1680		1752	3505	3468	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1680		1752	3505	3468	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	32	237	1269	1269	97
RTOR Reduction (vph)	30	0	0	0	4	0
Lane Group Flow (vph)	24	0	237	1269	1362	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.8		20.5	102.2	76.7	
Effective Green, g (s)	6.8		20.5	102.2	76.7	
Actuated g/C Ratio	0.06		0.17	0.85	0.64	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	95		299	2985	2217	
v/s Ratio Prot	c0.01		c0.14	0.36	c0.39	
v/s Ratio Perm						
v/c Ratio	0.25		0.79	0.43	0.61	
Uniform Delay, d1	54.2		47.7	2.1	12.9	
Progression Factor	1.00		0.93	0.88	0.72	
Incremental Delay, d2	0.5		9.8	0.3	1.2	
Delay (s)	54.7		54.3	2.2	10.5	
Level of Service	D		D	A	B	
Approach Delay (s)	54.7			10.4	10.5	
Approach LOS	D			B	B	

Intersection Summary				
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	270	70	540	780
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	25.0		33.0	33.0	22.0	21.0
Total Split (s)	36.0	0.0	40.0	40.0	44.0	84.0
Total Split (%)	30.0%	0.0%	33.3%	33.3%	36.7%	70.0%
Maximum Green (s)	31.0		34.0	34.0	39.0	78.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	270	70	540	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	531		795			527
Travel Time (s)	10.3		15.5			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	1212	318	82	635	918
v/c Ratio	0.68	0.77	0.18	0.10	0.73	0.33
Control Delay	67.0	3.6	18.9	5.0	33.5	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	3.6	18.9	5.0	33.5	5.3
Queue Length 50th (ft)	106	0	70	0	229	64
Queue Length 95th (ft)	157	0	112	28	188	165
Internal Link Dist (ft)	451		715			447
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	457	1583	1736	818	1105	2775
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.77	0.18	0.10	0.57	0.33

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	270	70	540	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3505	1568	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3505	1568	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	141	1212	318	82	635	918
RTOR Reduction (vph)	0	0	0	41	0	0
Lane Group Flow (vph)	141	1212	318	41	635	918
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	14.0	120.0	59.4	59.4	30.6	95.0
Effective Green, g (s)	14.0	120.0	59.4	59.4	30.6	95.0
Actuated g/C Ratio	0.12	1.00	0.49	0.49	0.26	0.79
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	207	1583	1735	776	867	2775
v/s Ratio Prot	0.08		0.09		0.19	0.26
v/s Ratio Perm		c0.77		0.03		
v/c Ratio	0.68	0.77	0.18	0.05	0.73	0.33
Uniform Delay, d1	50.9	0.0	16.8	15.7	40.9	3.5
Progression Factor	1.00	1.00	1.00	1.00	0.71	1.31
Incremental Delay, d2	7.1	3.6	0.2	0.1	3.4	0.3
Delay (s)	58.0	3.6	17.1	15.8	32.5	4.9
Level of Service	E	A	B	B	C	A
Approach Delay (s)	9.3		16.8			16.2
Approach LOS	A		B			B

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	36.0	36.0	37.0	37.0	27.0	64.0
Total Split (%)	36.0%	36.0%	37.0%	37.0%	27.0%	64.0%
Maximum Green (s)	30.5	30.5	31.0	31.0	21.5	58.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 73.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1169		1253			870
Travel Time (s)	22.8		24.4			16.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	448	677	42	229	198
v/c Ratio	0.57	0.72	0.45	0.06	0.69	0.08
Control Delay	38.5	10.6	17.5	8.3	39.6	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	10.6	17.5	8.3	39.6	4.2
Queue Length 50th (ft)	66	0	108	3	97	12
Queue Length 95th (ft)	133	82	200	24	179	27
Internal Link Dist (ft)	1089		1173			790
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	741	923	1506	691	522	2817
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.49	0.45	0.06	0.44	0.07

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	156	448	677	42	229	198
RTOR Reduction (vph)	0	379	0	18	0	0
Lane Group Flow (vph)	156	69	677	24	229	198
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.3	11.3	31.3	31.3	13.8	50.6
Effective Green, g (s)	11.3	11.3	31.3	31.3	13.8	50.6
Actuated g/C Ratio	0.15	0.15	0.43	0.43	0.19	0.69
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	272	244	1509	675	333	2440
v/s Ratio Prot	c0.09		c0.19		c0.13	0.06
v/s Ratio Perm		0.04		0.02		
v/c Ratio	0.57	0.28	0.45	0.04	0.69	0.08
Uniform Delay, d1	28.8	27.5	14.9	12.3	27.8	3.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.2	1.0	0.1	4.7	0.0
Delay (s)	30.6	27.7	15.9	12.4	32.4	3.8
Level of Service	C	C	B	B	C	A
Approach Delay (s)	28.5		15.7			19.1
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	36.0	36.0	66.0	66.0	18.0	84.0
Total Split (%)	30.0%	30.0%	55.0%	55.0%	15.0%	70.0%
Maximum Green (s)	30.5	30.5	60.0	60.0	12.5	78.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 111.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	665		412			515
Travel Time (s)	13.0		8.0			10.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	281	337	685	315	101	270
v/c Ratio	0.81	0.58	0.66	0.32	0.61	0.21
Control Delay	61.4	8.3	22.7	4.7	65.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	8.3	22.7	4.7	65.7	7.0
Queue Length 50th (ft)	194	0	327	21	70	60
Queue Length 95th (ft)	284	70	549	76	133	116
Internal Link Dist (ft)	585		332			435
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	485	679	1041	994	199	1307
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.50	0.66	0.32	0.51	0.21

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	281	337	685	315	101	270
RTOR Reduction (vph)	0	271	0	109	0	0
Lane Group Flow (vph)	281	66	685	206	101	270
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	21.8	21.8	62.3	62.3	10.4	78.2
Effective Green, g (s)	21.8	21.8	62.3	62.3	10.4	78.2
Actuated g/C Ratio	0.20	0.20	0.56	0.56	0.09	0.70
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	346	310	1041	884	165	1307
v/s Ratio Prot	c0.16		c0.37		c0.06	0.14
v/s Ratio Perm		0.04		0.13		
v/c Ratio	0.81	0.21	0.66	0.23	0.61	0.21
Uniform Delay, d1	42.9	37.6	17.2	12.5	48.6	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.8	0.1	1.2	0.0	4.7	0.4
Delay (s)	55.7	37.8	18.3	12.5	53.3	6.2
Level of Service	E	D	B	B	D	A
Approach Delay (s)	45.9		16.5			19.0
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	111.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	140	70	130	30	30	530
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	171	85	159	37	37	646
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	159				585	159
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159				585	159
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				91	27
cM capacity (veh/h)	1421				416	887

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	256	159	37	37	646
Volume Left	171	0	0	37	0
Volume Right	0	0	37	0	646
cSH	1421	1700	1700	416	887
Volume to Capacity	0.12	0.09	0.02	0.09	0.73
Queue Length 95th (ft)	10	0	0	7	165
Control Delay (s)	5.6	0.0	0.0	14.5	19.1
Lane LOS	A			B	C
Approach Delay (s)	5.6	0.0		18.9	
Approach LOS				C	

Intersection Summary				
Average Delay	12.6			
Intersection Capacity Utilization	46.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	40	40	20	100	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	15	60	60	30	149	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418	75			90	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418	75			90	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			90	
cM capacity (veh/h)	533	987			1506	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	75	90	194
Volume Left	15	0	149
Volume Right	60	30	0
cSH	843	1700	1506
Volume to Capacity	0.09	0.05	0.10
Queue Length 95th (ft)	7	0	8
Control Delay (s)	9.7	0.0	6.1
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	6.1
Approach LOS	A		

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	23.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	100	50	70	190	240	140
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	110	55	77	209	264	154
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			165		500	137
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			165		500	137
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		47	83
cM capacity (veh/h)			1413		501	911

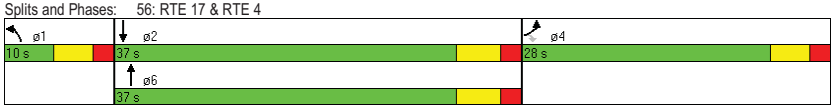
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	165	286	418
Volume Left	0	77	264
Volume Right	55	0	154
cSH	1700	1413	601
Volume to Capacity	0.10	0.05	0.69
Queue Length 95th (ft)	0	4	138
Control Delay (s)	0.0	2.4	23.5
Lane LOS		A	C
Approach Delay (s)	0.0	2.4	23.5
Approach LOS			C

Intersection Summary				
Average Delay			12.1	
Intersection Capacity Utilization			54.0%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	480	20	40	660	260
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	28.0	28.0	10.0	37.0	37.0
Total Split (%)	37.3%	37.3%	13.3%	49.3%	49.3%
Maximum Green (s)	22.5	22.5	4.5	31.0	31.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 71
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	480	20	40	660	260	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	456	
Travel Time (s)	16.3			14.6	8.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	615	26	51	846	641	0
v/c Ratio	1.09	0.05	0.45	1.03	0.79	
Control Delay	92.7	8.3	47.5	64.8	25.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	92.7	8.3	47.5	64.8	25.4	
Queue Length 50th (ft)	~345	0	24	~455	231	
Queue Length 95th (ft)	#429	13	49	#526	288	
Internal Link Dist (ft)	758			671	376	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	564	522	113	818	807	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.09	0.05	0.45	1.03	0.79	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	480	20	40	660	260	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1742	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1742	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	615	26	51	846	333	308
RTOR Reduction (vph)	0	18	0	0	44	0
Lane Group Flow (vph)	615	8	51	846	597	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	22.6	22.6	2.6	31.2	31.2	
Effective Green, g (s)	22.6	22.6	2.6	31.2	31.2	
Actuated g/C Ratio	0.31	0.31	0.04	0.43	0.43	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	545	487	63	792	740	
v/s Ratio Prot	c0.35		c0.03	c0.45	0.34	
v/s Ratio Perm		0.01				
v/c Ratio	1.13	0.02	0.81	1.07	0.81	
Uniform Delay, d1	25.4	17.7	35.2	21.1	18.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	79.0	0.0	49.3	51.8	6.1	
Delay (s)	104.4	17.7	84.5	72.9	24.6	
Level of Service	F	B	F	E	C	
Approach Delay (s)	100.9			73.5	24.6	
Approach LOS	F			E	C	

Intersection Summary			
HCM Average Control Delay	67.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	100	280	90	80	140	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	119	333	107	95	167	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	202				726	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202				726	155
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				53	95
cM capacity (veh/h)	1369				357	891

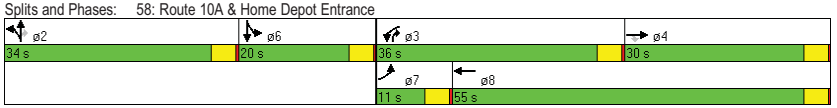
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	452	202	214
Volume Left	119	0	167
Volume Right	0	95	48
cSH	1369	1700	412
Volume to Capacity	0.09	0.12	0.52
Queue Length 95th (ft)	7	0	73
Control Delay (s)	2.7	0.0	22.8
Lane LOS	A		C
Approach Delay (s)	2.7	0.0	22.8
Approach LOS			C

Intersection Summary				
Average Delay		7.0		
Intersection Capacity Utilization		50.1%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	350	250	750	1260	700	40	380	20	10
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	11.0	30.0	30.0	36.0	55.0	34.0	34.0	36.0	20.0	20.0
Total Split (%)	9.2%	25.0%	25.0%	30.0%	45.8%	28.3%	28.3%	30.0%	16.7%	16.7%
Maximum Green (s)	7.0	26.0	26.0	32.0	51.0	30.0	30.0	32.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 102.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	350	250	750	1260	70	700	40	380	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1896			1155			624			394	
Travel Time (s)		43.1			22.5			12.2			9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	380	272	815	1446	0	761	43	413	22	65	0
v/c Ratio	0.71	0.42	0.55	0.84	0.88		0.84	0.09	0.39	0.20	0.43	
Control Delay	80.8	35.7	25.5	45.2	33.1		46.2	31.3	1.9	53.7	27.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	80.8	35.7	25.5	45.2	33.1		46.2	31.3	1.9	53.7	27.0	
Queue Length 50th (ft)	62	120	96	276	472		258	23	2	15	8	
Queue Length 95th (ft)	#154	175	193	#367	#660		#348	53	29	42	51	
Internal Link Dist (ft)		1816			1075			544			314	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	123	943	506	1095	1787		1026	557	1104	282	305	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.71	0.40	0.54	0.74	0.81		0.74	0.08	0.37	0.08	0.21	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	350	250	750	1260	70	700	40	380	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3511		3433	1863	1583	1770	1631	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3511		3433	1863	1583	1770	1631	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	380	272	815	1370	76	761	43	413	22	11	54
RTOR Reduction (vph)	0	0	86	0	3	0	0	0	185	0	51	0
Lane Group Flow (vph)	87	380	186	815	1443	0	761	43	228	22	14	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	7.2	26.5	26.5	28.9	48.2		27.2	27.2	56.1	5.0	5.0	
Effective Green, g (s)	7.2	26.5	26.5	28.9	48.2		27.2	27.2	56.1	5.0	5.0	
Actuated g/C Ratio	0.07	0.26	0.26	0.28	0.47		0.26	0.26	0.54	0.05	0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	123	905	405	958	1633		901	489	857	85	79	
v/s Ratio Prot	0.05	0.11		c0.24	c0.41		c0.22	0.02	0.07	c0.01	0.01	
v/s Ratio Perm			0.12						0.07			
v/c Ratio	0.71	0.42	0.46	0.85	0.88		0.84	0.09	0.27	0.26	0.17	
Uniform Delay, d1	47.2	32.1	32.5	35.3	25.2		36.2	28.8	12.7	47.5	47.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.1	0.1	0.3	7.1	5.9		7.0	0.0	0.1	0.6	0.4	
Delay (s)	61.2	32.3	32.8	42.4	31.0		43.2	28.9	12.8	48.1	47.7	
Level of Service	E	C	C	D	C		D	C	B	D	D	
Approach Delay (s)		35.9			35.1			32.4			47.8	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	103.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

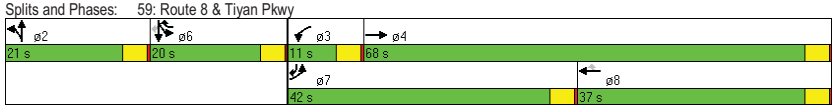
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	750	530	40	1010	480	110	90	120	50	890
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	42.0	68.0	11.0	37.0	20.0	21.0	21.0	20.0	20.0	42.0
Total Split (%)	35.0%	56.7%	9.2%	30.8%	16.7%	17.5%	17.5%	16.7%	16.7%	35.0%
Maximum Green (s)	38.0	64.0	7.0	33.0	16.0	17.0	17.0	16.0	16.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 111
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	750	530	70	40	1010	480	110	90	40	120	50	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2308			2965			532			1075	
Travel Time (s)		45.0			57.8			12.1			20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										30%		
Lane Group Flow (vph)	815	652	0	43	1098	522	120	141	0	91	93	967
v/c Ratio	0.69	0.30		0.43	1.04	0.70	0.62	0.68		0.52	0.51	1.16
Control Delay	36.1	11.8		66.3	77.4	16.1	62.5	60.0		58.3	57.9	111.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	36.1	11.8		66.3	77.4	16.1	62.5	60.0		58.3	57.9	111.1
Queue Length 50th (ft)	258	117		30	~450	135	83	88		65	67	~774
Queue Length 95th (ft)	365	183		72	#653	217	149	160		126	128	#1092
Internal Link Dist (ft)		2228			2885			452			995	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1180	2170		112	1057	798	272	286		243	251	833
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.69	0.30		0.38	1.04	0.65	0.44	0.49		0.37	0.37	1.16

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

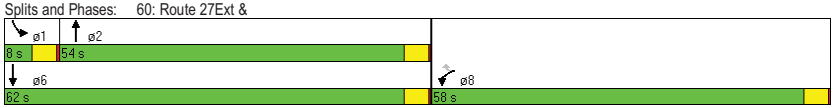
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	750	530	70	40	1010	480	110	90	40	120	50	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	3433	3477		1770	3539	1583	1770	1778		1681	1733	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (perm)	3433	3477		1770	3539	1583	1770	1778		1681	1733	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	815	576	76	43	1098	522	120	98	43	130	54	967
RTOR Reduction (vph)	0	7	0	0	0	101	0	13	0	0	0	71
Lane Group Flow (vph)	815	645	0	43	1098	421	120	128	0	91	93	896
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	38.2	69.0		4.0	34.8	46.4	12.0	12.0		11.6	11.6	49.8
Effective Green, g (s)	38.2	69.0		4.0	34.8	46.4	12.0	12.0		11.6	11.6	49.8
Actuated g/C Ratio	0.34	0.61		0.04	0.31	0.41	0.11	0.11		0.10	0.10	0.44
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1165	2131		63	1094	652	189	189		173	179	756
v/s Ratio Prot	0.24	0.19		0.02	c0.31	0.07	0.07	c0.07		0.05	0.05	c0.40
v/s Ratio Perm						0.20						0.16
v/c Ratio	0.70	0.30		0.68	1.00	0.65	0.63	0.68		0.53	0.52	1.19
Uniform Delay, d1	32.2	10.4		53.7	38.9	26.5	48.2	48.4		47.9	47.9	31.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0		21.6	28.1	1.7	5.0	7.3		1.3	1.1	96.6
Delay (s)	33.7	10.4		75.2	67.0	28.2	53.2	55.7		49.2	48.9	128.0
Level of Service	C	B		E	E	C	D	E		D	D	F
Approach Delay (s)		23.4			55.0			54.6			115.4	
Approach LOS		C			E			D			F	

Intersection Summary				
HCM Average Control Delay	60.1	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	112.6	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	100.2%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	610	470	560	10	2040
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	58.0	58.0	54.0	8.0	62.0
Total Split (%)	48.3%	48.3%	45.0%	6.7%	51.7%
Maximum Green (s)	54.0	54.0	50.0	4.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext &



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	610	470	560	580	10	2040
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1271		1087			986
Travel Time (s)	28.9		21.2			19.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	663	511	1239	0	11	2217
v/c Ratio	0.91	0.65	0.50		0.17	0.84
Control Delay	30.6	15.7	17.6		63.5	13.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.6	15.7	17.6		63.5	13.3
Queue Length 50th (ft)	293	144	136		9	507
Queue Length 95th (ft)	m136	m62	m149		m8	m531
Internal Link Dist (ft)	1191		1007			906
Turn Bay Length (ft)					300	
Base Capacity (vph)	797	838	2500		65	2630
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.83	0.61	0.50		0.17	0.84

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	610	470	560	580	10	2040
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.92		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4652		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4652		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	663	511	609	630	11	2217
RTOR Reduction (vph)	0	135	139	0	0	0
Lane Group Flow (vph)	663	376	1100	0	11	2217
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	49.3	49.3	57.9		0.8	62.7
Effective Green, g (s)	49.3	49.3	57.9		0.8	62.7
Actuated g/C Ratio	0.41	0.41	0.48		0.01	0.52
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	727	650	2245		12	2631
v/s Ratio Prot	c0.37		0.24		0.01	c0.44
v/s Ratio Perm		0.24				
v/c Ratio	0.91	0.58	0.49		0.92	0.84
Uniform Delay, d1	33.3	27.3	21.0		59.6	24.4
Progression Factor	0.85	1.07	1.09		1.10	0.47
Incremental Delay, d2	1.8	0.1	0.6		91.8	0.8
Delay (s)	30.3	29.3	23.4		157.1	12.4
Level of Service	C	C	C		F	B
Approach Delay (s)	29.8		23.4			13.1
Approach LOS	C		C			B

Intersection Summary				
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

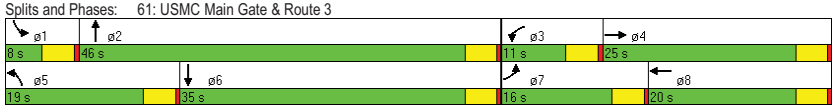
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	220	5	50	10	280	380	10	470
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	16.0	25.0	11.0	20.0	19.0	46.0	8.0	35.0
Total Split (%)	17.8%	27.8%	12.2%	22.2%	21.1%	51.1%	8.9%	38.9%
Maximum Green (s)	12.0	21.0	7.0	16.0	15.0	42.0	4.0	31.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 76
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	5	120	50	10	20	280	380	10	10	470	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	135	0	54	33	0	304	424	0	11	718	0
v/c Ratio	0.86	0.39		0.38	0.24		0.87	0.36		0.12	0.96	
Control Delay	63.0	10.5		42.2	23.9		57.1	8.9		39.5	49.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	63.0	10.5		42.2	23.9		57.1	8.9		39.5	49.8	
Queue Length 50th (ft)	117	2		26	5		148	88		5	~340	
Queue Length 95th (ft)	#255	50		62	31		#303	196		21	#600	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	278	532		164	372		351	1190		94	745	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.86	0.25		0.33	0.09		0.87	0.36		0.12	0.96	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	5	120	50	10	20	280	380	10	10	470	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.90		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1578		1770	1676		1770	1855		1770	1782	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	1578		1770	1676		1770	1855		1770	1782	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	5	130	54	11	22	304	413	11	11	511	207
RTOR Reduction (vph)	0	112	0	0	21	0	0	1	0	0	14	0
Lane Group Flow (vph)	239	23	0	54	12	0	304	423	0	11	704	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.1	11.5		4.0	3.4		15.1	48.7		0.7	34.3	
Effective Green, g (s)	12.1	11.5		4.0	3.4		15.1	48.7		0.7	34.3	
Actuated g/C Ratio	0.15	0.14		0.05	0.04		0.19	0.60		0.01	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	262	224		88	70		330	1117		15	756	
v/s Ratio Prot	c0.14	c0.01		0.03	0.01		c0.17	0.23		0.01	c0.39	
v/s Ratio Perm												
v/c Ratio	0.91	0.10		0.61	0.17		0.92	0.38		0.73	0.93	
Uniform Delay, d1	33.9	30.2		37.7	37.4		32.3	8.3		40.0	22.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	32.7	0.1		8.6	0.4		29.7	0.1		93.0	17.8	
Delay (s)	66.6	30.3		46.3	37.8		62.0	8.4		133.0	40.0	
Level of Service	E	C		D	D		E	A		F	D	
Approach Delay (s)		53.5			43.1			30.8			41.4	
Approach LOS		D			D			C			D	

Intersection Summary				
HCM Average Control Delay	39.8	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	80.9	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	80.7%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	80	100	80	630	910
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	9.0	70.0	61.0
Total Split (%)	22.2%	22.2%	10.0%	77.8%	67.8%
Maximum Green (s)	16.0	16.0	5.0	66.0	57.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 77.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	80	100	80	630	910	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	2%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	109	87	685	1087	0
v/c Ratio	0.47	0.41	0.76	0.47	0.88	
Control Delay	42.3	12.5	78.2	4.2	21.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.3	12.5	78.2	4.2	21.2	
Queue Length 50th (ft)	43	0	45	80	357	
Queue Length 95th (ft)	88	45	#133	164	#785	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	355	404	115	1604	1371	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.27	0.76	0.43	0.79	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	80	100	80	630	910	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1703	1524	1770	1863	1840	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1703	1524	1770	1863	1840	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	109	87	685	989	98
RTOR Reduction (vph)	0	97	0	0	4	0
Lane Group Flow (vph)	87	12	87	685	1083	0
Heavy Vehicles (%)	6%	6%	2%	2%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.4	8.4	5.1	61.0	51.9	
Effective Green, g (s)	8.4	8.4	5.1	61.0	51.9	
Actuated g/C Ratio	0.11	0.11	0.07	0.79	0.67	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	185	165	117	1468	1234	
v/s Ratio Prot	c0.05		c0.05	0.37	c0.59	
v/s Ratio Perm		0.01				
v/c Ratio	0.47	0.07	0.74	0.47	0.88	
Uniform Delay, d1	32.4	31.0	35.5	2.7	10.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.1	19.8	0.1	7.1	
Delay (s)	33.1	31.1	55.3	2.8	17.3	
Level of Service	C	C	E	A	B	
Approach Delay (s)	32.0			8.7	17.3	
Approach LOS	C			A	B	

Intersection Summary				
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	180	350	420	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	196	380	457	5	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	462				1231	459
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	462				1231	459
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				97	99
cM capacity (veh/h)	1094				161	602

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	196	380	462	11
Volume Left	196	0	0	5
Volume Right	0	0	5	5
cSH	1094	1700	1700	322
Volume to Capacity	0.18	0.22	0.27	0.03
Queue Length 95th (ft)	16	0	0	3
Control Delay (s)	9.0	0.0	0.0	19.6
Lane LOS	A			C
Approach Delay (s)	3.1		0.0	19.6
Approach LOS				C

Intersection Summary				
Average Delay			1.9	
Intersection Capacity Utilization			45.7%	ICU Level of Service A
Analysis Period (min)			15	

INTERSECTION ANALYSIS

Synchro Output

Year 2030 Finegayan Cantonment/Housing (Alternative A) Conditions

Weekday p.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	520	660	10	10	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	578	733	11	11	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	744				1339	739
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	744				1339	739
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				93	89
cM capacity (veh/h)	863				166	417

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	11	578	744	56
Volume Left	11	0	0	11
Volume Right	0	0	11	44
cSH	863	1700	1700	321
Volume to Capacity	0.01	0.34	0.44	0.17
Queue Length 95th (ft)	1	0	0	15
Control Delay (s)	9.2	0.0	0.0	18.6
Lane LOS	A			C
Approach Delay (s)	0.2		0.0	18.6
Approach LOS				C

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	45.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	360	120	50	540	80	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	400	133	56	600	89	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			533		1178	467
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			533		1178	467
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			94		55	96
cM capacity (veh/h)			1005		199	596

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	533	656	111
Volume Left	0	56	89
Volume Right	133	0	22
cSH	1700	1005	230
Volume to Capacity	0.31	0.06	0.48
Queue Length 95th (ft)	0	4	60
Control Delay (s)	0.0	1.4	34.5
Lane LOS		A	D
Approach Delay (s)	0.0	1.4	34.5
Approach LOS			D

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	73.1%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	380	560	10	60	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	422	622	11	67	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	633				1072	628
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	633				1072	628
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				72	98
cM capacity (veh/h)	950				241	483

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	433	633	78
Volume Left	11	0	67
Volume Right	0	11	11
cSH	950	1700	260
Volume to Capacity	0.01	0.37	0.30
Queue Length 95th (ft)	1	0	30
Control Delay (s)	0.4	0.0	24.7
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	24.7
Approach LOS			C

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	40.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	60	600	710	10	5	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	68	682	807	11	6	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		653				
pX, platoon unblocked					0.88	
vC, conflicting volume	818				1631	812
vC1, stage 1 conf vol					812	
vC2, stage 2 conf vol					818	
vCu, unblocked vol	818				1648	812
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	92				98	97
cM capacity (veh/h)	810				295	379

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	68	682	818	17
Volume Left	68	0	0	6
Volume Right	0	0	11	11
cSH	810	1700	1700	568
Volume to Capacity	0.08	0.40	0.48	0.03
Queue Length 95th (ft)	7	0	0	2
Control Delay (s)	9.9	0.0	0.0	15.7
Lane LOS	A			C
Approach Delay (s)	0.9		0.0	15.7
Approach LOS				C

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	54.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	300	730	560	170	600
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	27.5	68.5	68.5	24.0	92.5
Total Split (%)	22.9%	57.1%	57.1%	20.0%	77.1%
Maximum Green (s)	22.0	62.5	62.5	18.5	86.5
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 117.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	130	730	560	170	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	467	0	793	609	185	652
v/c Ratio	0.79		0.78	0.55	0.75	0.25
Control Delay	51.8		28.8	4.7	67.8	5.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	51.8		28.8	4.7	67.8	5.5
Queue Length 50th (ft)	157		479	29	135	76
Queue Length 95th (ft)	217		689	108	#222	102
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	667		1016	1101	279	2608
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.70		0.78	0.55	0.66	0.25

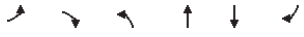
Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	130	730	560	170	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.95		1.00	0.85	1.00	1.00
Flt Protected	0.97		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3334		1845	1568	1770	3539
Flt Permitted	0.97		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3334		1845	1568	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	141	793	609	185	652
RTOR Reduction (vph)	43	0	0	238	0	0
Lane Group Flow (vph)	424	0	793	371	185	652
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	19.4		64.7	64.7	16.4	86.6
Effective Green, g (s)	19.4		64.7	64.7	16.4	86.6
Actuated g/C Ratio	0.17		0.55	0.55	0.14	0.74
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	550		1016	863	247	2608
v/s Ratio Prot	c0.13		c0.43		c0.10	0.18
v/s Ratio Perm				0.24		
v/c Ratio	0.77		0.78	0.43	0.75	0.25
Uniform Delay, d1	46.9		20.8	15.5	48.6	5.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	6.8		5.9	1.6	12.1	0.2
Delay (s)	53.7		26.7	17.1	60.7	5.2
Level of Service	D		C	B	E	A
Approach Delay (s)	53.7		22.6			17.5
Approach LOS	D		C			B

Intersection Summary				
HCM Average Control Delay	26.4	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	117.5	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	74.7%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	10	10	1360	950	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	10	10	10	1417	990	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1724	500	1000			
vC1, stage 1 conf vol	995					
vC2, stage 2 conf vol	729					
vCu, unblocked vol	1724	500	1000			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	98	98			
cM capacity (veh/h)	260	516	688			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	21	10	708	708	660	340
Volume Left	10	10	0	0	0	0
Volume Right	10	0	0	0	0	10
cSH	346	688	1700	1700	1700	1700
Volume to Capacity	0.06	0.02	0.42	0.42	0.39	0.20
Queue Length 95th (ft)	5	1	0	0	0	0
Control Delay (s)	16.1	10.3	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	16.1	0.1			0.0	
Approach LOS	C					

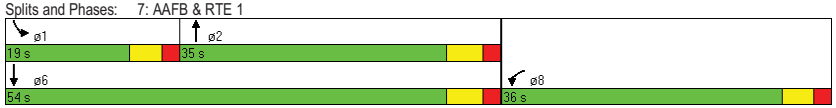
Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	47.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	640	170	260	230	100	220
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	36.0	0.0	35.0	0.0	19.0	54.0
Total Split (%)	40.0%	0.0%	38.9%	0.0%	21.1%	60.0%
Maximum Green (s)	30.5		29.0		13.5	48.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 59.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	640	170	260	230	100	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	753	200	306	271	118	259
v/c Ratio	0.72	0.13	0.62	0.18	0.38	0.29
Control Delay	24.1	0.2	27.5	0.3	31.3	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.1	0.2	27.5	0.3	31.3	10.4
Queue Length 50th (ft)	121	0	97	0	39	49
Queue Length 95th (ft)	218	0	202	0	102	106
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	1995	1583	954	1468	455	1490
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.13	0.32	0.18	0.26	0.17

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	640	170	260	230	100	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1727	1468	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1727	1468	1770	1863
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	753	200	306	271	118	259
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	753	200	306	271	118	259
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	18.0	59.1	16.8	59.1	7.3	29.6
Effective Green, g (s)	18.0	59.1	16.8	59.1	7.3	29.6
Actuated g/C Ratio	0.30	1.00	0.28	1.00	0.12	0.50
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1046	1583	491	1468	219	933
v/s Ratio Prot	c0.22		c0.18		c0.07	0.14
v/s Ratio Perm		0.13		0.18		
v/c Ratio	0.72	0.13	0.62	0.18	0.54	0.28
Uniform Delay, d1	18.3	0.0	18.4	0.0	24.3	8.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.2	1.8	0.3	1.3	0.1
Delay (s)	20.3	0.2	20.2	0.3	25.6	8.6
Level of Service	C	A	C	A	C	A
Approach Delay (s)	16.1		10.8			13.9
Approach LOS	B		B			B

Intersection Summary				
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	310	10	10	980	60	1070
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	60	1070	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Shared Lane Traffic (%)				32%								
Lane Group Flow (vph)	0	66	0	232	219	0	11	1440	0	66	1187	0
v/c Ratio		0.54		0.84	0.76		0.15	0.74		0.57	0.53	
Control Delay		51.6		77.4	61.2		72.3	15.0		77.1	16.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		77.4	61.2		72.3	15.0		77.1	16.5	
Queue Length 50th (ft)		30		200	162		9	153		55	258	
Queue Length 95th (ft)		78		292	249		m16	204		104	449	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	345		92	1935		137	2234	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.69	0.63		0.12	0.74		0.48	0.53	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	60	1070	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.93		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1610		1703	3277		1752	3500	
Flt Permitted		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1610		1703	3277		1752	3500	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	341	11	99	11	1077	363	66	1176	11
RTOR Reduction (vph)	0	29	0	0	24	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	37	0	232	195	0	11	1418	0	66	1187	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Effective Green, g (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.57		0.06	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		277	265		34	1863		102	2124	
v/s Ratio Prot		c0.02		c0.14	0.12		0.01	c0.43		c0.04	c0.34	
v/s Ratio Perm												
v/c Ratio		0.46		0.84	0.73		0.32	0.76		0.65	0.56	
Uniform Delay, d1		60.4		52.6	51.6		62.8	21.3		59.9	15.2	
Progression Factor		1.00		1.00	1.00		1.16	0.56		1.00	1.00	
Incremental Delay, d2		1.5		18.5	8.8		1.6	2.4		10.1	1.1	
Delay (s)		61.9		71.2	60.4		74.2	14.3		70.0	16.3	
Level of Service		E		E	E		E	B		E	B	
Approach Delay (s)		61.9			65.9			14.7			19.1	
Approach LOS		E			E			B			B	

Intersection Summary					
HCM Average Control Delay	24.6	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.79				
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		27.0	
Intersection Capacity Utilization	73.4%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	50	40	20	20	10	50	150	30	10	270	140
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	53	42	21	21	11	53	158	32	11	284	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	679	674	358	726	732	174	432			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	679	674	358	726	732	174	432			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	85	94	92	94	99	95			99		
cM capacity (veh/h)	329	356	686	271	330	870	1123			1378		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	53	242	442
Volume Left	147	21	53	11
Volume Right	42	11	32	147
cSH	369	343	1123	1378
Volume to Capacity	0.66	0.15	0.05	0.01
Queue Length 95th (ft)	112	13	4	1
Control Delay (s)	31.6	17.4	2.2	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	31.6	17.4	2.2	0.3
Approach LOS	D	C		

Intersection Summary					
Average Delay			9.4		
Intersection Capacity Utilization			63.7%	ICU Level of Service	B
Analysis Period (min)			15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	180	160	1190	130	1170
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	160	1190	180	130	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	5%	5%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	167	1428	0	135	1219
v/c Ratio	0.76	0.48	0.67		0.72	0.45
Control Delay	72.9	13.9	6.3		84.2	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	72.9	13.9	6.3		84.2	4.4
Queue Length 50th (ft)	155	11	54		96	73
Queue Length 95th (ft)	225	74	m277		m175	106
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	337	424	2128		243	2716
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.56	0.39	0.67		0.56	0.45

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	160	1190	180	130	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3370		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3370		1752	3505
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	167	1240	188	135	1219
RTOR Reduction (vph)	0	131	7	0	0	0
Lane Group Flow (vph)	188	36	1421	0	135	1219
Heavy Vehicles (%)	3%	3%	5%	5%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	18.3	18.3	81.8		13.9	100.7
Effective Green, g (s)	18.3	18.3	81.8		13.9	100.7
Actuated g/C Ratio	0.14	0.14	0.63		0.11	0.77
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	247	221	2121		187	2715
v/s Ratio Prot	c0.11		c0.42		c0.08	0.35
v/s Ratio Perm		0.02				
v/c Ratio	0.76	0.16	0.67		0.72	0.45
Uniform Delay, d1	53.7	49.1	15.4		56.2	5.1
Progression Factor	1.00	1.00	0.29		1.19	0.71
Incremental Delay, d2	11.7	0.1	1.3		9.3	0.5
Delay (s)	65.5	49.3	5.9		76.3	4.0
Level of Service	E	D	A		E	A
Approach Delay (s)	57.8		5.9			11.2
Approach LOS	E		A			B

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	140	120	210	270	270	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	130	228	293	293	109
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1098	348	402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1098	348	402			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	19	81	80			
cM capacity (veh/h)	188	693	1151			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	283	522	402
Volume Left	152	228	0
Volume Right	130	0	109
cSH	283	1151	1700
Volume to Capacity	1.00	0.20	0.24
Queue Length 95th (ft)	256	18	0
Control Delay (s)	92.7	5.1	0.0
Lane LOS	F	A	
Approach Delay (s)	92.7	5.1	0.0
Approach LOS	F		

Intersection Summary				
Average Delay		23.9		
Intersection Capacity Utilization		71.2%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1250	1230	850	160	850	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1250	1230	0	850	170	160	850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1316	1295	0	1074	0	168	895
v/c Ratio	1.52	0.33		0.90		0.69	0.77
Control Delay	257.1	3.8		34.9		67.3	8.2
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	257.1	3.8		34.9		67.3	8.2
Queue Length 50th (ft)	~1590	79		97		136	0
Queue Length 95th (ft)	m#1482	m109		#420		206	60
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	863	3876		1195		313	1230
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.52	0.33		0.90		0.54	0.73

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1250	1230	0	850	170	160	850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.97		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4910		1770	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4910		1770	2787
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1316	1295	0	895	179	168	895
RTOR Reduction (vph)	0	0	0	22	0	0	772
Lane Group Flow (vph)	1316	1295	0	1052	0	168	123
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	100.1		31.1		17.9	17.9
Effective Green, g (s)	64.0	100.1		31.1		17.9	17.9
Actuated g/C Ratio	0.49	0.77		0.24		0.14	0.14
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	863	3878		1175		244	384
v/s Ratio Prot	c0.75	0.26		c0.21		c0.09	
v/s Ratio Perm							0.04
v/c Ratio	1.52	0.33		0.90		0.69	0.32
Uniform Delay, d1	33.0	4.6		47.9		53.4	50.6
Progression Factor	0.48	0.75		0.48		1.00	1.00
Incremental Delay, d2	236.8	0.0		9.9		6.3	0.2
Delay (s)	252.7	3.5		32.8		59.7	50.7
Level of Service	F	A		C		E	D
Approach Delay (s)		129.1		32.8		52.2	
Approach LOS		F		C		D	

Intersection Summary

HCM Average Control Delay	90.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		

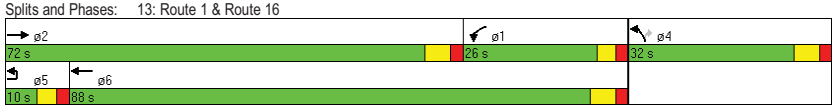
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1850	320	1440	560	540
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1850	680	320	1440	560	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2635	0	333	1500	583	562
v/c Ratio	0.14	1.06		1.18	0.43	0.86	1.06
Control Delay	56.9	61.5		132.3	5.2	34.9	61.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	56.9	61.5		132.3	5.2	34.9	61.9
Queue Length 50th (ft)	8	~870		~340	75	204	~242
Queue Length 95th (ft)	m11	m#906		m#459	146	m235	m#397
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2496		283	3487	680	528
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.06		1.18	0.43	0.86	1.06

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1850	680	320	1440	560	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4815		1752	5036	3400	1544
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4815		1752	5036	3400	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1927	708	333	1500	583	562
RTOR Reduction (vph)	0	54	0	0	0	0	219
Lane Group Flow (vph)	10	2581	0	333	1500	583	343
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	62.0		25.0	86.0	26.0	26.0
Effective Green, g (s)	1.0	62.0		25.0	86.0	26.0	26.0
Actuated g/C Ratio	0.01	0.48		0.19	0.66	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2296		337	3332	680	309
v/s Ratio Prot	0.01	c0.54		c0.19	0.30	0.17	
v/s Ratio Perm							c0.22
v/c Ratio	0.71	1.12		0.99	0.45	0.86	1.11
Uniform Delay, d1	64.4	34.0		52.4	10.6	50.2	52.0
Progression Factor	0.90	1.00		0.63	0.54	0.54	0.48
Incremental Delay, d2	56.2	59.5		33.9	0.3	5.3	69.7
Delay (s)	113.9	93.4		66.7	6.0	32.4	94.5
Level of Service	F	F		E	A	C	F
Approach Delay (s)		93.5			17.0	62.9	
Approach LOS		F			B	E	

Intersection Summary				
HCM Average Control Delay	62.3	HCM Level of Service		E
HCM Volume to Capacity ratio	1.09			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		17.0
Intersection Capacity Utilization	99.2%	ICU Level of Service		F
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	830	190	260	2020	30	1330
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	830	190	260	2020	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	922	211	289	2244	33	2289	0
v/c Ratio	1.06	0.41	1.02	0.72	0.49	1.01	
Control Delay	93.5	15.5	87.5	18.6	93.6	47.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	93.5	15.5	87.5	18.6	93.6	47.3	
Queue Length 50th (ft)	~438	42	~266	368	26	~718	
Queue Length 95th (ft)	#569	114	m#269	m369	m56	#783	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	512	283	3099	69	2277	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.06	0.41	1.02	0.72	0.48	1.01	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	830	190	260	2020	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4768	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4768	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	922	211	289	2244	33	1478	811
RTOR Reduction (vph)	0	110	0	0	0	76	0
Lane Group Flow (vph)	922	101	289	2244	33	2213	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Effective Green, g (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Actuated g/C Ratio	0.25	0.25	0.16	0.60	0.02	0.46	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	283	3022	42	2201	
v/s Ratio Prot	c0.27		c0.16	0.45	0.02	c0.46	
v/s Ratio Perm		0.06					
v/c Ratio	1.06	0.25	1.02	0.74	0.79	1.01	
Uniform Delay, d1	48.5	38.6	54.5	18.8	63.2	35.0	
Progression Factor	1.00	1.00	1.06	1.00	1.18	0.85	
Incremental Delay, d2	47.2	0.1	31.3	0.4	53.5	19.4	
Delay (s)	95.7	38.8	89.2	19.1	128.4	49.1	
Level of Service	F	D	F	B	F	D	
Approach Delay (s)	85.1			27.1		50.2	
Approach LOS	F			C		D	

Intersection Summary

HCM Average Control Delay	47.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	380	180	1110	300	880
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1110	650	300	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	194	1893	0	323	946
v/c Ratio	0.88	0.35	0.94		0.89	0.29
Control Delay	47.2	2.8	16.6		52.1	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	47.2	2.8	16.6		52.1	2.9
Queue Length 50th (ft)	327	16	176		269	48
Queue Length 95th (ft)	m#478	m3	m171		m266	m45
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	557	2021		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.88	0.35	0.94		0.89	0.29

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1110	650	300	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.94		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4757		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4757		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	409	194	1194	699	323	946
RTOR Reduction (vph)	0	143	81	0	0	0
Lane Group Flow (vph)	409	51	1812	0	323	946
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1939		364	3293
v/s Ratio Prot	c0.23	0.03	c0.38		c0.18	0.19
v/s Ratio Perm						
v/c Ratio	0.88	0.12	0.93		0.89	0.29
Uniform Delay, d1	46.1	36.6	36.8		50.0	9.6
Progression Factor	0.61	0.27	0.35		0.76	0.29
Incremental Delay, d2	17.7	0.5	4.0		10.6	0.1
Delay (s)	45.9	10.5	16.9		48.6	2.9
Level of Service	D	B	B		D	A
Approach Delay (s)	34.5		16.9			14.5
Approach LOS	C		B			B

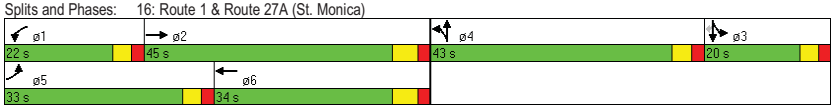
Intersection Summary				
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	300	930	180	680	100	200	20	170	150
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	930	90	180	680	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	316	1074	0	189	727	0	105	411	0	21	179	158
v/c Ratio	0.91	0.60		0.87	0.51		0.24	0.90		0.11	0.87	0.50
Control Delay	97.4	25.2		91.2	30.2		44.7	59.3		53.0	92.7	13.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	97.4	25.2		91.2	30.2		44.7	59.3		53.0	92.7	13.7
Queue Length 50th (ft)	258	138		160	203		61	222		16	150	0
Queue Length 95th (ft)	#394	174		#281	268		m60	m218		43	#278	65
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1776		229	1412		517	531		204	215	322
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.84	0.60		0.83	0.51		0.20	0.77		0.10	0.83	0.49

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	930	90	180	680	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4969		1752	5024		1770	1727		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4969		1752	5024		1770	1727		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	979	95	189	716	11	105	211	200	21	179	158
RTOR Reduction (vph)	0	8	0	0	1	0	0	28	0	0	0	140
Lane Group Flow (vph)	316	1066	0	189	726	0	105	383	0	21	179	18
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Effective Green, g (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Actuated g/C Ratio	0.20	0.36		0.12	0.28		0.25	0.25		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	349	1766		217	1407		440	429		196	206	175
v/s Ratio Prot	c0.18	c0.21		0.11	0.14		0.06	c0.22		0.01	c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.91	0.60		0.87	0.52		0.24	0.89		0.11	0.87	0.10
Uniform Delay, d1	50.9	34.4		55.9	39.4		39.0	47.2		52.0	56.9	52.0
Progression Factor	1.37	0.67		1.03	0.70		1.17	1.14		1.00	1.00	1.00
Incremental Delay, d2	24.5	1.5		27.5	1.3		0.0	8.9		0.1	29.0	0.1
Delay (s)	94.3	24.4		85.2	28.9		45.9	62.9		52.1	85.9	52.1
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		40.3			40.5			59.4			69.0	
Approach LOS		D			D			E			E	

Intersection Summary

HCM Average Control Delay	46.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

17: Route 27A & Route 28

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	80	220	40	70	20	20	340	30	20	310	330
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	117	104	286	52	91	26	26	442	39	26	403	429

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	117	390	169	26	481	429	429
Volume Left (vph)	117	0	52	26	0	26	0
Volume Right (vph)	0	286	26	0	39	0	429
Hadj (s)	0.53	-0.48	0.00	0.53	-0.02	0.06	-0.67
Departure Headway (s)	9.1	8.1	9.4	9.3	8.7	8.4	7.6
Degree Utilization, x	0.29	0.87	0.44	0.07	1.16	0.99	0.91
Capacity (veh/h)	390	439	352	382	429	429	460
Control Delay (s)	14.6	44.4	19.6	11.7	123.2	70.0	48.2
Approach Delay (s)	37.6		19.6	117.4		59.1	
Approach LOS	E		C	F		F	

Intersection Summary					
Delay		65.0			
HCM Level of Service		F			
Intersection Capacity Utilization		67.6%	ICU Level of Service		C
Analysis Period (min)		15			

18: Route 1 & Route 27

Phasings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	100	1090	490	760	140	340	1090	110	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1090	70	490	760	30	140	340	1090	50	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	1234	0	521	841	0	149	362	1160	0	170	43
v/c Ratio	0.67	1.00		1.02	0.37		0.44	1.01	0.88		0.92	0.24
Control Delay	88.2	53.6		105.6	20.1		39.5	62.0	9.2		106.9	34.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	88.2	53.6		105.6	20.1		39.5	62.0	9.2		106.9	34.3
Queue Length 50th (ft)	94	~378		~423	98		109	~308	155		144	16
Queue Length 95th (ft)	m151	#490		m#625	m117		m78	m206	m54		#286	54
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1233		512	2246		340	358	1316		184	179
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.52	1.00		1.02	0.37		0.44	1.01	0.88		0.92	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1090	70	490	760	30	140	340	1090	50	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (prot)	1752	4986		1752	5007		1770	1863	2745		1834	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (perm)	1752	4986		1752	5007		1770	1863	2745		1834	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1160	74	521	809	32	149	362	1160	53	117	43
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	788	0	0	21
Lane Group Flow (vph)	106	1229	0	521	838	0	149	362	372	0	170	22
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Effective Green, g (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Actuated g/C Ratio	0.09	0.25		0.29	0.45		0.19	0.19	0.19		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	159	1227		512	2242		340	358	528		183	158
v/s Ratio Prot	0.06	c0.25		c0.30	0.17		0.08	c0.19			c0.09	
v/s Ratio Perm									0.14			0.01
v/c Ratio	0.67	1.00		1.02	0.37		0.44	1.01	0.70		0.93	0.14
Uniform Delay, d1	57.2	49.0		46.0	23.8		46.3	52.5	49.0		58.0	53.4
Progression Factor	1.25	0.59		1.45	0.81		0.83	0.85	0.98		1.00	1.00
Incremental Delay, d2	6.7	23.8		42.3	0.4		0.0	17.1	0.3		45.5	0.1
Delay (s)	78.1	52.7		108.8	19.8		38.6	61.5	48.3		103.5	53.6
Level of Service	E	D		F	B		D	E	D		F	D
Approach Delay (s)		54.7			53.9			50.3			93.4	
Approach LOS		D			D			D			F	

Intersection Summary

HCM Average Control Delay	54.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		

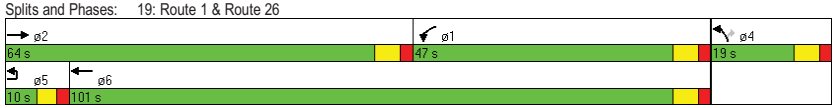
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1760	580	1090	320	610
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	540	580	1090	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2446	0	617	1160	340	649
v/c Ratio	0.31	1.11		1.12	0.30	0.99	1.10
Control Delay	76.2	72.5		82.5	1.8	104.6	82.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	76.2	72.5		82.5	1.8	104.6	82.3
Queue Length 50th (ft)	18	~815		~588	34	150	~234
Queue Length 95th (ft)	m20	m#864		m#700	m53	#251	#473
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2211		553	3835	343	589
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.11		1.12	0.30	0.99	1.10

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	540	580	1090	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4859		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4859		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1872	574	617	1160	340	649
RTOR Reduction (vph)	0	44	0	0	0	0	430
Lane Group Flow (vph)	21	2402	0	617	1160	340	219
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2093		580	3758	343	158
v/s Ratio Prot	0.01	c0.49		c0.35	0.23	0.10	
v/s Ratio Perm							c0.14
v/c Ratio	0.50	1.15		1.06	0.31	0.99	1.38
Uniform Delay, d1	62.8	37.0		43.5	5.4	58.4	58.5
Progression Factor	1.16	0.56		0.34	0.34	1.00	1.00
Incremental Delay, d2	1.4	69.1		43.8	0.1	46.0	207.4
Delay (s)	74.4	89.9		58.6	1.9	104.5	265.9
Level of Service	E	F		E	A	F	F
Approach Delay (s)		89.8			21.6	210.4	
Approach LOS		F			C	F	

Intersection Summary				
HCM Average Control Delay	89.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	490	1770	20	1320	100	50	20	280
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1320	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	521	1883	0	21	1532	0	0	180	53	0	181	298
v/c Ratio	1.02	0.61		0.27	0.91			0.98	0.26		0.94	0.75
Control Delay	73.3	2.9		60.4	45.4			120.6	17.1		109.0	23.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	73.3	2.9		60.4	45.4			120.6	17.1		109.0	23.3
Queue Length 50th (ft)	~408	71		18	284			154	0		154	34
Queue Length 95th (ft)	m343	m66		m40	516			#306	41		#299	#141
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3100		94	1690			183	206		192	398
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.02	0.61		0.22	0.91			0.98	0.26		0.94	0.75

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1320	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4973			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4973			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	521	1883	0	21	1404	128	74	106	53	160	21	298
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	48	0	0	228
Lane Group Flow (vph)	521	1883	0	21	1524	0	0	180	5	0	181	70
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Effective Green, g (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.29	0.60		0.03	0.34			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	512	3022		54	1683			183	158		192	170
v/s Ratio Prot	c0.30	0.37		0.01	c0.31			c0.10			c0.10	
v/s Ratio Perm									0.00			0.04
v/c Ratio	1.02	0.62		0.39	0.91			0.98	0.03		0.94	0.41
Uniform Delay, d1	46.0	16.6		61.8	41.0			58.4	52.8		57.6	54.2
Progression Factor	1.28	0.18		0.89	0.91			1.00	1.00		1.00	1.00
Incremental Delay, d2	16.6	0.1		1.6	8.0			61.2	0.0		48.0	0.6
Delay (s)	75.5	3.0		56.3	45.4			119.6	52.9		105.7	54.8
Level of Service	E	A		E	D			F	D		F	D
Approach Delay (s)		18.7			45.5			104.4			74.0	
Approach LOS		B			D			F			E	

Intersection Summary

HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

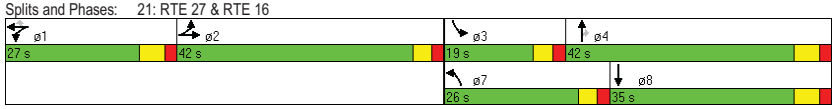
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	320	830	490	270	300	340	1090	820	250	840
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	830	530	490	270	300	340	1090	820	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		3150			1269			820			2979	
Travel Time (s)		71.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	337	1432	0	516	284	316	358	1147	863	263	926	0
v/c Ratio	0.67	1.39		0.93	0.94	0.63	1.27	1.18	1.28	1.39	0.83	
Control Delay	46.9	214.2		71.3	84.7	20.8	188.2	133.7	160.5	242.3	55.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.9	214.2		71.3	84.7	20.8	188.2	133.7	160.5	242.3	55.9	
Queue Length 50th (ft)	237	~810		214	231	87	~379	~609	~705	~298	279	
Queue Length 95th (ft)	m264	m#844		m#243	m#295	m110	#575	#746	#958	m#441	m321	
Internal Link Dist (ft)		3070			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1028		555	301	501	283	971	676	189	1119	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.67	1.39		0.93	0.94	0.63	1.27	1.18	1.28	1.39	0.83	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	830	530	490	270	300	340	1090	820	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3332		3433	1863	1583	1752	3505	1568	1752	5002	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3332		3433	1863	1583	1752	3505	1568	1752	5002	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	874	558	516	284	316	358	1147	863	263	884	42
RTOR Reduction (vph)	0	79	0	0	0	246	0	0	242	0	4	0
Lane Group Flow (vph)	337	1353	0	516	284	70	358	1147	621	263	922	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.22	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	948		555	301	256	283	971	434	189	1116	
v/s Ratio Prot	0.19	c0.41		0.15	c0.15		c0.20	0.33		0.15	0.18	
v/s Ratio Perm						0.04			c0.40			
v/c Ratio	0.67	1.43		0.93	0.94	0.27	1.27	1.18	1.43	1.39	0.83	
Uniform Delay, d1	41.1	46.5		53.8	53.9	47.8	54.5	47.0	47.0	58.0	48.1	
Progression Factor	1.01	1.01		0.95	0.94	2.15	1.00	1.00	1.00	0.92	1.03	
Incremental Delay, d2	4.5	196.4		18.0	30.9	0.2	144.3	92.2	206.6	202.6	6.4	
Delay (s)	46.2	243.3		68.8	81.8	103.1	198.8	139.2	253.6	255.8	55.9	
Level of Service	D	F		E	F	F	F	F	F	F	E	
Approach Delay (s)		205.7			81.8			189.9			100.1	
Approach LOS		F			F			F			F	

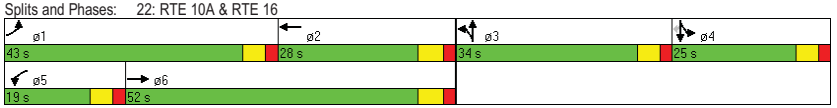
Intersection Summary				
HCM Average Control Delay	159.0	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.34			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	117.9%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	870	770	420	110	430	460	30	10	520
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	32.5	32.5	16.0	16.0
Total Split (s)	43.0	52.0	0.0	19.0	28.0	34.0	34.0	25.0	25.0
Total Split (%)	33.1%	40.0%	0.0%	14.6%	21.5%	26.2%	26.2%	19.2%	19.2%
Maximum Green (s)	37.5	46.0		13.5	22.0	28.5	28.5	19.5	19.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 124.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	870	770	420	110	430	20	460	30	110	30	10	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	400		0	0		400
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1065			746			868			1242	
Travel Time (s)		20.7			14.5			16.9			24.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							34%					
Lane Group Flow (vph)	967	856	467	122	500	0	337	329	0	0	44	578
v/c Ratio	0.96	0.67	0.30	0.69	0.86		0.93	0.89			0.18	0.96
Control Delay	63.9	37.5	0.5	76.5	66.8		80.6	71.7			50.2	40.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	63.9	37.5	0.5	76.5	66.8		80.6	71.7			50.2	40.7
Queue Length 50th (ft)	417	321	0	101	215		294	269			33	122
Queue Length 95th (ft)	#556	396	0	#182	#300		#485	#451			70	#360
Internal Link Dist (ft)		985			666			788			1162	
Turn Bay Length (ft)	350		450	350			400					400
Base Capacity (vph)	1045	1327	1583	194	630		385	389			282	623
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.93	0.65	0.30	0.63	0.79		0.88	0.85			0.16	0.93

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	870	770	420	110	430	20	460	30	110	30	10	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3516		1665	1612			1778	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3516		1665	1612			1778	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	967	856	467	122	478	22	511	33	122	33	11	578
RTOR Reduction (vph)	0	0	0	0	3	0	0	16	0	0	0	383
Lane Group Flow (vph)	967	856	467	122	497	0	337	313	0	0	44	195
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	36.5	44.6	124.0	12.3	20.4		27.1	27.1			17.5	17.5
Effective Green, g (s)	36.5	44.6	124.0	12.3	20.4		27.1	27.1			17.5	17.5
Actuated g/C Ratio	0.29	0.36	1.00	0.10	0.16		0.22	0.22			0.14	0.14
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	1011	1273	1583	176	578		364	352			251	221
v/s Ratio Prot	c0.28	0.24		0.07	c0.14		c0.20	0.19			0.02	
v/s Ratio Perm			0.29									c0.12
v/c Ratio	0.96	0.67	0.30	0.69	0.86		0.93	0.89			0.18	0.88
Uniform Delay, d1	43.0	33.5	0.0	54.0	50.4		47.5	47.0			46.9	52.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	18.4	1.1	0.5	9.1	12.1		28.5	22.1			0.1	30.4
Delay (s)	61.3	34.6	0.5	63.2	62.5		76.0	69.1			47.0	82.6
Level of Service	E	C	A	E	E		E	E			D	F
Approach Delay (s)		38.9			62.6			72.6			80.1	
Approach LOS		D			E			E			F	

Intersection Summary				
HCM Average Control Delay	53.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	78.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	260	10	330	10	10	220	490	10	30	500	390
Turn Type	Perm		Perm	Perm		Perm		Perm	Perm		Perm
Protected Phases		4			8		2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 41.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	10	330	10	10	20	220	490	10	30	500	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		870			640			642			991	
Travel Time (s)		16.9			12.5			12.5			19.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	281	344	0	41	0	229	510	10	31	521	406
v/c Ratio		0.67	0.47		0.08		0.75	0.59	0.01	0.10	0.61	0.43
Control Delay		24.6	4.9		9.4		26.2	11.3	3.6	7.1	11.5	2.4
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.6	4.9		9.4		26.2	11.3	3.6	7.1	11.5	2.4
Queue Length 50th (ft)		52	2		3		37	75	0	3	77	0
Queue Length 95th (ft)		#194	54		24		#127	162	5	15	167	30
Internal Link Dist (ft)		790			560			562			911	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		643	946		790		539	1515	1289	554	1515	1363
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.44	0.36		0.05		0.42	0.34	0.01	0.06	0.34	0.30

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	10	330	10	10	20	220	490	10	30	500	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1777	1583		1713		1770	1863	1583	1770	1863	1583
Flt Permitted		0.70	1.00		0.91		0.36	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)		1311	1583		1586		663	1863	1583	682	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	271	10	344	10	10	21	229	510	10	31	521	406
RTOR Reduction (vph)	0	0	223	0	14	0	0	0	5	0	0	214
Lane Group Flow (vph)	0	281	121	0	27	0	229	510	5	31	521	192
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)		13.2	13.2		13.2		19.0	19.0	19.0	19.0	19.0	19.0
Effective Green, g (s)		13.2	13.2		13.2		19.0	19.0	19.0	19.0	19.0	19.0
Actuated g/C Ratio		0.33	0.33		0.33		0.47	0.47	0.47	0.47	0.47	0.47
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		430	520		521		313	881	748	322	881	748
v/s Ratio Prot								0.27			0.28	
v/s Ratio Perm		c0.21	0.08		0.02		c0.35		0.00	0.05		0.12
v/c Ratio		0.65	0.23		0.05		0.73	0.58	0.01	0.10	0.59	0.26
Uniform Delay, d1		11.5	9.8		9.2		8.5	7.7	5.6	5.9	7.8	6.4
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.7	0.1		0.0		7.4	0.6	0.0	0.0	0.7	0.1
Delay (s)		14.3	9.9		9.2		15.9	8.3	5.6	5.9	8.5	6.4
Level of Service		B	A		A		B	A	A	A	A	A
Approach Delay (s)		11.9			9.2			10.6			7.5	
Approach LOS		B			A			B			A	

Intersection Summary				
HCM Average Control Delay	9.7	HCM Level of Service	A	
HCM Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	40.2	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	70.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	10	290	10	10	10	370	360	10	10	300	160
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	214	12	345	12	12	12	440	429	12	12	357	190
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1708	1702	357	1696	1690	429	357			440		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1708	1702	357	1696	1690	429	357			440		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	79	50	46	80	98	63			99		
cM capacity (veh/h)	43	57	687	22	58	626	1196			1114		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	214	357	36	440	429	12	12	357	190
Volume Left	214	0	12	440	0	0	12	0	0
Volume Right	0	345	12	0	0	12	0	0	190
cSH	43	711	47	1196	1700	1700	1114	1700	1700
Volume to Capacity	5.04	0.50	0.77	0.37	0.25	0.01	0.01	0.21	0.11
Queue Length 95th (ft)	Err	71	76	43	0	0	1	0	0
Control Delay (s)	Err	17.7	201.1	9.8	0.0	0.0	8.3	0.0	0.0
Lane LOS	F	C	F	A			A		
Approach Delay (s)	3760.7		201.1	4.9			0.2		
Approach LOS	F		F						

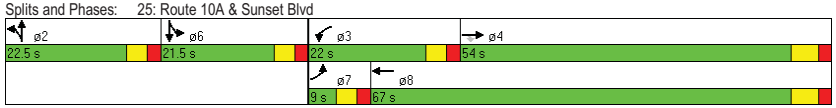
Intersection Summary				
Average Delay	1055.1			
Intersection Capacity Utilization	62.9%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	1610	10	310	1240	50	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	54.0	54.0	22.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	45.0%	45.0%	18.3%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	48.0	48.0	17.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 109
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1610	10	310	1240	40	50	10	150	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		165	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1228			925			632			353	
Travel Time (s)		27.9			21.0			14.4			8.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1713	11	330	1362	0	53	171	0	0	54	0
v/c Ratio	0.17	1.10	0.02	1.19	0.43		0.19	0.44			0.43	
Control Delay	58.8	84.4	12.9	157.9	11.8		43.3	11.9			53.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	58.8	84.4	12.9	157.9	11.8		43.3	11.9			53.3	
Queue Length 50th (ft)	8	~737	2	~288	163		33	7			31	
Queue Length 95th (ft)	28	#920	13	#484	263		72	70			73	
Internal Link Dist (ft)		1148			845			552			273	
Turn Bay Length (ft)	180		165	420								
Base Capacity (vph)	65	1563	703	277	3182		285	392			275	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	1.10	0.02	1.19	0.43		0.19	0.44			0.20	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

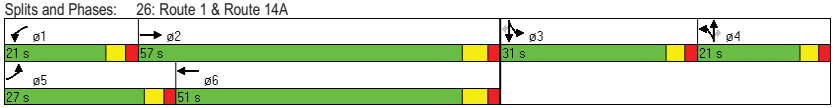
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1610	10	310	1240	40	50	10	150	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1770	3539	1583	1770	5061		1770	1601			1759	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (perm)	1770	3539	1583	1770	5061		1770	1601			1759	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1713	11	330	1319	43	53	11	160	32	11	11
RTOR Reduction (vph)	0	0	4	0	2	0	0	135	0	0	9	0
Lane Group Flow (vph)	11	1713	7	330	1360	0	53	36	0	0	45	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Effective Green, g (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Actuated g/C Ratio	0.01	0.46	0.46	0.15	0.60		0.15	0.15			0.06	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1622	726	264	3038		271	246			97	
v/s Ratio Prot	0.01	c0.48		c0.19	0.27		c0.03	0.02			c0.03	
v/s Ratio Perm			0.00									
v/c Ratio	0.92	1.06	0.01	1.25	0.45		0.20	0.14			0.47	
Uniform Delay, d1	56.6	30.9	16.8	48.5	12.5		42.2	41.8			52.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	209.7	38.8	0.0	139.9	0.0		1.6	1.2			1.3	
Delay (s)	266.3	69.7	16.8	188.5	12.5		43.8	43.1			53.6	
Level of Service	F	E	B	F	B		D	D			D	
Approach Delay (s)		70.6			46.8			43.2			53.6	
Approach LOS		E			D			D			D	

Intersection Summary				
HCM Average Control Delay	57.9	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	114.1	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	92.3%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	440	1750	290	1880	400	80	210	790	70	220
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	43.0	12.0	33.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (s)	27.0	57.0	21.0	51.0	21.0	21.0	21.0	31.0	31.0	31.0
Total Split (%)	20.8%	43.8%	16.2%	39.2%	16.2%	16.2%	16.2%	23.8%	23.8%	23.8%
Maximum Green (s)	22.0	51.0	16.0	45.0	16.0	16.0	16.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		5		0	0	0	0	10	10	10

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 22 (17%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1750	550	290	1880	340	400	80	210	790	70	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	200		200	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3050			1510			526			604	
Travel Time (s)		59.4			29.4			14.3			16.5	
Confl. Peds. (#/hr)			5									142
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							40%			46%		
Lane Group Flow (vph)	484	2527	0	319	2440	0	264	264	231	469	476	242
v/c Ratio	1.64	1.30		1.48	1.42		1.28	1.25	0.62	1.40	1.40	0.58
Control Delay	328.1	159.5		284.8	214.8		201.0	191.9	18.9	234.2	235.7	17.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	328.1	159.5		284.8	214.8		201.0	191.9	18.9	234.2	235.7	17.3
Queue Length 50th (ft)	~585	~975		~380	~999		~295	~292	24	~554	~564	34
Queue Length 95th (ft)	m#510	m#765		#574	#1086		#482	#477	110	#777	#790	123
Internal Link Dist (ft)		2970			1430			446			524	
Turn Bay Length (ft)	630			350			200		200	360		250
Base Capacity (vph)	296	1940		216	1723		207	211	370	336	340	414
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.64	1.30		1.48	1.42		1.28	1.25	0.62	1.40	1.40	0.58

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1750	550	290	1880	340	400	80	210	790	70	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4834		1752	4920		1681	1713	1583	1681	1698	1296
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4834		1752	4920		1681	1713	1583	1681	1698	1296
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	484	1923	604	319	2066	374	440	88	231	868	77	242
RTOR Reduction (vph)	0	44	0	0	20	0	0	0	175	0	0	155
Lane Group Flow (vph)	484	2483	0	319	2420	0	264	264	56	469	476	87
Confl. Peds. (#/hr)			5									142
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Effective Green, g (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Actuated g/C Ratio	0.17	0.39		0.12	0.35		0.12	0.12	0.12	0.20	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	296	1896		216	1703		207	211	195	336	340	259
v/s Ratio Prot	c0.28	0.51		0.18	c0.49		c0.16	0.15		0.28	c0.28	
v/s Ratio Perm									0.04			0.07
v/c Ratio	1.64	1.31		1.48	1.42		1.28	1.25	0.29	1.40	1.40	0.34
Uniform Delay, d1	54.0	39.5		57.0	42.5		57.0	57.0	51.8	52.0	52.0	44.6
Progression Factor	1.19	0.52		1.42	0.58		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	289.9	140.4		234.8	192.6		155.9	145.9	0.3	195.4	196.9	0.3
Delay (s)	354.0	160.9		315.7	217.3		212.9	202.9	52.1	247.4	248.9	44.9
Level of Service	F	F		F	F		F	F	D	F	F	D
Approach Delay (s)		192.0			228.7			160.5			206.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	204.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	112.0%	ICU Level of Service	H
Analysis Period (min)	15		

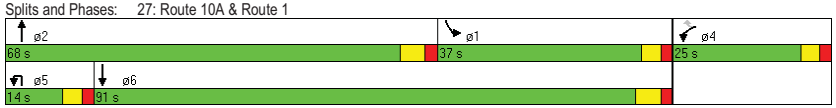
c Critical Lane Group

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	650	560	50	1740	600	1370
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	18.0	18.0	9.0	35.0	12.0	25.0
Total Split (s)	25.0	25.0	14.0	68.0	37.0	91.0
Total Split (%)	19.2%	19.2%	10.8%	52.3%	28.5%	70.0%
Maximum Green (s)	20.0	20.0	9.0	62.0	32.0	85.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lead	Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 93 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	650	560	50	1740	1120	600	1370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1852			1905			3050
Travel Time (s)	36.1			37.1			59.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	684	589	53	3011	0	632	1442
v/c Ratio	1.30	1.03	0.50	1.41dr		1.47	0.42
Control Delay	189.8	63.9	67.0	161.6		246.3	4.7
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	189.8	63.9	67.0	161.6		246.3	4.7
Queue Length 50th (ft)	~378	~235	46	~1164		~727	129
Queue Length 95th (ft)	#501	#466	m59	m#1239		m#465	m72
Internal Link Dist (ft)	1772			1825			2970
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	528	572	125	2350		431	3425
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.30	1.03	0.42	1.28		1.47	0.42

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	650	560	50	1740	1120	600	1370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	1.00	0.94		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4740		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4740		1752	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	684	589	53	1832	1179	632	1442
RTOR Reduction (vph)	0	328	0	91	0	0	0
Lane Group Flow (vph)	684	261	53	2920	0	632	1442
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	20.0	20.0	6.6	61.0		33.0	87.4
Effective Green, g (s)	20.0	20.0	6.6	61.0		33.0	87.4
Actuated g/C Ratio	0.15	0.15	0.05	0.47		0.25	0.67
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	528	244	92	2224		445	3386
v/s Ratio Prot	c0.20		0.03	c0.62		c0.36	0.29
v/s Ratio Perm		0.16					
v/c Ratio	1.30	1.07	0.58	1.41dr		1.42	0.43
Uniform Delay, d1	55.0	55.0	60.3	34.5		48.5	9.8
Progression Factor	1.00	1.00	0.94	1.17		0.98	0.47
Incremental Delay, d2	146.5	76.9	3.7	143.2		190.3	0.0
Delay (s)	201.5	131.9	60.2	183.4		237.7	4.7
Level of Service	F	F	E	F		F	A
Approach Delay (s)	169.3			181.3			75.7
Approach LOS	F			F			E

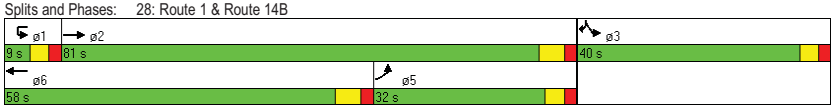
Intersection Summary			
HCM Average Control Delay	144.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.8%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	340	2240	10	1550	450	220
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	28.0	28.0
Total Split (s)	32.0	81.0	9.0	58.0	40.0	40.0
Total Split (%)	24.6%	62.3%	6.9%	44.6%	30.8%	30.8%
Maximum Green (s)	27.0	75.0	4.0	52.0	35.0	35.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 121 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2240	10	1550	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2667		1905		583	
Travel Time (s)		52.0		37.1		15.9	
Confl. Peds. (#/hr)							3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	354	2333	10	1896	0	469	229
v/c Ratio	0.97	0.73	0.18	0.95		0.98	0.46
Control Delay	67.2	6.5	70.9	28.0		84.6	26.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	67.2	6.5	70.9	28.0		84.6	26.4
Queue Length 50th (ft)	281	81	9	273		395	94
Queue Length 95th (ft)	m#402	m353	m17	m274		#616	175
Internal Link Dist (ft)		2587		1825		503	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	364	3184	56	1989		477	494
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.97	0.73	0.18	0.95		0.98	0.46

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2240	10	1550	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4924		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4924		1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	354	2333	10	1615	281	469	229
RTOR Reduction (vph)	0	0	0	20	0	0	68
Lane Group Flow (vph)	354	2333	10	1876	0	469	161
Confl. Peds. (#/hr)							3
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	31.0	78.2	0.8	48.0		35.0	35.0
Effective Green, g (s)	31.0	78.2	0.8	48.0		35.0	35.0
Actuated g/C Ratio	0.24	0.60	0.01	0.37		0.27	0.27
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	418	3029	11	1818		477	426
v/s Ratio Prot	c0.20	0.46	0.01	c0.38		c0.27	0.10
v/s Ratio Perm							
v/c Ratio	0.85	0.77	0.91	1.03		0.98	0.38
Uniform Delay, d1	47.2	19.2	64.6	41.0		47.2	38.6
Progression Factor	0.71	0.33	1.07	0.49		1.00	1.00
Incremental Delay, d2	8.5	1.1	177.5	26.7		36.5	0.2
Delay (s)	42.0	7.4	246.4	46.6		83.7	38.8
Level of Service	D	A	F	D		F	D
Approach Delay (s)		12.0		47.6		69.0	
Approach LOS		B		D		E	

Intersection Summary

HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	350	1300	190	1000	200	260	280	740	190	450
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	18.0	18.0	12.0	25.0	25.0
Total Split (s)	31.0	56.0	24.0	49.0	15.0	18.0	18.0	32.0	35.0	35.0
Total Split (%)	23.8%	43.1%	18.5%	37.7%	11.5%	13.8%	13.8%	24.6%	26.9%	26.9%
Maximum Green (s)	26.0	50.0	19.0	43.0	10.0	12.0	12.0	27.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 39 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1300	180	190	1000	630	200	260	280	740	190	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		2679			2667			634			1132	
Travel Time (s)		52.2			52.0			12.4			25.7	
Confl. Peds. (#/hr)			3						4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	368	1557	0	200	1716	0	211	274	295	779	200	474
v/c Ratio	1.05	0.79		0.85	1.09dr		0.81	0.85	0.80	1.09	0.48	0.73
Control Delay	95.4	24.7		73.9	37.6		82.9	82.1	28.4	109.4	48.5	16.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	24.7		73.9	37.6		82.9	82.1	28.4	109.4	48.5	16.7
Queue Length 50th (ft)	~334	451		138	~407		91	121	36	~381	148	62
Queue Length 95th (ft)	m#536	m524		m162	m#580		#154	#195	#172	#507	227	197
Internal Link Dist (ft)		2599			2587			554			1052	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1981		256	1664		264	327	370	713	416	652
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.79		0.78	1.03		0.80	0.84	0.80	1.09	0.48	0.73

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1300	180	190	1000	630	200	260	280	740	190	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4934		1752	4744		3433	3539	1554	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4934		1752	4744		3433	3539	1554	3433	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	368	1368	189	200	1053	663	211	274	295	779	200	474
RTOR Reduction (vph)	0	13	0	0	87	0	0	0	227	0	0	299
Lane Group Flow (vph)	368	1544	0	200	1629	0	211	274	68	779	200	175
Confl. Peds. (#/hr)			3						4			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	26.0	51.8		17.4	43.2		9.8	11.8	11.8	27.0	29.0	29.0
Effective Green, g (s)	26.0	51.8		17.4	43.2		9.8	11.8	11.8	27.0	29.0	29.0
Actuated g/C Ratio	0.20	0.40		0.13	0.33		0.08	0.09	0.09	0.21	0.22	0.22
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1966		234	1576		259	321	141	713	416	353
v/s Ratio Prot	c0.21	0.31		0.11	c0.34		0.06	c0.08		c0.23	0.11	
v/s Ratio Perm									0.04			0.11
v/c Ratio	1.05	0.79		0.85	1.09dr		0.81	0.85	0.48	1.09	0.48	0.50
Uniform Delay, d1	52.0	34.2		55.1	43.4		59.2	58.2	56.2	51.5	43.9	44.1
Progression Factor	0.76	0.65		1.03	0.27		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	55.8	2.4		13.3	25.2		16.7	18.6	0.9	61.8	0.3	0.4
Delay (s)	95.4	24.6		70.1	37.0		75.9	76.9	57.1	113.3	44.3	44.5
Level of Service	F	C		E	D		E	E	E	F	D	D
Approach Delay (s)		38.1			40.4			69.1			81.3	
Approach LOS		D			D			E			F	

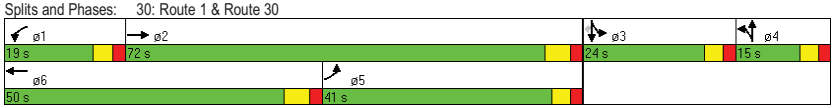
Intersection Summary				
HCM Average Control Delay	53.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	101.1%	ICU Level of Service	G	
Analysis Period (min)	15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	450	1700	90	1510	90	230	20	590
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	15.0	10.0	10.0	10.0
Total Split (s)	41.0	72.0	19.0	50.0	15.0	24.0	24.0	24.0
Total Split (%)	31.5%	55.4%	14.6%	38.5%	11.5%	18.5%	18.5%	18.5%
Maximum Green (s)	36.0	66.0	14.0	44.0	10.0	19.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 92 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1700	30	90	1510	180	20	90	20	230	20	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2679			238			2279	
Travel Time (s)		25.0			52.2			6.5			62.2	
Confl. Peds. (#/hr)			4									4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	484	1860	0	97	1818	0	0	141	0	133	136	634
v/c Ratio	1.00	0.67		0.65	1.00			0.97		0.65	0.66	0.95
Control Delay	76.2	20.1		76.5	40.6			124.8		69.0	69.5	33.9
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	76.2	20.1		76.5	40.6			124.8		69.0	69.5	33.9
Queue Length 50th (ft)	428	335		73	~611			116		110	113	71
Queue Length 95th (ft)	#634	364		m82	m#636			#256		184	187	#319
Internal Link Dist (ft)		1204			2599			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	485	2788		189	1812			145		246	248	692
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.00	0.67		0.51	1.00			0.97		0.54	0.55	0.92

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1700	30	90	1510	180	20	90	20	230	20	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5020		1752	4955			1809		1681	1698	1553
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5020		1752	4955			1809		1681	1698	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	484	1828	32	97	1624	194	22	97	22	247	22	634
RTOR Reduction (vph)	0	1	0	0	11	0	0	6	0	0	0	479
Lane Group Flow (vph)	484	1859	0	97	1807	0	0	135	0	133	136	155
Confl. Peds. (#/hr)			4									4
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	36.0	72.2		11.1	47.3			10.0		15.7	15.7	15.7
Effective Green, g (s)	36.0	72.2		11.1	47.3			10.0		15.7	15.7	15.7
Actuated g/C Ratio	0.28	0.56		0.09	0.36			0.08		0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	485	2788		150	1803			139		203	205	188
v/s Ratio Prot	c0.28	0.37		0.06	c0.36			c0.07		0.08	0.08	
v/s Ratio Perm												c0.10
v/c Ratio	1.00	0.67		0.65	1.00			0.97		0.66	0.66	0.82
Uniform Delay, d1	47.0	20.4		57.6	41.4			59.9		54.6	54.6	55.8
Progression Factor	0.88	0.89		1.15	0.54			1.00		1.00	1.00	1.00
Incremental Delay, d2	33.7	0.9		3.7	15.8			67.8		5.7	6.1	23.3
Delay (s)	75.2	19.1		69.8	38.2			127.7		60.3	60.7	79.1
Level of Service	E	B		E	D			F		E	E	E
Approach Delay (s)		30.7			39.8			127.7			73.6	
Approach LOS		C			D			F			E	

Intersection Summary

HCM Average Control Delay	43.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

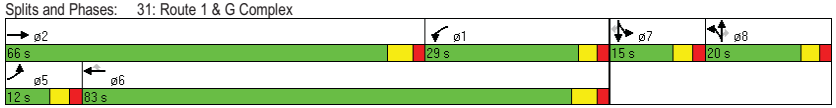
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1120	190	930	30	200	20	120	30	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	6.5	10.0	6.5	10.0	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	28.0	12.0	24.0	24.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	12.0	66.0	29.0	83.0	83.0	20.0	20.0	20.0	15.0	15.0
Total Split (%)	9.2%	50.8%	22.3%	63.8%	63.8%	15.4%	15.4%	15.4%	11.5%	11.5%
Maximum Green (s)	7.0	60.0	24.0	77.0	77.0	15.0	15.0	15.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		15.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 17 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 1 & G Complex



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1120	370	190	930	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		1343			5039			848			380	
Travel Time (s)		26.2			98.2			19.3			13.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	12	1753	0	224	1094	35	129	130	141	0	82	12
v/c Ratio	0.13	0.69		0.83	0.47	0.03	0.76	0.76	0.49		0.63	0.10
Control Delay	62.4	25.6		45.8	3.4	0.2	84.1	83.4	14.5		80.2	27.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	62.4	25.6		45.8	3.4	0.2	84.1	83.4	14.5		80.2	27.6
Queue Length 50th (ft)	10	399		193	37	0	111	112	0		68	0
Queue Length 95th (ft)	30	441		204	49	m0	173	175	52		116	19
Internal Link Dist (ft)		1263			4959			768			300	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	94	2524		323	2343	1060	194	196	307		139	133
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.13	0.69		0.69	0.47	0.03	0.66	0.66	0.46		0.59	0.09

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1120	370	190	930	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)	1752	4848		1752	3505	1568	1681	1700	1583		1811	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)	1752	4848		1752	3505	1568	1681	1700	1583		1811	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	1318	435	224	1094	35	235	24	141	47	35	12
RTOR Reduction (vph)	0	43	0	0	0	12	0	0	127	0	0	11
Lane Group Flow (vph)	12	1710	0	224	1094	23	129	130	14	0	82	1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Effective Green, g (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Actuated g/C Ratio	0.02	0.49		0.18	0.65	0.65	0.10	0.10	0.10		0.07	0.07
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	36	2368		311	2262	1012	169	171	160		130	113
v/s Ratio Prot	0.01	c0.35		c0.13	0.31		c0.08	0.08			c0.05	
v/s Ratio Perm						0.01			0.01			0.00
v/c Ratio	0.33	0.72		0.72	0.48	0.02	0.76	0.76	0.09		0.63	0.01
Uniform Delay, d1	62.8	26.3		50.4	11.9	8.3	56.9	56.9	53.0		58.7	56.1
Progression Factor	1.00	1.00		0.46	0.24	0.04	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0	1.9		5.7	0.6	0.0	16.6	16.2	0.1		7.1	0.0
Delay (s)	64.7	28.2		29.1	3.5	0.4	73.6	73.2	53.1		65.8	56.1
Level of Service	E	C		C	A	A	E	E	D		E	E
Approach Delay (s)		28.5			7.7			66.2			64.6	
Approach LOS		C			A			E			E	

Intersection Summary				
HCM Average Control Delay	25.8	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	66.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1500	1600	300	570	730
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	74.0	74.0	56.0	56.0	56.0
Total Split (%)	56.9%	56.9%	43.1%	43.1%	43.1%
Maximum Green (s)	68.0	68.0	50.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	15.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 32: RTE 1 & Route 4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1500	60	0	1600	30	0	300	570	0	730	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		115	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			979			889			385	
Travel Time (s)		7.7			19.1			17.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1695	0	0	1772	0	0	636	310	0	793	0
v/c Ratio		0.53			0.56			0.73	0.77		0.82	
Control Delay		11.1			10.1			18.3	22.8		51.3	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		11.1			10.1			18.3	22.8		51.3	
Queue Length 50th (ft)		132			209			114	58		331	
Queue Length 95th (ft)		239			458			63	65		366	
Internal Link Dist (ft)		313			899			809			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3176			3184			1218	563		1361	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.53			0.56			0.52	0.55		0.58	

Intersection Summary
Area Type: Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1500	60	0	1600	30	0	300	570	0	730	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		5007			5022			3142	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		5007			5022			3142	1441		3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1630	65	0	1739	33	0	326	620	0	793	0
RTOR Reduction (vph)	0	3	0	0	1	0	0	11	11	0	0	0
Lane Group Flow (vph)	0	1692	0	0	1771	0	0	625	299	0	793	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		82.4			82.4			35.6	35.6		35.6	
Effective Green, g (s)		82.4			82.4			35.6	35.6		35.6	
Actuated g/C Ratio		0.63			0.63			0.27	0.27		0.27	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3174			3183			860	395		969	
v/s Ratio Prot		0.34			c0.35			0.20			c0.22	
v/s Ratio Perm									0.21			
v/c Ratio		0.53			0.56			0.73	0.76		0.82	
Uniform Delay, d1		13.2			13.5			42.8	43.2		44.2	
Progression Factor		0.76			0.66			0.34	0.31		1.00	
Incremental Delay, d2		0.5			0.6			2.0	5.7		5.2	
Delay (s)		10.5			9.5			16.7	19.1		49.4	
Level of Service		B			A			B	B		D	
Approach Delay (s)		10.5			9.5			17.5			49.4	
Approach LOS		B			A			B			D	

Intersection Summary				
HCM Average Control Delay	17.4	HCM Level of Service		B
HCM Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		12.0
Intersection Capacity Utilization	63.8%	ICU Level of Service		B
Analysis Period (min)	15			

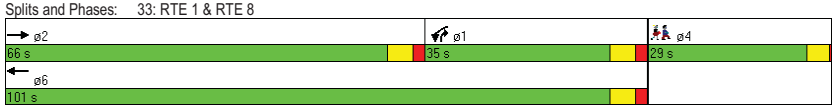
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1770	700	1580	610	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	35.0	22.0	35.0	29.0
Total Split (s)	66.0	35.0	101.0	35.0	29.0
Total Split (%)	50.8%	26.9%	77.7%	26.9%	22%
Maximum Green (s)	60.0	29.0	95.0	29.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 50 (38%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 33: RTE 1 & RTE 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1770	380	700	1580	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	979			927	469	
Travel Time (s)	19.1			18.1	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2389	0	778	1756	0	678
v/c Ratio	0.71		1.03	0.50		0.64
Control Delay	10.6		67.7	2.4		10.8
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	10.6		67.7	2.4		10.8
Queue Length 50th (ft)	375		~316	34		43
Queue Length 95th (ft)	230		m#375	m43		110
Internal Link Dist (ft)	899			847	389	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3373		758	3505		1063
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.71		1.03	0.50		0.64

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1770	380	700	1580	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0		6.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4902		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4902		3400	3505		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1967	422	778	1756	0	678
RTOR Reduction (vph)	15	0	0	0	0	441
Lane Group Flow (vph)	2374	0	778	1756	0	237
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	89.0		29.0	130.0		29.0
Effective Green, g (s)	89.0		29.0	130.0		29.0
Actuated g/C Ratio	0.68		0.22	1.00		0.22
Clearance Time (s)	6.0		6.0	6.0		6.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3356		758	3505		622
v/s Ratio Prot	c0.48		c0.23	0.50		0.08
v/s Ratio Perm						
v/c Ratio	0.71		1.03	0.50		0.38
Uniform Delay, d1	12.5		50.5	0.0		42.9
Progression Factor	0.76		0.76	1.00		1.00
Incremental Delay, d2	1.1		29.2	0.2		0.1
Delay (s)	10.7		67.5	0.2		43.0
Level of Service	B		E	A		D
Approach Delay (s)	10.7			20.9	43.0	
Approach LOS	B			C	D	

Intersection Summary				
HCM Average Control Delay	19.2	HCM Level of Service		B
HCM Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		12.0
Intersection Capacity Utilization	74.0%	ICU Level of Service		D
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	30	580	310	610	950	90
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	32	624	333	656	1022	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1157	469	
pX, platoon unblocked						
vC, conflicting volume	2016	511	1022			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2016	511	1022			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	51			
cM capacity (veh/h)	26	508	675			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	32	624	333	328	328	511	511	97
Volume Left	32	0	333	0	0	0	0	0
Volume Right	0	624	0	0	0	0	0	97
cSH	26	508	675	1700	1700	1700	1700	1700
Volume to Capacity	1.25	1.23	0.49	0.19	0.19	0.30	0.30	0.06
Queue Length 95th (ft)	98	604	69	0	0	0	0	0
Control Delay (s)	488.7	144.2	15.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	F	C					
Approach Delay (s)	161.2		5.2			0.0		
Approach LOS	F							

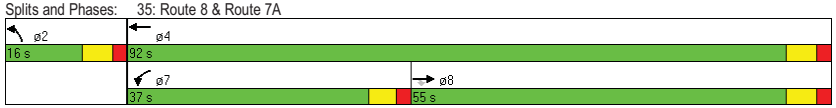
Intersection Summary			
Average Delay	40.1		
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1350	220	950	790	110	680
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	21.0	31.0	16.0	
Total Split (s)	55.0	55.0	37.0	92.0	16.0	0.0
Total Split (%)	50.9%	50.9%	34.3%	85.2%	14.8%	0.0%
Maximum Green (s)	49.0	49.0	31.5	86.0	10.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	0	0			0	

Intersection Summary

Cycle Length: 108
Actuated Cycle Length: 108
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1350	220	950	790	110	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1157			1264	644	
Travel Time (s)	22.5			24.6	12.5	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1709	278	1203	1000	139	861
v/c Ratio	1.06	0.33	1.20	0.35	0.85	0.54
Control Delay	71.4	6.3	135.4	3.5	88.4	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.4	6.3	135.4	3.5	88.4	1.3
Queue Length 50th (ft)	~689	27	~523	81	96	0
Queue Length 95th (ft)	#652	55	#528	84	#168	0
Internal Link Dist (ft)	1077			1184	564	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1606	832	1001	2818	164	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.33	1.20	0.35	0.85	0.54

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

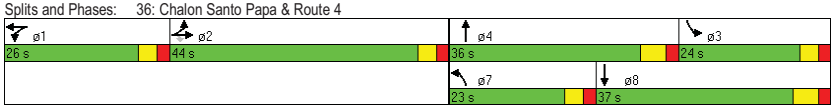
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1350	220	950	790	110	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	1770	1583
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	1709	278	1203	1000	139	861
RTOR Reduction (vph)	0	114	0	0	0	0
Lane Group Flow (vph)	1709	164	1203	1000	139	861
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	49.0	49.0	31.5	86.0	10.0	108.0
Effective Green, g (s)	49.0	49.0	31.5	86.0	10.0	108.0
Actuated g/C Ratio	0.45	0.45	0.29	0.80	0.09	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1606	718	1001	2818	164	1583
v/s Ratio Prot	c0.48		c0.35	0.28	0.08	
v/s Ratio Perm		0.10				c0.54
v/c Ratio	1.06	0.23	1.20	0.35	0.85	0.54
Uniform Delay, d1	29.5	18.0	38.2	3.1	48.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	41.7	0.1	100.5	0.0	30.2	1.3
Delay (s)	71.2	18.0	138.7	3.2	78.4	1.3
Level of Service	E	B	F	A	E	A
Approach Delay (s)	63.8			77.2	12.1	
Approach LOS	E			E	B	

Intersection Summary				
HCM Average Control Delay	59.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	280	180	150	120	700	140	780
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	25.0	25.0	26.0	8.0	22.0	8.0	22.0
Total Split (s)	44.0	44.0	26.0	23.0	36.0	24.0	37.0
Total Split (%)	33.8%	33.8%	20.0%	17.7%	27.7%	18.5%	28.5%
Maximum Green (s)	39.0	39.0	21.0	18.0	30.0	19.0	31.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	180	100	150	80	120	700	170	140	780	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			810			850	
Travel Time (s)		28.3			11.8			15.8			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	205	0	375	0	136	988	0	159	943	0
v/c Ratio		0.89	0.39		0.79		0.72	0.61		0.68	0.54	
Control Delay		67.8	9.6		62.5		62.5	38.2		38.5	15.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.8	9.6		62.5		62.5	38.2		38.5	15.9	
Queue Length 50th (ft)		331	17		151		116	283		90	73	
Queue Length 95th (ft)		421	72		196		m171	m341		169	190	
Internal Link Dist (ft)		1164			439			730			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		553	600		566		245	1618		259	1751	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.74	0.34		0.66		0.56	0.61		0.61	0.54	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	180	100	150	80	120	700	170	140	780	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.97		1.00	0.99	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1842	1583		3359		1770	4936		1770	5039	
Flt Permitted		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1842	1583		3359		1770	4936		1770	5039	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	91	318	205	114	170	91	136	795	193	159	886	57
RTOR Reduction (vph)	0	0	133	0	24	0	0	28	0	0	5	0
Lane Group Flow (vph)	0	409	72	0	351	0	136	960	0	159	938	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		32.6	32.6		17.5		13.9	41.8		17.1	45.0	
Effective Green, g (s)		32.6	32.6		17.5		13.9	41.8		17.1	45.0	
Actuated g/C Ratio		0.25	0.25		0.13		0.11	0.32		0.13	0.35	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		462	397		452		189	1587		233	1744	
v/s Ratio Prot		c0.22			c0.10		c0.08	c0.19		c0.09	0.19	
v/s Ratio Perm			0.05									
v/c Ratio		0.89	0.18		0.78		0.72	0.61		0.68	0.54	
Uniform Delay, d1		46.9	38.2		54.4		56.2	37.1		53.9	34.1	
Progression Factor		1.00	1.00		1.00		0.82	0.98		0.46	0.41	
Incremental Delay, d2		17.6	0.1		7.5		8.4	1.4		5.9	1.1	
Delay (s)		64.5	38.3		61.8		54.3	37.8		30.4	15.0	
Level of Service		E	D		E		D	D		C	B	
Approach Delay (s)		55.7			61.8			39.8			17.3	
Approach LOS		E			E			D			B	

Intersection Summary			
HCM Average Control Delay	37.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

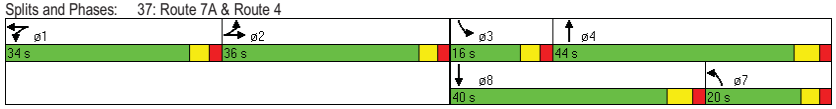
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	210	290	460	410	160	620	100	800
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.0	29.0	27.0	27.0	13.0	25.0	13.0	29.0
Total Split (s)	36.0	36.0	34.0	34.0	20.0	44.0	16.0	40.0
Total Split (%)	27.7%	27.7%	26.2%	26.2%	15.4%	33.8%	12.3%	30.8%
Maximum Green (s)	31.0	31.0	29.0	29.0	15.0	38.0	11.0	34.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 126 (97%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	290	90	460	410	90	160	620	330	100	800	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		827			967			716			810	
Travel Time (s)		18.8			22.0			13.9			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)				31%								
Lane Group Flow (vph)	228	413	0	345	699	0	174	1033	0	109	1077	0
v/c Ratio	0.55	0.96		0.96	0.94		0.89	0.68		0.77	0.80	
Control Delay	49.3	83.3		88.7	70.7		96.9	38.6		63.9	32.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.3	83.3		88.7	70.7		96.9	38.6		63.9	32.0	
Queue Length 50th (ft)	169	338		318	315		146	256		91	329	
Queue Length 95th (ft)	256	#545		#529	#443		#275	309		m#174	371	
Internal Link Dist (ft)		747			887			636			730	
Turn Bay Length (ft)				250			250			200		
Base Capacity (vph)	418	432		359	741		204	1517		150	1354	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.55	0.96		0.96	0.94		0.85	0.68		0.73	0.80	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	290	90	460	410	90	160	620	330	100	800	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.96		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1779		1610	3283		1770	4820		1770	4939	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	1779		1610	3283		1770	4820		1770	4939	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	315	98	500	446	98	174	674	359	109	870	207
RTOR Reduction (vph)	0	8	0	0	9	0	0	74	0	0	30	0
Lane Group Flow (vph)	228	405	0	345	690	0	174	959	0	109	1047	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	30.7	30.7		29.0	29.0		14.5	38.9		10.4	34.8	
Effective Green, g (s)	30.7	30.7		29.0	29.0		14.5	38.9		10.4	34.8	
Actuated g/C Ratio	0.24	0.24		0.22	0.22		0.11	0.30		0.08	0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	414	420		359	732		197	1442		142	1322	
v/s Ratio Prot	0.13	c0.23		c0.21	0.21		c0.10	0.20		0.06	c0.21	
v/s Ratio Perm												
v/c Ratio	0.55	0.96		0.96	0.94		0.88	0.67		0.77	0.79	
Uniform Delay, d1	43.6	49.1		49.9	49.7		56.9	39.9		58.6	44.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.57	0.64	
Incremental Delay, d2	0.9	34.1		36.9	20.1		33.2	2.4		17.4	4.3	
Delay (s)	44.5	83.2		86.9	69.8		90.1	42.3		50.7	32.8	
Level of Service	D	F		F	E		F	D		D	C	
Approach Delay (s)		69.4			75.5			49.2			34.5	
Approach LOS		E			E			D			C	

Intersection Summary				
HCM Average Control Delay	54.8	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	85.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	110	210	90	910	1400	120
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	124	236	101	1022	1573	135
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1030	
pX, platoon unblocked	0.78	0.78	0.78			
vC, conflicting volume	2354	854	1708			
vC1, stage 1 conf vol	1640					
vC2, stage 2 conf vol	713					
vCu, unblocked vol	2174	257	1348			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	19	59	74			
cM capacity (veh/h)	153	581	396			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	360	101	511	511	1049	659
Volume Left	124	101	0	0	0	0
Volume Right	236	0	0	0	0	135
cSH	296	396	1700	1700	1700	1700
Volume to Capacity	1.21	0.26	0.30	0.30	0.62	0.39
Queue Length 95th (ft)	405	25	0	0	0	0
Control Delay (s)	159.5	17.2	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	159.5	1.5			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay	18.5			
Intersection Capacity Utilization	76.5%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	220	190	160	40
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	32.0	36.0	36.0
Total Split (%)	24.4%	35.6%	40.0%	40.0%
Maximum Green (s)	18.0	28.0	32.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	510	190	20	160	40	390	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		350			827			400			205	
Travel Time (s)		8.0			18.8			9.1			4.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	596	0	0	766	0	170	458	0	0	0	0
v/c Ratio		0.77			1.09dl		0.23	0.50				
Control Delay		20.4			33.3		18.4	5.4				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		20.4			33.3		18.4	5.4				
Queue Length 50th (ft)		58			180		53	12				
Queue Length 95th (ft)		121			268		118	88				
Internal Link Dist (ft)		270			747			320			125	
Turn Bay Length (ft)												
Base Capacity (vph)		1025			1243		737	913				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.58			0.62		0.23	0.50				

Intersection Summary

Area Type: Other
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	510	190	20	160	40	390	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.91			1.00		1.00	0.86				
Flt Protected		1.00			0.97		0.95	1.00				
Satd. Flow (prot)		3224			3404		1770	1610				
Flt Permitted		1.00			0.97		0.95	1.00				
Satd. Flow (perm)		3224			3404		1770	1610				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	234	351	543	202	21	170	43	415	0	0	0
RTOR Reduction (vph)	0	300	0	0	2	0	0	242	0	0	0	0
Lane Group Flow (vph)	0	296	0	0	764	0	170	216	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		11.4			21.9		32.5	32.5				
Effective Green, g (s)		11.4			21.9		32.5	32.5				
Actuated g/C Ratio		0.15			0.28		0.42	0.42				
Clearance Time (s)		4.0			4.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		472			958		739	673				
v/s Ratio Prot		c0.09			c0.22		0.10	c0.13				
v/s Ratio Perm												
v/c Ratio		0.63			1.09dl		0.23	0.32				
Uniform Delay, d1		31.2			25.9		14.6	15.2				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		1.9			4.4		0.7	1.3				
Delay (s)		33.1			30.3		15.3	16.5				
Level of Service		C			C		B	B				
Approach Delay (s)		33.1			30.3			16.2			0.0	
Approach LOS		C			C			B			A	

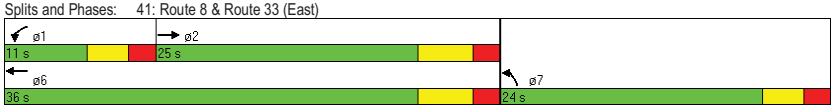
Intersection Summary				
HCM Average Control Delay	26.7	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	77.8	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	81.4%	ICU Level of Service	D	
Analysis Period (min)	15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	590	90	450	230
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	6.0	2.5	2.0	2.5
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	25.0	11.0	36.0	24.0
Total Split (%)	41.7%	18.3%	60.0%	40.0%
Maximum Green (s)	19.0	6.0	30.0	19.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.0	6.0	5.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 52.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	590	130	90	450	230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2670			2651	2228	
Travel Time (s)	52.0			51.6	43.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	847	0	106	529	447	0
v/c Ratio	0.75		0.51	0.32	0.80	
Control Delay	20.9		37.6	9.0	29.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	20.9		37.6	9.0	29.6	
Queue Length 50th (ft)	133		37	54	125	
Queue Length 95th (ft)	177		#94	75	#251	
Internal Link Dist (ft)	2590			2571	2148	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	1421		221	2197	711	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.60		0.48	0.24	0.63	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	590	130	90	450	230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	5.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.97		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3443		1770	3539	1712	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	3443		1770	3539	1712	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	694	153	106	529	271	176
RTOR Reduction (vph)	31	0	0	0	40	0
Lane Group Flow (vph)	816	0	106	529	407	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	16.7		4.3	26.0	15.9	
Effective Green, g (s)	16.7		4.3	26.0	15.9	
Actuated g/C Ratio	0.32		0.08	0.49	0.30	
Clearance Time (s)	6.0		5.0	6.0	5.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	1087		144	1739	515	
v/s Ratio Prot	c0.24		c0.06	0.15	c0.24	
v/s Ratio Perm						
v/c Ratio	0.75		0.74	0.30	0.79	
Uniform Delay, d1	16.2		23.7	8.0	17.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	2.6		15.4	0.0	7.6	
Delay (s)	18.9		39.2	8.1	24.5	
Level of Service	B		D	A	C	
Approach Delay (s)	18.9			13.3	24.5	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

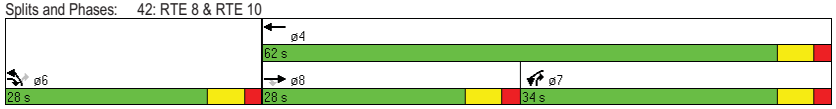
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	640	540	910	490	440	710
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	28.0	34.0	62.0	28.0	34.0
Total Split (%)	31.1%	31.1%	37.8%	68.9%	31.1%	37.8%
Maximum Green (s)	22.0	22.0	28.0	56.0	22.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	640	540	910	490	440	710
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			433	789	
Travel Time (s)	14.8			8.4	15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	681	574	968	521	468	755
v/c Ratio	0.76	0.65	0.91	0.23	0.59	0.44
Control Delay	37.8	18.0	40.9	6.3	33.8	9.5
Queue Delay	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	18.0	40.9	6.3	33.8	9.5
Queue Length 50th (ft)	191	207	274	48	120	106
Queue Length 95th (ft)	#257	323	#392	59	169	147
Internal Link Dist (ft)	682			353	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	898	876	1058	2222	839	1719
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	13	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.66	0.91	0.23	0.56	0.44

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	640	540	910	490	440	710
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	681	574	968	521	468	755
RTOR Reduction (vph)	0	8	0	0	0	20
Lane Group Flow (vph)	681	566	968	521	468	735
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	23.1	44.0	28.0	57.1	20.9	48.9
Effective Green, g (s)	23.1	44.0	28.0	57.1	20.9	48.9
Actuated g/C Ratio	0.26	0.49	0.31	0.63	0.23	0.54
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	900	871	1058	2224	797	1700
v/s Ratio Prot	c0.19	c0.15	c0.28	0.15	0.14	0.13
v/s Ratio Perm		0.21				0.13
v/c Ratio	0.76	0.65	0.91	0.23	0.59	0.43
Uniform Delay, d1	30.9	17.2	29.9	7.1	30.7	12.3
Progression Factor	1.00	1.00	0.92	0.83	1.00	1.00
Incremental Delay, d2	5.9	1.3	10.7	0.2	0.7	0.1
Delay (s)	36.8	18.5	38.2	6.1	31.4	12.3
Level of Service	D	B	D	A	C	B
Approach Delay (s)	28.4			27.0	19.6	
Approach LOS	C			C	B	

Intersection Summary				
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1250	60	1320	80	50
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	7.0	7.0
Minimum Split (s)	26.0	16.0	26.0	13.0	13.0
Total Split (s)	59.0	16.0	75.0	15.0	15.0
Total Split (%)	65.6%	17.8%	83.3%	16.7%	16.7%
Maximum Green (s)	53.0	10.0	69.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1250	50	60	1320	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	220
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	433			505	486	
Travel Time (s)	8.4			9.8	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1369	0	63	1389	84	53
v/c Ratio	0.58		0.32	0.48	0.53	0.28
Control Delay	5.2		41.9	4.0	51.1	15.1
Queue Delay	0.4		0.0	0.0	0.0	0.0
Total Delay	5.6		41.9	4.1	51.1	15.1
Queue Length 50th (ft)	100		34	123	46	0
Queue Length 95th (ft)	115		73	161	92	34
Internal Link Dist (ft)	353			425	406	
Turn Bay Length (ft)			200			220
Base Capacity (vph)	2358		195	2869	177	206
Starvation Cap Reductn	473		0	0	0	0
Spillback Cap Reductn	0		0	127	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.73		0.32	0.51	0.47	0.26

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1250	50	60	1320	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3485		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3485		1752	3505	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1316	53	63	1389	84	53
RTOR Reduction (vph)	3	0	0	0	0	49
Lane Group Flow (vph)	1366	0	63	1389	84	4
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	57.3		8.0	71.3	6.7	6.7
Effective Green, g (s)	57.3		8.0	71.3	6.7	6.7
Actuated g/C Ratio	0.64		0.09	0.79	0.07	0.07
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2219		156	2777	132	118
v/s Ratio Prot	c0.39		0.04	c0.40	c0.05	
v/s Ratio Perm						0.00
v/c Ratio	0.62		0.40	0.50	0.64	0.03
Uniform Delay, d1	9.8		38.7	3.2	40.5	38.6
Progression Factor	0.40		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0		0.6	0.1	7.2	0.0
Delay (s)	5.0		39.4	3.3	47.6	38.7
Level of Service	A		D	A	D	D
Approach Delay (s)	5.0			4.8	44.2	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	6.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

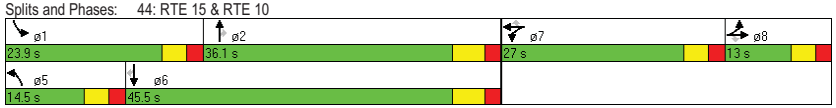
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	70	110	290	50	210	100	820	420	240	1080	110
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	10.0	10.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.5	16.0	16.0	11.5	36.0	36.0
Total Split (s)	13.0	13.0	13.0	27.0	27.0	27.0	14.5	36.1	36.1	23.9	45.5	45.5
Total Split (%)	13.0%	13.0%	13.0%	27.0%	27.0%	27.0%	14.5%	36.1%	36.1%	23.9%	45.5%	45.5%
Maximum Green (s)	8.0	8.0	8.0	22.0	22.0	22.0	9.5	30.1	30.1	18.9	39.5	39.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	70	110	290	50	210	100	820	420	240	1080	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		611			945			3059			773	
Travel Time (s)		11.9			18.4			59.6			15.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	13%											
Lane Group Flow (vph)	89	93	125	330	57	239	114	932	477	273	1227	125
v/c Ratio	0.70	0.70	0.53	0.90	0.15	0.46	0.73	0.80	0.57	0.88	0.83	0.17
Control Delay	73.4	72.2	17.0	67.6	32.7	7.6	78.0	23.9	3.5	68.1	33.0	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.4	72.2	17.0	67.6	32.7	7.6	78.0	23.9	3.5	68.1	33.0	4.5
Queue Length 50th (ft)	58	62	0	203	29	0	77	219	17	168	374	1
Queue Length 95th (ft)	#131	#133	52	#341	62	57	m107	#320	37	#289	453	34
Internal Link Dist (ft)		531			865			2979			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	134	140	241	385	406	531	168	1164	841	335	1473	730
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.66	0.52	0.86	0.14	0.45	0.68	0.80	0.57	0.81	0.83	0.17

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	70	110	290	50	210	100	820	420	240	1080	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1740	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1740	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	80	125	330	57	239	114	932	477	273	1227	125
RTOR Reduction (vph)	0	0	115	0	0	189	0	0	320	0	0	71
Lane Group Flow (vph)	89	93	10	330	57	50	114	932	157	273	1227	54
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	7.7	7.7	7.7	20.8	20.8	20.8	8.9	32.9	32.9	17.6	41.6	41.6
Effective Green, g (s)	7.7	7.7	7.7	20.8	20.8	20.8	8.9	32.9	32.9	17.6	41.6	41.6
Actuated g/C Ratio	0.08	0.08	0.08	0.21	0.21	0.21	0.09	0.33	0.33	0.18	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	128	134	121	364	384	326	158	1164	521	312	1472	659
v/s Ratio Prot	c0.05	0.05		c0.19	0.03		0.06	0.26		c0.15	c0.35	
v/s Ratio Perm			0.01			0.03			0.10			0.03
v/c Ratio	0.70	0.69	0.08	0.91	0.15	0.15	0.72	0.80	0.30	0.88	0.83	0.08
Uniform Delay, d1	45.0	45.0	42.9	38.7	32.4	32.4	44.3	30.6	25.0	40.1	26.1	17.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.37	0.61	0.61	1.00	1.00	1.00
Incremental Delay, d2	12.4	11.8	0.1	24.8	0.1	0.1	8.7	3.9	1.0	22.2	5.7	0.2
Delay (s)	57.4	56.8	43.0	63.4	32.4	32.5	69.3	22.5	16.2	62.3	31.8	17.9
Level of Service	E	E	D	E	C	C	E	C	B	E	C	B
Approach Delay (s)		51.4			48.8			24.0			35.9	
Approach LOS		D			D			C			D	

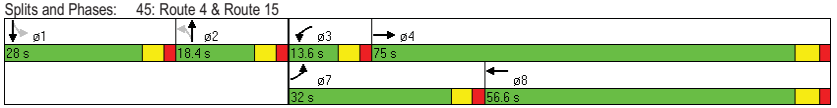
Intersection Summary				
HCM Average Control Delay	34.6	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	72.0%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	220	1310	30	800	20	10	40	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	16.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	32.0	75.0	13.6	56.6	18.4	18.4	28.0	28.0
Total Split (%)	23.7%	55.6%	10.1%	41.9%	13.6%	13.6%	20.7%	20.7%
Maximum Green (s)	26.5	69.0	8.1	50.6	12.9	12.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 135
Actuated Cycle Length: 116.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	1310	60	30	800	70	20	10	30	40	10	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		749			563			294			294	
Travel Time (s)		14.6			11.0			5.7			5.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	1612	0	35	1023	0	0	71	0	0	200	0
v/c Ratio	0.80	0.91		0.28	0.74			0.50			0.85	
Control Delay	66.8	35.4		63.9	35.4			49.3			62.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	66.8	35.4		63.9	35.4			49.3			62.1	
Queue Length 50th (ft)	196	565		27	352			32			96	
Queue Length 95th (ft)	296	688		63	457			81			#201	
Internal Link Dist (ft)		669			483			214			214	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	414	2142		127	1566			186			294	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.63	0.75		0.28	0.65			0.38			0.68	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	1310	60	30	800	70	20	10	30	40	10	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3516		1770	3497			1710			1666	
Flt Permitted	0.95	1.00		0.95	1.00			0.81			0.70	
Satd. Flow (perm)	1770	3516		1770	3497			1407			1172	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	259	1541	71	35	941	82	24	12	35	47	12	141
RTOR Reduction (vph)	0	2	0	0	5	0	0	27	0	0	65	0
Lane Group Flow (vph)	259	1610	0	35	1018	0	0	44	0	0	135	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	21.2	58.6		8.3	45.7			9.6			16.8	
Effective Green, g (s)	21.2	58.6		8.3	45.7			9.6			16.8	
Actuated g/C Ratio	0.18	0.51		0.07	0.39			0.08			0.15	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	324	1779		127	1380			117			170	
v/s Ratio Prot	c0.15	c0.46		0.02	0.29							
v/s Ratio Perm								c0.03			c0.12	
v/c Ratio	0.80	0.90		0.28	0.74			0.38			0.79	
Uniform Delay, d1	45.3	26.1		50.9	29.9			50.3			47.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	12.1	6.8		0.4	1.8			0.8			20.7	
Delay (s)	57.4	32.9		51.3	31.7			51.0			68.5	
Level of Service	E	C		D	C			D			E	
Approach Delay (s)		36.3			32.4			51.0			68.5	
Approach LOS		D			C			D			E	

Intersection Summary					
HCM Average Control Delay	37.3	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.85				
Actuated Cycle Length (s)	115.8	Sum of lost time (s)		22.5	
Intersection Capacity Utilization	71.0%	ICU Level of Service		C	
Analysis Period (min)	15				

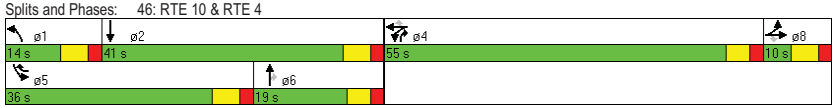
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	20	10	20	620	10	250	410	690	420
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	9.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	14.0	14.0	15.0	9.5	14.0	16.0
Total Split (s)	10.0	10.0	55.0	36.0	14.0	19.0	55.0	36.0	41.0
Total Split (%)	8.3%	8.3%	45.8%	30.0%	11.7%	15.8%	45.8%	30.0%	34.2%
Maximum Green (s)	4.0	4.0	49.5	30.0	8.0	13.5	49.5	30.0	35.0
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	5.5	5.5	6.0	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		17.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 111.6
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	580	20	620	10	250	410	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			734			914	
Travel Time (s)		7.3			12.6			14.3			17.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	11	0	682	705	11	284	466	784	500	0
v/c Ratio		0.69	0.16		0.93	0.63	0.08	0.72	0.50	0.90	0.69	
Control Delay		102.3	32.9		53.5	7.7	54.3	61.1	14.3	55.8	36.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		102.3	32.9		53.5	7.7	54.3	61.1	14.3	55.8	36.7	
Queue Length 50th (ft)		36	0		496	126	8	113	170	305	308	
Queue Length 95th (ft)		#103	19		#710	182	27	158	247	#401	#559	
Internal Link Dist (ft)		295			565			654			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		67	69		810	1146	130	440	1007	948	728	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.69	0.16		0.84	0.62	0.08	0.65	0.46	0.83	0.69	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	580	20	620	10	250	410	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	6.0	6.0	5.5	5.5	6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1777	1583	1770	3539	1583	3433	1850	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1777	1583	1770	3539	1583	3433	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	23	23	11	659	23	705	11	284	466	784	477	23
RTOR Reduction (vph)	0	0	11	0	0	49	0	0	36	0	1	0
Lane Group Flow (vph)	0	46	0	0	682	656	11	284	430	784	499	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		3.0	3.0		45.9	74.3	1.5	17.4	63.3	28.4	43.8	
Effective Green, g (s)		3.0	3.0		45.9	74.3	1.5	17.4	63.3	28.4	43.8	
Actuated g/C Ratio		0.03	0.03		0.39	0.63	0.01	0.15	0.54	0.24	0.37	
Clearance Time (s)		6.0	6.0		5.5	6.0	6.0	5.5	5.5	6.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		46	40		693	999	23	523	925	828	688	
v/s Ratio Prot		c0.03			c0.38	0.16	0.01	0.08	0.18	c0.23	c0.27	
v/s Ratio Perm			0.00			0.26			0.09			
v/c Ratio		1.00	0.01		0.98	0.66	0.48	0.54	0.47	0.95	0.72	
Uniform Delay, d1		57.4	55.9		35.5	13.7	57.7	46.5	16.8	43.9	31.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		132.7	0.0		29.9	1.2	5.6	0.6	0.1	19.2	3.2	
Delay (s)		190.0	55.9		65.5	14.9	63.3	47.1	16.9	63.1	35.0	
Level of Service		F	E		E	B	E	D	B	E	C	
Approach Delay (s)		164.2			39.7			28.8			52.1	
Approach LOS		F			D			C			D	

Intersection Summary				
HCM Average Control Delay	44.0	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	117.7	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	84.4%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1140	1000	60
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	32.0	32.0	13.0	22.0	33.0	33.0
Total Split (s)	43.0	43.0	15.0	87.0	72.0	72.0
Total Split (%)	33.1%	33.1%	11.5%	66.9%	55.4%	55.4%
Maximum Green (s)	38.0	38.0	10.0	81.0	66.0	66.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 103 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1140	1000	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	784			300	778	
Travel Time (s)	21.4			5.8	15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	116	21	1200	1053	63
v/c Ratio	0.81	0.44	0.19	0.47	0.45	0.06
Control Delay	71.0	50.4	69.9	1.7	12.9	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	50.4	69.9	1.7	12.9	10.6
Queue Length 50th (ft)	197	87	15	77	233	19
Queue Length 95th (ft)	273	137	m32	21	342	46
Internal Link Dist (ft)	704			220	698	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	463	414	135	2551	2339	1046
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.28	0.16	0.47	0.45	0.06

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1140	1000	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	116	21	1200	1053	63
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	242	116	21	1200	1053	63
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	24.4	24.4	4.9	94.6	84.7	84.7
Effective Green, g (s)	24.4	24.4	4.9	94.6	84.7	84.7
Actuated g/C Ratio	0.19	0.19	0.04	0.73	0.65	0.65
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	297	266	66	2551	2284	1022
v/s Ratio Prot	c0.15		0.01	c0.34	0.30	
v/s Ratio Perm		0.08				0.04
v/c Ratio	0.81	0.44	0.32	0.47	0.46	0.06
Uniform Delay, d1	50.6	46.7	60.9	7.3	11.3	8.2
Progression Factor	1.00	1.00	1.14	0.15	1.00	1.00
Incremental Delay, d2	14.9	0.4	0.9	0.5	0.7	0.1
Delay (s)	65.5	47.1	70.3	1.6	12.0	8.3
Level of Service	E	D	E	A	B	A
Approach Delay (s)	59.6			2.8	11.7	
Approach LOS	E			A	B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	110	30	1000	80	970
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	25.0	25.0	28.0	13.5	22.0
Total Split (s)	27.0	27.0	83.0	20.0	103.0
Total Split (%)	20.8%	20.8%	63.8%	15.4%	79.2%
Maximum Green (s)	22.0	22.0	77.0	15.0	97.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 61 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6 & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	1000	160	80	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		553			1337
Travel Time (s)	16.0		10.8			26.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	34	1333	0	92	1115
v/c Ratio	0.66	0.17	0.57		0.60	0.39
Control Delay	71.8	17.2	6.8		61.4	10.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	71.8	17.2	6.8		61.4	10.8
Queue Length 50th (ft)	104	0	115		77	262
Queue Length 95th (ft)	159	29	145		128	416
Internal Link Dist (ft)	506		473			1257
Turn Bay Length (ft)					200	
Base Capacity (vph)	300	296	2348		202	2831
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.42	0.11	0.57		0.46	0.39

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	1000	160	80	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3432		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3432		1752	3505
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	126	34	1149	184	92	1115
RTOR Reduction (vph)	0	30	8	0	0	0
Lane Group Flow (vph)	126	4	1325	0	92	1115
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	14.0	14.0	88.7		11.3	105.0
Effective Green, g (s)	14.0	14.0	88.7		11.3	105.0
Actuated g/C Ratio	0.11	0.11	0.68		0.09	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	191	170	2342		152	2831
v/s Ratio Prot	c0.07		c0.39		c0.05	0.32
v/s Ratio Perm		0.00				
v/c Ratio	0.66	0.02	0.57		0.61	0.39
Uniform Delay, d1	55.7	51.9	10.7		57.2	3.5
Progression Factor	1.00	1.00	0.51		0.81	2.74
Incremental Delay, d2	6.1	0.0	0.9		4.3	0.4
Delay (s)	61.9	51.9	6.4		50.8	10.0
Level of Service	E	D	A		D	B
Approach Delay (s)	59.7		6.4			13.1
Approach LOS	E		A			B

Intersection Summary				
HCM Average Control Delay	12.6	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	61.1%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	40	30	1130	980
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	26.0	13.0	22.0	30.0
Total Split (s)	31.0	17.0	99.0	82.0
Total Split (%)	23.8%	13.1%	76.2%	63.1%
Maximum Green (s)	26.0	12.0	93.0	76.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 83 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1130	980	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2042			2039	7256	
Travel Time (s)	39.8			39.7	141.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	33	1256	1111	0
v/c Ratio	0.61		0.29	0.43	0.41	
Control Delay	45.7		69.6	2.1	3.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	45.7		69.6	2.1	3.0	
Queue Length 50th (ft)	48		29	34	123	
Queue Length 95th (ft)	107		m60	55	7	
Internal Link Dist (ft)	1962			1959	7176	
Turn Bay Length (ft)			125			
Base Capacity (vph)	378		162	2934	2706	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.29		0.20	0.43	0.41	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1130	980	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	1.00	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1678		1752	3505	3494	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1678		1752	3505	3494	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	67	33	1256	1089	22
RTOR Reduction (vph)	49	0	0	0	1	0
Lane Group Flow (vph)	62	0	33	1256	1110	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	10.2		5.1	108.8	98.7	
Effective Green, g (s)	10.2		5.1	108.8	98.7	
Actuated g/C Ratio	0.08		0.04	0.84	0.76	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	132		69	2933	2653	
v/s Ratio Prot	c0.04		0.02	c0.36	0.32	
v/s Ratio Perm						
v/c Ratio	0.47		0.48	0.43	0.42	
Uniform Delay, d1	57.3		61.1	2.7	5.5	
Progression Factor	1.00		1.09	0.57	0.43	
Incremental Delay, d2	1.0		1.7	0.4	0.5	
Delay (s)	58.3		68.5	2.0	2.9	
Level of Service	E		E	A	A	
Approach Delay (s)	58.3			3.7	2.9	
Approach LOS	E			A	A	

Intersection Summary			
HCM Average Control Delay	5.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

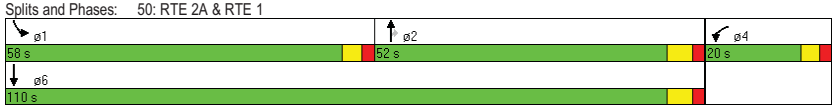
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	610	170	940	280
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	20.0		33.0	33.0	9.0	21.0
Total Split (s)	20.0	0.0	52.0	52.0	58.0	110.0
Total Split (%)	15.4%	0.0%	40.0%	40.0%	44.6%	84.6%
Maximum Green (s)	15.0		46.0	46.0	53.0	104.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 33 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	610	170	940	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	763		960			531
Travel Time (s)	14.9		18.7			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	588	718	200	1106	329
v/c Ratio	0.62	0.37	0.51	0.27	0.83	0.11
Control Delay	74.6	0.7	32.2	4.7	34.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	0.7	32.2	4.7	34.1	1.4
Queue Length 50th (ft)	78	0	243	0	441	10
Queue Length 95th (ft)	125	0	300	42	348	12
Internal Link Dist (ft)	683		880			451
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	204	1583	1395	744	1395	2910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.37	0.51	0.27	0.79	0.11

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	610	170	940	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3471	1553	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3471	1553	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	94	588	718	200	1106	329
RTOR Reduction (vph)	0	0	0	120	0	0
Lane Group Flow (vph)	94	588	718	80	1106	329
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	11.1	130.0	52.2	52.2	50.7	107.9
Effective Green, g (s)	11.1	130.0	52.2	52.2	50.7	107.9
Actuated g/C Ratio	0.09	1.00	0.40	0.40	0.39	0.83
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	151	1583	1394	624	1326	2909
v/s Ratio Prot	c0.05		c0.21		c0.33	0.09
v/s Ratio Perm		0.37		0.05		
v/c Ratio	0.62	0.37	0.52	0.13	0.83	0.11
Uniform Delay, d1	57.4	0.0	29.4	24.5	35.8	2.1
Progression Factor	1.00	1.00	1.00	1.00	0.78	0.57
Incremental Delay, d2	5.6	0.7	1.4	0.4	5.0	0.1
Delay (s)	63.1	0.7	30.7	25.0	33.1	1.3
Level of Service	E	A	C	C	C	A
Approach Delay (s)	9.3		29.5			25.8
Approach LOS	A		C			C

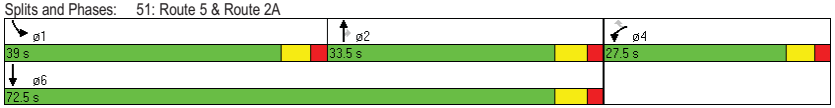
Intersection Summary				
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	27.5	27.5	33.5	33.5	39.0	72.5
Total Split (%)	27.5%	27.5%	33.5%	33.5%	39.0%	72.5%
Maximum Green (s)	22.0	22.0	27.5	27.5	33.5	66.5
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 73.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1099		864			879
Travel Time (s)	21.4		16.8			17.1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	172	290	75	387	462
v/c Ratio	0.26	0.51	0.22	0.12	0.80	0.18
Control Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Length 50th (ft)	23	0	44	0	160	26
Queue Length 95th (ft)	61	56	91	29	264	44
Internal Link Dist (ft)	1019		784			799
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	534	598	1334	644	813	3215
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.29	0.22	0.12	0.48	0.14

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	172	290	75	387	462
RTOR Reduction (vph)	0	152	0	47	0	0
Lane Group Flow (vph)	54	20	290	28	387	462
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.5	8.5	27.8	27.8	20.1	53.4
Effective Green, g (s)	8.5	8.5	27.8	27.8	20.1	53.4
Actuated g/C Ratio	0.12	0.12	0.38	0.38	0.27	0.73
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	205	183	1340	600	485	2575
v/s Ratio Prot	c0.03		c0.08		c0.22	0.13
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.26	0.11	0.22	0.05	0.80	0.18
Uniform Delay, d1	29.6	29.1	15.4	14.4	24.8	3.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.4	0.1	8.3	0.0
Delay (s)	29.8	29.2	15.8	14.6	33.1	3.1
Level of Service	C	C	B	B	C	A
Approach Delay (s)	29.3		15.5			16.8
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	33.0	33.0	49.0	49.0	38.0	87.0
Total Split (%)	27.5%	27.5%	40.8%	40.8%	31.7%	72.5%
Maximum Green (s)	27.5	27.5	43.0	43.0	32.5	81.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 58.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1682		1244			1258
Travel Time (s)	32.8		24.2			24.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	113	320	144	227	567
v/c Ratio	0.48	0.29	0.62	0.27	0.57	0.51
Control Delay	28.7	8.0	25.4	5.4	27.9	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.7	8.0	25.4	5.4	27.9	8.5
Queue Length 50th (ft)	49	0	91	0	66	90
Queue Length 95th (ft)	131	40	210	38	166	195
Internal Link Dist (ft)	1602		1164			1178
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	880	844	1448	1262	1039	1863
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.13	0.22	0.11	0.22	0.30

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	113	320	144	227	567
RTOR Reduction (vph)	0	91	0	103	0	0
Lane Group Flow (vph)	165	22	320	41	227	567
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.2	11.2	16.2	16.2	13.1	34.8
Effective Green, g (s)	11.2	11.2	16.2	16.2	13.1	34.8
Actuated g/C Ratio	0.19	0.19	0.28	0.28	0.23	0.61
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	345	308	525	446	403	1128
v/s Ratio Prot	c0.09		c0.17		0.13	c0.30
v/s Ratio Perm		0.01		0.03		
v/c Ratio	0.48	0.07	0.61	0.09	0.56	0.50
Uniform Delay, d1	20.6	18.9	17.9	15.2	19.7	6.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	1.4	0.0	1.1	0.1
Delay (s)	20.9	18.9	19.3	15.3	20.7	6.6
Level of Service	C	B	B	B	C	A
Approach Delay (s)	20.1		18.0			10.6
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	14.6	HCM Level of Service		B
HCM Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	57.5	Sum of lost time (s)		17.5
Intersection Capacity Utilization	51.5%	ICU Level of Service		A
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	360	80	70	30	30	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	434	96	84	36	36	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	84				1048	84
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	84				1048	84
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	71				80	85
cM capacity (veh/h)	1512				180	975

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	530	84	36	36	145
Volume Left	434	0	0	36	0
Volume Right	0	0	36	0	145
cSH	1512	1700	1700	180	975
Volume to Capacity	0.29	0.05	0.02	0.20	0.15
Queue Length 95th (ft)	30	0	0	18	13
Control Delay (s)	7.3	0.0	0.0	30.0	9.3
Lane LOS	A			D	A
Approach Delay (s)	7.3	0.0		13.5	
Approach LOS				B	

Intersection Summary				
Average Delay	7.6			
Intersection Capacity Utilization	40.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	30	40	10	20	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	14	41	54	14	27	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	155	61			68	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	155	61			68	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	96			98	
cM capacity (veh/h)	821	1004			1534	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	54	68	68
Volume Left	14	0	27
Volume Right	41	14	0
cSH	951	1700	1534
Volume to Capacity	0.06	0.04	0.02
Queue Length 95th (ft)	5	0	1
Control Delay (s)	9.0	0.0	3.0
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	3.0
Approach LOS	A		

Intersection Summary			
Average Delay		3.7	
Intersection Capacity Utilization		19.4%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	170	130	130	120	60	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	254	194	194	179	90	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			448		918	351
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			448		918	351
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			83		64	83
cM capacity (veh/h)			1113		249	693

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	448	373	209
Volume Left	0	194	90
Volume Right	194	0	119
cSH	1700	1113	393
Volume to Capacity	0.26	0.17	0.53
Queue Length 95th (ft)	0	16	75
Control Delay (s)	0.0	5.5	24.1
Lane LOS		A	C
Approach Delay (s)	0.0	5.5	24.1
Approach LOS			C

Intersection Summary			
Average Delay		6.9	
Intersection Capacity Utilization		48.6%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	210	30	20	200	370
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	22.0	22.0	10.0	43.0	43.0
Total Split (%)	29.3%	29.3%	13.3%	57.3%	57.3%
Maximum Green (s)	16.5	16.5	4.5	37.0	37.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 57.5
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	200	370	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	454	
Travel Time (s)	16.3			14.6	8.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	247	35	24	235	776	0
v/c Ratio	0.61	0.09	0.16	0.25	0.85	
Control Delay	29.8	9.9	34.4	10.1	23.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.8	9.9	34.4	10.1	23.2	
Queue Length 50th (ft)	67	0	7	34	154	
Queue Length 95th (ft)	166	20	32	95	#453	
Internal Link Dist (ft)	758			671	374	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	542	509	148	1279	1227	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.07	0.16	0.18	0.63	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	200	370	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1752	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1752	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	247	35	24	235	435	341
RTOR Reduction (vph)	0	27	0	0	39	0
Lane Group Flow (vph)	247	8	24	235	737	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	13.3	13.3	1.4	28.9	28.9	
Effective Green, g (s)	13.3	13.3	1.4	28.9	28.9	
Actuated g/C Ratio	0.22	0.22	0.02	0.48	0.48	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	388	347	41	888	836	
v/s Ratio Prot	c0.14		c0.01	0.13	c0.42	
v/s Ratio Perm		0.00				
v/c Ratio	0.64	0.02	0.59	0.26	0.88	
Uniform Delay, d1	21.5	18.5	29.3	9.5	14.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.5	0.0	13.0	0.1	10.5	
Delay (s)	24.0	18.6	42.3	9.5	24.8	
Level of Service	C	B	D	A	C	
Approach Delay (s)	23.3			12.6	24.8	
Approach LOS	C			B	C	

Intersection Summary				
HCM Average Control Delay	22.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	60.6	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	58.4%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	100	200	80	70	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	52	104	208	83	73	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	292				458	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	292				458	250
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				86	92
cM capacity (veh/h)	1270				538	789

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	156	292	135
Volume Left	52	0	73
Volume Right	0	83	62
cSH	1270	1700	630
Volume to Capacity	0.04	0.17	0.21
Queue Length 95th (ft)	3	0	20
Control Delay (s)	2.9	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	2.9	0.0	12.3
Approach LOS			B

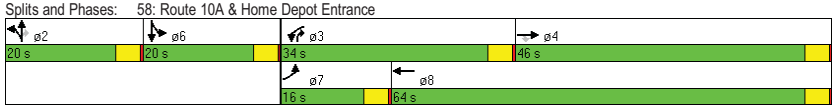
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	930	710	420	820	310	30	740	80	40
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	46.0	46.0	34.0	64.0	20.0	20.0	34.0	20.0	20.0
Total Split (%)	13.3%	38.3%	38.3%	28.3%	53.3%	16.7%	16.7%	28.3%	16.7%	16.7%
Maximum Green (s)	12.0	42.0	42.0	30.0	60.0	16.0	16.0	30.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 112.7
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	710	420	820	60	310	30	740	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1852			1228			703			493	
Travel Time (s)		42.1			23.9			13.7			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	1011	772	457	956	0	337	33	804	87	163	0
v/c Ratio	0.59	0.76	1.13	0.50	0.47		0.77	0.14	1.13	0.54	0.68	
Control Delay	66.8	36.4	104.1	38.0	16.6		61.0	46.2	100.0	61.8	36.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	66.8	36.4	104.1	38.0	16.6		61.0	46.2	100.0	61.8	36.5	
Queue Length 50th (ft)	62	338	~588	146	216		123	22	~530	62	47	
Queue Length 95th (ft)	119	458	#887	211	318		182	55	#932	115	118	
Internal Link Dist (ft)		1772			1148			623			413	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	189	1322	684	916	2021		489	265	711	252	319	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.46	0.76	1.13	0.50	0.47		0.69	0.12	1.13	0.35	0.51	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

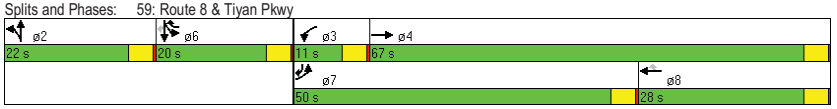
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	710	420	820	60	310	30	740	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3503		3433	1863	1583	1770	1657	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3503		3433	1863	1583	1770	1657	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1011	772	457	891	65	337	33	804	87	43	120
RTOR Reduction (vph)	0	0	91	0	4	0	0	0	88	0	88	0
Lane Group Flow (vph)	87	1011	681	457	952	0	337	33	716	87	75	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	8.2	43.0	43.0	30.1	64.9		14.3	14.3	44.4	10.2	10.2	
Effective Green, g (s)	8.2	43.0	43.0	30.1	64.9		14.3	14.3	44.4	10.2	10.2	
Actuated g/C Ratio	0.07	0.38	0.38	0.26	0.57		0.13	0.13	0.39	0.09	0.09	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	128	1340	599	910	2001		432	235	619	159	149	
v/s Ratio Prot	0.05	0.29		0.13	0.27		0.10	0.02	c0.31	c0.05	0.05	
v/s Ratio Perm			c0.43						0.15			
v/c Ratio	0.68	0.75	1.14	0.50	0.48		0.78	0.14	1.16	0.55	0.50	
Uniform Delay, d1	51.4	30.7	35.3	35.4	14.3		48.1	44.2	34.6	49.5	49.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.7	2.2	80.4	0.2	0.1		8.2	0.1	87.6	2.1	1.0	
Delay (s)	62.1	32.9	115.7	35.6	14.4		56.3	44.3	122.2	51.5	50.2	
Level of Service	E	C	F	D	B		E	D	F	D	D	
Approach Delay (s)		68.5			21.2			101.1			50.7	
Approach LOS		E			C			F			D	

Intersection Summary				
HCM Average Control Delay	61.5	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.08			
Actuated Cycle Length (s)	113.6	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	86.0%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	930	930	40	680	170	80	60	360	90	980
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	50.0	67.0	11.0	28.0	20.0	22.0	22.0	20.0	20.0	50.0
Total Split (%)	41.7%	55.8%	9.2%	23.3%	16.7%	18.3%	18.3%	16.7%	16.7%	41.7%
Maximum Green (s)	46.0	63.0	7.0	24.0	16.0	18.0	18.0	16.0	16.0	46.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 112.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	930	930	110	40	680	170	80	60	50	360	90	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2791			2670			614			1053	
Travel Time (s)		54.4			52.0			14.0			20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										38%		
Lane Group Flow (vph)	1011	1131	0	43	739	185	87	119	0	242	247	1065
v/c Ratio	0.72	0.56		0.44	0.98	0.27	0.53	0.64		1.01	1.01	1.04
Control Delay	31.9	16.6		66.2	72.5	3.3	60.4	52.3		110.2	109.3	59.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	31.9	16.6		66.2	72.5	3.3	60.4	52.3		110.2	109.3	59.4
Queue Length 50th (ft)	309	260		30	281	0	61	63		~189	~192	~761
Queue Length 95th (ft)	418	362		71	#438	33	113	124		#384	#390	#1084
Internal Link Dist (ft)		2711			2590			534			973	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1405	2037		110	756	683	283	303		239	244	1023
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.72	0.56		0.39	0.98	0.27	0.31	0.39		1.01	1.01	1.04

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	930	930	110	40	680	170	80	60	50	360	90	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	3433	3483		1770	3539	1583	1770	1736		1681	1718	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	3433	3483		1770	3539	1583	1770	1736		1681	1718	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1011	1011	120	43	739	185	87	65	54	391	98	1065
RTOR Reduction (vph)	0	7	0	0	0	118	0	26	0	0	0	102
Lane Group Flow (vph)	1011	1124	0	43	739	67	87	93	0	242	247	963
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Effective Green, g (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Actuated g/C Ratio	0.41	0.58		0.05	0.22	0.36	0.09	0.09		0.14	0.14	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1394	2017		83	778	571	162	159		237	243	922
v/s Ratio Prot	0.29	0.32		0.02	c0.21	0.02	0.05	c0.05		0.14	0.14	c0.42
v/s Ratio Perm						0.03						0.18
v/c Ratio	0.73	0.56		0.52	0.95	0.12	0.54	0.58		1.02	1.02	1.04
Uniform Delay, d1	28.3	14.8		52.8	43.6	24.2	49.2	49.4		48.6	48.6	25.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	0.2		2.3	20.5	0.0	1.7	3.5		64.0	62.0	41.8
Delay (s)	29.9	15.0		55.0	64.1	24.2	50.9	52.8		112.7	110.7	67.4
Level of Service	C	B		E	E	C	D	D		F	F	E
Approach Delay (s)		22.1			56.0			52.0			81.4	
Approach LOS		C			E			D			F	

Intersection Summary

HCM Average Control Delay	49.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	113.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	10	230	2130	50	2230
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	23.0	23.0	99.0	8.0	107.0
Total Split (%)	17.7%	17.7%	76.2%	6.2%	82.3%
Maximum Green (s)	19.0	19.0	95.0	4.0	103.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	230	2130	1170	50	2230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1181		1114			966
Travel Time (s)	26.8		21.7			18.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	250	3587	0	54	2424
v/c Ratio	0.04	0.93	1.01		0.82	0.60
Control Delay	69.8	69.9	12.2		129.5	3.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	69.8	69.9	12.2		129.5	3.3
Queue Length 50th (ft)	9	179	~467		~45	106
Queue Length 95th (ft)	m9	m165	m54		m#84	m100
Internal Link Dist (ft)	1101		1034			886
Turn Bay Length (ft)					300	
Base Capacity (vph)	259	281	3564		66	4028
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.04	0.89	1.01		0.82	0.60

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	230	2130	1170	50	2230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4768		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4768		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	250	2315	1272	54	2424
RTOR Reduction (vph)	0	50	76	0	0	0
Lane Group Flow (vph)	11	200	3511	0	54	2424
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	18.0	18.0	95.1		4.9	104.0
Effective Green, g (s)	18.0	18.0	95.1		4.9	104.0
Actuated g/C Ratio	0.14	0.14	0.73		0.04	0.80
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	245	219	3488		66	4029
v/s Ratio Prot	0.01		c0.74		c0.03	0.48
v/s Ratio Perm		c0.13				
v/c Ratio	0.04	0.91	1.01		0.82	0.60
Uniform Delay, d1	48.5	55.2	17.5		62.1	5.0
Progression Factor	1.45	1.55	0.27		1.26	0.54
Incremental Delay, d2	0.0	5.7	6.3		41.3	0.5
Delay (s)	70.5	91.6	11.0		119.5	3.2
Level of Service	E	F	B		F	A
Approach Delay (s)	90.7		11.0			5.8
Approach LOS	F		B			A

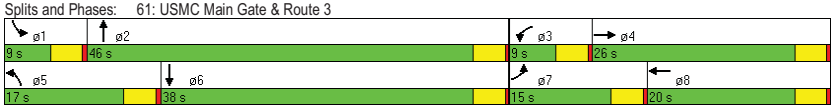
Intersection Summary				
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	170	10	20	5	180	400	20	370
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	15.0	26.0	9.0	20.0	17.0	46.0	9.0	38.0
Total Split (%)	16.7%	28.9%	10.0%	22.2%	18.9%	51.1%	10.0%	42.2%
Maximum Green (s)	11.0	22.0	5.0	16.0	13.0	42.0	5.0	34.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 71.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	10	290	20	5	10	180	400	40	20	370	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	326	0	22	16	0	196	478	0	22	695	0
v/c Ratio	0.64	0.65		0.18	0.12		0.70	0.40		0.19	0.85	
Control Delay	41.3	11.2		38.4	23.6		44.5	9.5		38.8	29.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.3	11.2		38.4	23.6		44.5	9.5		38.8	29.7	
Queue Length 50th (ft)	76	4		9	2		78	57		9	227	
Queue Length 95th (ft)	#198	76		34	21		#190	235		34	#562	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	304	710		124	384		320	1183		118	819	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.61	0.46		0.18	0.04		0.61	0.40		0.19	0.85	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	10	290	20	5	10	180	400	40	20	370	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.90		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1593		1770	1671		1752	1820		1687	1663	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1593		1770	1671		1752	1820		1687	1663	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	11	315	22	5	11	196	435	43	22	402	293
RTOR Reduction (vph)	0	269	0	0	11	0	0	3	0	0	25	0
Lane Group Flow (vph)	185	57	0	22	5	0	196	475	0	22	670	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	7%	7%	7%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.8	11.4		1.8	1.4		11.5	46.6		1.8	36.9	
Effective Green, g (s)	11.8	11.4		1.8	1.4		11.5	46.6		1.8	36.9	
Actuated g/C Ratio	0.15	0.15		0.02	0.02		0.15	0.60		0.02	0.48	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	269	234		41	30		260	1093		39	791	
v/s Ratio Prot	c0.10	c0.04		0.01	0.00		c0.11	0.26		0.01	c0.40	
v/s Ratio Perm												
v/c Ratio	0.69	0.24		0.54	0.17		0.75	0.43		0.56	0.85	
Uniform Delay, d1	31.2	29.3		37.5	37.5		31.7	8.4		37.5	17.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.7	0.2		6.6	1.0		10.5	0.1		10.7	8.1	
Delay (s)	36.9	29.5		44.1	38.5		42.2	8.5		48.2	25.9	
Level of Service	D	C		D	D		D	A		D	C	
Approach Delay (s)		32.2			41.8			18.3			26.6	
Approach LOS		C			D			B			C	

Intersection Summary

HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	77.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	70	50	610	650
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	22.0	22.0	12.0	68.0	56.0
Total Split (%)	24.4%	24.4%	13.3%	75.6%	62.2%
Maximum Green (s)	18.0	18.0	8.0	64.0	52.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 49.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	70	50	610	650	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	76	54	663	783	0
v/c Ratio	0.15	0.29	0.23	0.45	0.63	
Control Delay	27.1	11.2	27.5	3.8	10.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.1	11.2	27.5	3.8	10.9	
Queue Length 50th (ft)	9	0	14	54	165	
Queue Length 95th (ft)	38	35	54	115	331	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	717	686	315	1806	1699	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.11	0.17	0.37	0.46	

Intersection Summary

Area Type: Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	70	50	610	650	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1752	1845	1838	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1752	1845	1838	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	76	54	663	707	76
RTOR Reduction (vph)	0	69	0	0	4	0
Lane Group Flow (vph)	33	7	54	663	779	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.5	4.5	3.6	39.7	32.1	
Effective Green, g (s)	4.5	4.5	3.6	39.7	32.1	
Actuated g/C Ratio	0.09	0.09	0.07	0.76	0.61	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	153	136	121	1403	1130	
v/s Ratio Prot	c0.02		0.03	c0.36	c0.42	
v/s Ratio Perm		0.00				
v/c Ratio	0.22	0.05	0.45	0.47	0.69	
Uniform Delay, d1	22.2	21.9	23.3	2.3	6.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.1	1.0	0.1	1.4	
Delay (s)	22.5	21.9	24.3	2.4	8.1	
Level of Service	C	C	C	A	A	
Approach Delay (s)	22.1			4.1	8.1	
Approach LOS	C			A	A	

Intersection Summary				
HCM Average Control Delay	7.3	HCM Level of Service	A	
HCM Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	51.6%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	330	400	5	5	180
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	359	435	5	5	196
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	440				807	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	440				807	438
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	68
cM capacity (veh/h)	1120				349	619

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	5	359	440	201
Volume Left	5	0	0	5
Volume Right	0	0	5	196
cSH	1120	1700	1700	636
Volume to Capacity	0.00	0.21	0.26	0.32
Queue Length 95th (ft)	0	0	0	34
Control Delay (s)	8.2	0.0	0.0	13.5
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	13.5
Approach LOS				B

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

INTERSECTION ANALYSIS

Synchro Output

Year 2030 Finegayan/South Finegayan Cantonment/Housing (Alternative B) Conditions

Weekday a.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	40	490	750	10	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	50	612	938	12	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1290				
pX, platoon unblocked					0.98	
vC, conflicting volume	950				1656	944
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	950				1659	944
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				87	96
cM capacity (veh/h)	719				98	318

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	50	612	950	25
Volume Left	50	0	0	12
Volume Right	0	0	12	12
cSH	719	1700	1700	150
Volume to Capacity	0.07	0.36	0.56	0.17
Queue Length 95th (ft)	6	0	0	14
Control Delay (s)	10.4	0.0	0.0	33.7
Lane LOS	B			D
Approach Delay (s)	0.8		0.0	33.7
Approach LOS				D

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	50.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	470	40	20	510	230	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	588	50	25	638	288	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			638		1300	612
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			638		1300	612
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		0	87
cM capacity (veh/h)			946		173	493

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	638	662	350
Volume Left	0	25	288
Volume Right	50	0	62
cSH	1700	946	196
Volume to Capacity	0.38	0.03	1.79
Queue Length 95th (ft)	0	2	615
Control Delay (s)	0.0	0.7	415.1
Lane LOS		A	F
Approach Delay (s)	0.0	0.7	415.1
Approach LOS			F

Intersection Summary				
Average Delay	88.3			
Intersection Capacity Utilization	65.5%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	520	530	50	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	12	650	662	62	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	725				1369	694
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	725				1369	694
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	97
cM capacity (veh/h)	873				159	443

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	662	725	25
Volume Left	12	0	12
Volume Right	0	62	12
cSH	873	1700	234
Volume to Capacity	0.01	0.43	0.11
Queue Length 95th (ft)	1	0	9
Control Delay (s)	0.4	0.0	22.2
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	22.2
Approach LOS			C

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	45.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	160	710	950	30	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	180	798	1067	34	11	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		704				
pX, platoon unblocked					0.86	
vC, conflicting volume	1101				2242	1084
vC1, stage 1 conf vol					1084	
vC2, stage 2 conf vol					1157	
vCu, unblocked vol	1101				2362	1084
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	72				93	91
cM capacity (veh/h)	634				162	264

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	180	798	1101	34
Volume Left	180	0	0	11
Volume Right	0	0	34	22
cSH	634	1700	1700	395
Volume to Capacity	0.28	0.47	0.65	0.09
Queue Length 95th (ft)	29	0	0	7
Control Delay (s)	12.9	0.0	0.0	22.9
Lane LOS	B			C
Approach Delay (s)	2.4		0.0	22.9
Approach LOS				C

Intersection Summary				
Average Delay			1.5	
Intersection Capacity Utilization			74.0%	ICU Level of Service D
Analysis Period (min)			15	

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	930	870	300	110	1000
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	43.0	61.5	61.5	15.5	77.0
Total Split (%)	35.8%	51.3%	51.3%	12.9%	64.2%
Maximum Green (s)	37.5	55.5	55.5	10.0	71.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	150	870	300	110	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1241	0	1000	345	126	1149
v/c Ratio	1.16		1.16	0.41	0.85	0.55
Control Delay	119.5		116.1	9.2	97.5	16.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	119.5		116.1	9.2	97.5	16.1
Queue Length 50th (ft)	~583		~917	59	98	267
Queue Length 95th (ft)	#679		#1108	120	#199	309
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1071		862	846	148	2094
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.16		1.16	0.41	0.85	0.55

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	150	870	300	110	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3392		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3392		1863	1583	1770	3539
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1069	172	1000	345	126	1149
RTOR Reduction (vph)	11	0	0	114	0	0
Lane Group Flow (vph)	1230	0	1000	231	126	1149
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	37.5		55.5	55.5	10.0	71.0
Effective Green, g (s)	37.5		55.5	55.5	10.0	71.0
Actuated g/C Ratio	0.31		0.46	0.46	0.08	0.59
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1060		862	732	148	2094
v/s Ratio Prot	c0.36		c0.54		c0.07	0.32
v/s Ratio Perm				0.15		
v/c Ratio	1.16		1.16	0.32	0.85	0.55
Uniform Delay, d1	41.2		32.2	20.3	54.3	14.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	82.9		84.9	1.1	35.5	1.0
Delay (s)	124.1		117.1	21.4	89.8	15.9
Level of Service	F		F	C	F	B
Approach Delay (s)	124.1		92.6			23.2
Approach LOS	F		F			C

Intersection Summary

HCM Average Control Delay	79.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	370	90	10	740	1970	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	430	105	12	860	2291	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2779	1180	2360			
vC1, stage 1 conf vol	2326					
vC2, stage 2 conf vol	453					
vCu, unblocked vol	2779	1180	2360			
tC, single (s)	6.9	7.0	4.1			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	42	94			
cM capacity (veh/h)	57	181	204			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	535	12	430	430	1527	833
Volume Left	430	12	0	0	0	0
Volume Right	105	0	0	0	0	70
cSH	66	204	1700	1700	1700	1700
Volume to Capacity	8.11	0.06	0.25	0.25	0.90	0.49
Queue Length 95th (ft)	Err	5	0	0	0	0
Control Delay (s)	Err	23.7	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	Err	0.3			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay		1419.7		
Intersection Capacity Utilization		89.0%	ICU Level of Service	E
Analysis Period (min)		15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	330	560	180	240
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	18.0	0.0	47.0	0.0	25.0	72.0
Total Split (%)	20.0%	0.0%	52.2%	0.0%	27.8%	80.0%
Maximum Green (s)	14.0		41.0		19.5	66.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 84.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	330	560	180	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	89	367	622	200	267
v/c Ratio	0.47	0.06	0.36	0.40	0.70	0.18
Control Delay	40.6	0.1	13.0	0.8	45.9	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	0.1	13.0	0.8	45.9	2.8
Queue Length 50th (ft)	40	0	100	0	101	26
Queue Length 95th (ft)	70	0	196	0	164	52
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	571	1583	1023	1568	406	1446
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.06	0.36	0.40	0.49	0.18

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	330	560	180	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1845	1568	1752	1845
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1845	1568	1752	1845
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	89	367	622	200	267
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	156	89	367	622	200	267
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	8.2	84.2	46.7	84.2	13.8	66.0
Effective Green, g (s)	8.2	84.2	46.7	84.2	13.8	66.0
Actuated g/C Ratio	0.10	1.00	0.55	1.00	0.16	0.78
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	334	1583	1023	1568	287	1446
v/s Ratio Prot	0.05		0.20		c0.11	0.14
v/s Ratio Perm		0.06		c0.40		
v/c Ratio	0.47	0.06	0.36	0.40	0.70	0.18
Uniform Delay, d1	35.9	0.0	10.4	0.0	33.2	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	1.0	0.8	5.8	0.3
Delay (s)	36.3	0.1	11.4	0.8	39.1	2.6
Level of Service	D	A	B	A	D	A
Approach Delay (s)	23.1		4.7			18.2
Approach LOS	C		A			B

Intersection Summary				
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	5.5
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		

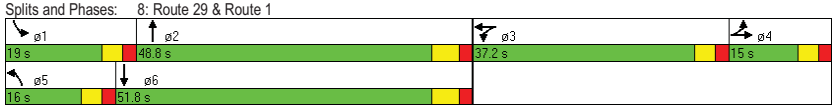
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	760	150	840
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	80	70	760	280	150	840	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				39%								
Lane Group Flow (vph)	0	87	0	361	348	0	75	1118	0	161	968	0
v/c Ratio		0.58		0.89	0.85		0.57	0.80		0.79	0.60	
Control Delay		39.4		67.7	61.2		89.3	18.7		78.6	27.7	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		67.7	61.2		89.3	18.7		78.6	27.7	
Queue Length 50th (ft)		25		277	255		62	336		120	305	
Queue Length 95th (ft)		77		#430	#395		m90	#528		#235	411	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	452		162	1403		214	1622	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.80	0.77		0.46	0.80		0.75	0.60	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	80	70	760	280	150	840	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.96		1.00	0.96		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1650		1752	3363		1752	3470	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1650		1752	3363		1752	3470	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	86	75	817	301	161	903	65
RTOR Reduction (vph)	0	51	0	0	10	0	0	29	0	0	4	0
Lane Group Flow (vph)	0	36	0	361	338	0	75	1089	0	161	964	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		29.0	29.0		7.9	49.0		13.9	55.0	
Effective Green, g (s)		7.1		29.0	29.0		7.9	49.0		13.9	55.0	
Actuated g/C Ratio		0.06		0.24	0.24		0.07	0.41		0.12	0.46	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		406	399		115	1373		203	1590	
v/s Ratio Prot		c0.02		c0.21	0.20		0.04	c0.32		c0.09	0.28	
v/s Ratio Perm												
v/c Ratio		0.36		0.89	0.85		0.65	0.79		0.79	0.61	
Uniform Delay, d1		54.3		43.9	43.4		54.7	31.1		51.7	24.4	
Progression Factor		1.00		1.00	1.00		1.44	0.46		1.00	1.00	
Incremental Delay, d2		0.8		19.9	14.7		7.3	3.6		17.7	1.7	
Delay (s)		55.1		63.9	58.1		85.9	17.8		69.4	26.1	
Level of Service		E		E	E		F	B		E	C	
Approach Delay (s)		55.1			61.0			22.1			32.3	
Approach LOS		E			E			C			C	

Intersection Summary				
HCM Average Control Delay	35.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	76.7%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	20	40	50	40	10	30	330	20	10	300	200
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	176	22	44	55	44	11	33	363	22	11	330	220
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	934	912	440	956	1011	374	549			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934	912	440	956	1011	374	549			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	12	92	93	73	81	98	97			99		
cM capacity (veh/h)	200	262	617	200	230	673	1015			1168		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	110	418	560
Volume Left	176	55	33	11
Volume Right	44	11	22	220
cSH	234	228	1015	1168
Volume to Capacity	1.03	0.48	0.03	0.01
Queue Length 95th (ft)	251	60	3	1
Control Delay (s)	113.0	34.7	1.0	0.3
Lane LOS	F	D	A	A
Approach Delay (s)	113.0	34.7	1.0	0.3
Approach LOS	F	D		

Intersection Summary			
Average Delay	23.9		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	300	140	1030	160	1520
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	140	1030	150	160	1520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	326	152	1283	0	174	1652
v/c Ratio	0.86	0.37	0.71		0.79	0.68
Control Delay	66.2	17.6	12.2		74.8	13.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	66.2	17.6	12.2		74.8	13.0
Queue Length 50th (ft)	243	36	139		141	305
Queue Length 95th (ft)	335	91	m543		m#222	348
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	467	488	1811		241	2424
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.70	0.31	0.71		0.72	0.68

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	140	1030	150	160	1520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3438		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3438		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	152	1120	163	174	1652
RTOR Reduction (vph)	0	74	9	0	0	0
Lane Group Flow (vph)	326	78	1274	0	174	1652
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	26.0	26.0	62.9		15.1	83.0
Effective Green, g (s)	26.0	26.0	62.9		15.1	83.0
Actuated g/C Ratio	0.22	0.22	0.52		0.13	0.69
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	380	340	1802		220	2424
v/s Ratio Prot	c0.19		0.37		0.10	c0.47
v/s Ratio Perm		0.05				
v/c Ratio	0.86	0.23	0.71		0.79	0.68
Uniform Delay, d1	45.2	38.7	21.6		50.9	10.8
Progression Factor	1.00	1.00	0.44		1.06	0.98
Incremental Delay, d2	16.6	0.1	2.2		13.9	1.3
Delay (s)	61.8	38.9	11.6		67.6	11.9
Level of Service	E	D	B		E	B
Approach Delay (s)	54.5		11.6			17.2
Approach LOS	D		B			B

Intersection Summary				
HCM Average Control Delay	20.2	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	72.1%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	160	110	150	300	180
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	137	219	151	205	411	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1041	534	658			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1041	534	658			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	35	60	84			
cM capacity (veh/h)	212	544	925			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	356	356	658
Volume Left	137	151	0
Volume Right	219	0	247
cSH	340	925	1700
Volume to Capacity	1.05	0.16	0.39
Queue Length 95th (ft)	316	15	0
Control Delay (s)	98.0	5.1	0.0
Lane LOS	F	A	
Approach Delay (s)	98.0	5.1	0.0
Approach LOS	F		

Intersection Summary				
Average Delay	26.8			
Intersection Capacity Utilization	66.1%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	620	370	1730	280	1940	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	620	370	0	1730	310	280	1940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	674	402	0	2217	0	304	2109
v/c Ratio	1.77	0.13		1.30		0.57	1.65
Control Delay	377.8	10.6		166.8		40.6	316.9
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	377.8	10.6		166.8		40.6	316.9
Queue Length 50th (ft)	~804	71		~804		199	~1142
Queue Length 95th (ft)	#1040	m58		#871		294	#1293
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	380	3022		1702		531	1280
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.77	0.13		1.30		0.57	1.65

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	620	370	0	1730	310	280	1940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4921		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4921		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	674	402	0	1880	337	304	2109
RTOR Reduction (vph)	0	0	0	21	0	0	456
Lane Group Flow (vph)	674	402	0	2196	0	304	1653
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	380	3022		1681		531	825
v/s Ratio Prot	c0.38	0.08		c0.45		0.17	
v/s Ratio Perm							c0.60
v/c Ratio	1.77	0.13		1.31		0.57	2.00
Uniform Delay, d1	47.0	10.4		39.5		35.5	42.0
Progression Factor	0.50	1.00		0.71		1.00	1.00
Incremental Delay, d2	355.5	0.1		141.7		0.9	456.1
Delay (s)	379.0	10.5		169.6		36.4	498.1
Level of Service	F	B		F		D	F
Approach Delay (s)		241.3		169.6		439.9	
Approach LOS		F		F		F	

Intersection Summary				
HCM Average Control Delay	297.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	770	750	2490	410	310
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	750	2490	410	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1085	0	798	2649	436	330
v/c Ratio	0.15	0.77		1.12	0.74	0.75	0.61
Control Delay	59.1	37.6		83.6	9.9	36.7	6.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	59.1	37.6		83.6	9.9	36.7	6.0
Queue Length 50th (ft)	8	137		~725	304	75	1
Queue Length 95th (ft)	m25	m#222		m269	m219	106	19
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1404		715	3593	765	609
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	0.77		1.12	0.74	0.57	0.54

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	750	2490	410	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4851		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4851		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	819	266	798	2649	436	330
RTOR Reduction (vph)	0	47	0	0	0	0	274
Lane Group Flow (vph)	11	1038	0	798	2649	436	56
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	29.6		53.0	81.6	20.4	20.4
Effective Green, g (s)	1.0	29.6		53.0	81.6	20.4	20.4
Actuated g/C Ratio	0.01	0.25		0.44	0.68	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1197		774	3424	578	267
v/s Ratio Prot	0.01	c0.21		c0.46	0.53	c0.13	
v/s Ratio Perm							0.04
v/c Ratio	0.73	0.87		1.03	0.77	0.75	0.21
Uniform Delay, d1	59.4	43.3		33.5	13.0	47.4	42.9
Progression Factor	0.99	0.88		0.82	0.81	0.62	0.38
Incremental Delay, d2	88.3	8.0		19.1	0.2	4.2	0.1
Delay (s)	147.1	46.0		46.4	10.6	33.7	16.5
Level of Service	F	D		D	B	C	B
Approach Delay (s)		47.0			18.9	26.3	
Approach LOS		D			B	C	

Intersection Summary

HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	290	120	240	780	10	2010
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	780	10	2010	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	322	133	267	867	11	3089	0
v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.03	
Control Delay	89.2	14.5	95.7	3.4	60.2	37.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.2	14.5	95.7	3.4	60.2	37.9	
Queue Length 50th (ft)	129	0	217	42	9	~477	
Queue Length 95th (ft)	#219	60	#384	81	m13	#226	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	278	277	3995	60	2992	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.03	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	780	10	2010	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4827	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4827	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	322	133	267	867	11	2233	856
RTOR Reduction (vph)	0	120	0	0	0	58	0
Lane Group Flow (vph)	322	13	267	867	11	3031	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Effective Green, g (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Actuated g/C Ratio	0.10	0.10	0.16	0.76	0.01	0.61	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	277	3827	12	2936	
v/s Ratio Prot	c0.09		c0.15	0.17	0.01	c0.63	
v/s Ratio Perm		0.01					
v/c Ratio	0.94	0.08	0.96	0.23	0.92	1.03	
Uniform Delay, d1	53.6	49.0	50.2	4.2	59.6	23.5	
Progression Factor	1.00	1.00	1.08	0.99	0.98	0.60	
Incremental Delay, d2	32.3	0.1	39.7	0.1	171.3	23.1	
Delay (s)	86.0	49.1	93.9	4.2	229.6	37.1	
Level of Service	F	D	F	A	F	D	
Approach Delay (s)	75.2			25.4		37.8	
Approach LOS	E			C		D	

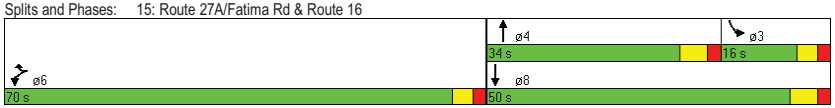
Intersection Summary				
HCM Average Control Delay	38.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	650	250	590	80	1120
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	590	200	80	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	774	298	940	0	95	1333
v/c Ratio	0.88	0.32	0.67		0.59	0.64
Control Delay	36.3	1.8	29.4		47.0	17.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.3	1.8	29.4		47.0	17.3
Queue Length 50th (ft)	576	14	231		67	197
Queue Length 95th (ft)	611	6	m267		m79	m214
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	984	1406		161	2082
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.81	0.30	0.67		0.59	0.64

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	590	200	80	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4845		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4845		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	774	298	702	238	95	1333
RTOR Reduction (vph)	0	140	48	0	0	0
Lane Group Flow (vph)	774	158	892	0	95	1333
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	59.4	59.4	33.6		11.0	49.6
Effective Green, g (s)	59.4	59.4	33.6		11.0	49.6
Actuated g/C Ratio	0.49	0.49	0.28		0.09	0.41
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	876	784	1357		161	2082
v/s Ratio Prot	c0.44	0.10	0.18		0.05	c0.26
v/s Ratio Perm						
v/c Ratio	0.88	0.20	0.66		0.59	0.64
Uniform Delay, d1	27.2	17.0	38.1		52.3	28.1
Progression Factor	0.88	0.41	0.74		0.70	0.56
Incremental Delay, d2	10.1	0.0	2.1		2.4	0.9
Delay (s)	34.1	7.1	30.4		39.2	16.6
Level of Service	C	A	C		D	B
Approach Delay (s)	26.6		30.4			18.1
Approach LOS	C		C			B

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

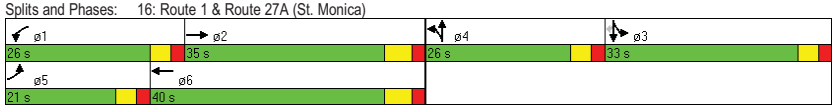
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	140	480	150	1080	120	120	30	230	460
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1080	10	120	120	90	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	626	0	165	1198	0	132	231	0	33	253	505
v/c Ratio	0.77	0.34		0.73	0.61		0.51	0.83		0.11	0.78	0.84
Control Delay	84.8	8.9		85.3	22.3		69.2	81.0		39.8	63.5	23.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	84.8	8.9		85.3	22.3		69.2	81.0		39.8	63.5	23.6
Queue Length 50th (ft)	101	71		130	134		108	171		22	190	79
Queue Length 95th (ft)	#185	113		m207	m249		m166	#259		48	263	211
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	234	1868		307	1966		310	327		413	435	674
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.34		0.54	0.61		0.43	0.71		0.08	0.58	0.75

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

16: Route 1 & Route 27A (St. Monica)

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1080	10	120	120	90	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4916		1752	5029		1770	1743		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4916		1752	5029		1770	1743		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	154	527	99	165	1187	11	132	132	99	33	253	505
RTOR Reduction (vph)	0	19	0	0	1	0	0	23	0	0	0	328
Lane Group Flow (vph)	154	607	0	165	1197	0	132	208	0	33	253	177
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	45.1		15.5	46.9		17.5	17.5		20.9	20.9	20.9
Effective Green, g (s)	13.7	45.1		15.5	46.9		17.5	17.5		20.9	20.9	20.9
Actuated g/C Ratio	0.11	0.38		0.13	0.39		0.15	0.15		0.17	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	200	1848		226	1966		258	254		308	324	276
v/s Ratio Prot	0.09	0.12		c0.09	c0.24		0.07	c0.12		0.02	c0.14	
v/s Ratio Perm												0.11
v/c Ratio	0.77	0.33		0.73	0.61		0.51	0.82		0.11	0.78	0.64
Uniform Delay, d1	51.6	26.7		50.2	29.2		47.3	49.7		41.7	47.4	46.1
Progression Factor	1.19	0.30		1.40	0.67		1.36	1.40		1.00	1.00	1.00
Incremental Delay, d2	14.8	0.5		8.4	1.2		0.6	14.5		0.1	10.7	3.8
Delay (s)	76.5	8.5		78.7	20.7		65.1	84.0		41.8	58.1	49.9
Level of Service	E	A		E	C		E	F		D	E	D
Approach Delay (s)		21.9			27.7			77.1			52.1	
Approach LOS		C			C			E			D	

Intersection Summary				
HCM Average Control Delay	37.6	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	69.6%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

17: Route 27A & Route 28

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	40	150	20	30	10	60	200	20	20	250	130
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	45	170	23	34	11	68	227	23	23	284	148

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	80	216	68	68	250	307	148
Volume Left (vph)	80	0	23	68	0	23	0
Volume Right (vph)	0	170	11	0	23	0	148
Hadj (s)	0.53	-0.52	0.00	0.53	-0.03	0.07	-0.67
Departure Headway (s)	7.2	6.1	7.0	6.8	6.3	6.2	5.5
Degree Utilization, x	0.16	0.37	0.13	0.13	0.43	0.53	0.22
Capacity (veh/h)	468	550	459	500	549	559	627
Control Delay (s)	10.3	11.4	11.1	9.6	12.8	14.8	8.8
Approach Delay (s)	11.1		11.1	12.1		12.8	
Approach LOS	B		B	B		B	

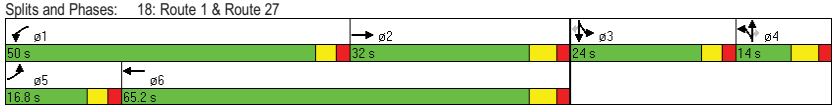
Intersection Summary					
Delay	12.1				
HCM Level of Service	B				
Intersection Capacity Utilization	54.0%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	70	590	890	1320	100	150	700	300	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	890	1320	30	100	150	700	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	728	0	967	1468	0	109	163	761	0	369	43
v/c Ratio	0.57	0.67		1.47	0.55		0.92	1.31	0.85		1.26	0.17
Control Delay	87.8	33.7		249.0	13.0		65.0	188.1	14.6		183.0	35.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.8	33.7		249.0	13.0		65.0	188.1	14.6		183.0	35.8
Queue Length 50th (ft)	62	186		~1028	187		88	~166	106		~358	21
Queue Length 95th (ft)	m111	237		m#1231	m238		m#117	m#200	m84		#550	56
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	172	1085		657	2675		118	124	893		293	257
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.44	0.67		1.47	0.55		0.92	1.31	0.85		1.26	0.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	890	1320	30	100	150	700	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	641	87	967	1435	33	109	163	761	43	326	43
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	710	0	0	10
Lane Group Flow (vph)	76	713	0	967	1466	0	109	163	51	0	369	33
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.07	0.22		0.38	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	118	1070		657	2631		118	124	183		293	247
v/s Ratio Prot	0.04	c0.14		c0.55	0.29		0.06	c0.09			c0.20	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.64	0.67		1.47	0.56		0.92	1.31	0.28		1.26	0.13
Uniform Delay, d1	54.5	43.0		37.5	19.2		55.7	56.0	53.3		50.5	43.4
Progression Factor	1.36	0.72		0.99	0.64		0.93	0.93	4.09		1.00	1.00
Incremental Delay, d2	8.4	3.2		218.7	0.7		10.8	146.8	0.0		141.4	0.1
Delay (s)	82.8	34.3		256.1	12.9		62.4	198.8	218.0		191.9	43.5
Level of Service	F	C		F	B		E	F	F		F	D
Approach Delay (s)		38.9			109.5			198.6			176.4	
Approach LOS		D			F			F			F	

Intersection Summary				
HCM Average Control Delay	122.9	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.20			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	115.4%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	910	640	1780	550	370
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	910	370	640	1780	550	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1362	0	681	1894	585	394
v/c Ratio	0.18	0.96		0.99	0.53	0.97	0.65
Control Delay	79.1	35.4		39.8	2.4	80.2	10.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	79.1	35.4		39.8	2.4	80.2	10.0
Queue Length 50th (ft)	9	179		551	55	235	0
Queue Length 95th (ft)	m11	m#426		m548	m59	#351	93
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1426		686	3575	601	602
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.18	0.96		0.99	0.53	0.97	0.65

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	910	370	640	1780	550	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4817		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4817		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	968	394	681	1894	585	394
RTOR Reduction (vph)	0	64	0	0	0	0	325
Lane Group Flow (vph)	11	1298	0	681	1894	585	69
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	30.0		51.0	81.2	21.0	21.0
Effective Green, g (s)	0.8	30.0		51.0	81.2	21.0	21.0
Actuated g/C Ratio	0.01	0.25		0.42	0.68	0.18	0.18
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1204		745	3408	601	277
v/s Ratio Prot	0.01	c0.27		c0.39	0.38	c0.17	
v/s Ratio Perm							0.04
v/c Ratio	0.92	1.08		0.91	0.56	0.97	0.25
Uniform Delay, d1	59.6	45.0		32.4	10.1	49.2	42.7
Progression Factor	1.32	0.61		0.62	0.27	1.00	1.00
Incremental Delay, d2	158.0	44.9		4.7	0.2	29.7	0.2
Delay (s)	236.6	72.1		24.7	2.9	79.0	42.9
Level of Service	F	E		C	A	E	D
Approach Delay (s)		73.4			8.6	64.4	
Approach LOS		E			A	E	

Intersection Summary

HCM Average Control Delay	37.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	200	970	20	1970	50	10	30	380
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	970	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	1021	0	21	2190	0	0	106	11	0	211	400
v/c Ratio	1.07	0.37		0.24	1.00			0.81	0.09		0.99	1.09
Control Delay	121.5	4.4		67.1	41.6			95.0	26.6		110.4	98.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	121.5	4.4		67.1	41.6			95.0	26.6		110.4	98.7
Queue Length 50th (ft)	~185	37		17	~642			82	0		165	~204
Queue Length 95th (ft)	m#244	m49		m26	#738			#179	19		#324	#404
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2780		92	2193			136	129		214	366
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.07	0.37		0.23	1.00			0.78	0.09		0.99	1.09

Intersection Summary

Area Type: CBD
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	970	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4496			1636	1425		1608	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4496			1636	1425		1608	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	1021	0	21	2074	116	53	53	11	179	32	400
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	176
Lane Group Flow (vph)	211	1021	0	21	2185	0	0	106	1	0	211	224
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	197	2666		37	2188			131	114		214	190
v/s Ratio Prot	c0.13	0.23		0.01	c0.49			c0.06			0.13	
v/s Ratio Perm									0.00			c0.16
v/c Ratio	1.07	0.38		0.57	1.00			0.81	0.01		0.99	1.18
Uniform Delay, d1	52.5	13.1		58.0	30.8			54.3	50.8		51.9	52.0
Progression Factor	1.19	0.34		1.14	0.78			1.00	1.00		1.00	1.00
Incremental Delay, d2	64.1	0.2		9.1	16.8			28.1	0.0		56.9	121.9
Delay (s)	126.6	4.7		75.0	40.9			82.4	50.8		108.8	173.9
Level of Service	F	A		E	D			F	D		F	F
Approach Delay (s)		25.6			41.2			79.4			151.4	
Approach LOS		C			D			E			F	

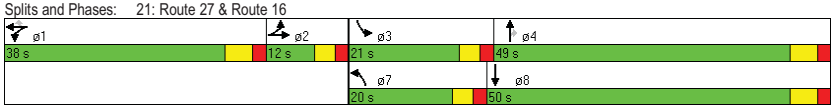
Intersection Summary				
HCM Average Control Delay	53.8	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.02			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	91.2%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	310	710	760	210	580	550	480	170	1270
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	210	580	550	480	170	1270	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		3085			2934			862			2992	
Travel Time (s)		70.1			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	724	0	816	874	241	667	632	552	195	1632	0
v/c Ratio	1.12	2.09		0.89	1.76	0.47	3.05	0.49	0.60	0.87	0.89	
Control Delay	164.7	520.3		40.4	370.5	13.3	951.5	31.4	5.3	80.5	37.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	164.7	520.3		40.4	370.5	13.3	951.5	31.4	5.3	80.5	37.1	
Queue Length 50th (ft)	~102	~400		332	~1028	72	~899	200	0	152	291	
Queue Length 95th (ft)	#214	#500		m279	m#813	m60	#1086	246	60	m#243	369	
Internal Link Dist (ft)		3005			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	346		915	497	513	219	1277	922	234	1829	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.12	2.09		0.89	1.76	0.47	3.05	0.49	0.60	0.83	0.89	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	210	580	550	480	170	1270	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4956	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4956	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	115	356	368	816	874	241	667	632	552	195	1460	172
RTOR Reduction (vph)	0	155	0	0	0	91	0	0	351	0	12	0
Lane Group Flow (vph)	115	569	0	816	874	150	667	632	201	195	1620	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.36	0.36	0.13	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	191		915	497	422	219	1276	571	223	1817	
v/s Ratio Prot	0.06	c0.17		0.24	c0.47		c0.38	0.18		0.11	c0.33	
v/s Ratio Perm						0.09			0.13			
v/c Ratio	1.12	2.98		0.89	1.76	0.36	3.05	0.50	0.35	0.87	0.89	
Uniform Delay, d1	56.5	56.5		42.3	44.0	35.6	52.5	29.6	27.8	51.4	35.8	
Progression Factor	0.81	0.67		0.85	0.86	0.70	1.00	1.00	1.00	1.05	0.89	
Incremental Delay, d2	120.8	902.8		3.2	343.6	0.0	932.6	1.4	1.7	21.8	5.2	
Delay (s)	166.4	940.9		39.1	381.3	25.2	985.1	31.0	29.5	75.7	37.1	
Level of Service	F	F		D	F	C	F	C	C	E	D	
Approach Delay (s)		834.8			192.2			374.4			41.2	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	285.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		

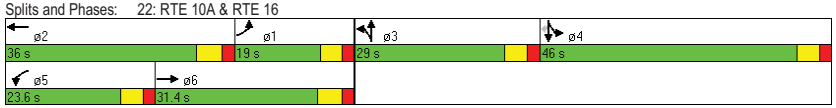
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	370	190	260	100	1010	740	10	10	960
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	15.5	15.5	15.5	15.5
Total Split (s)	19.0	31.4	0.0	23.6	36.0	29.0	29.0	46.0	46.0
Total Split (%)	14.6%	24.2%	0.0%	18.2%	27.7%	22.3%	22.3%	35.4%	35.4%
Maximum Green (s)	13.5	25.4		18.1	30.0	23.5	23.5	40.5	40.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Minimum Gap (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		5			5	5	5	5	5

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 131
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	190	260	100	1010	20	740	10	20	10	10	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1270			779			868			1242	
Travel Time (s)		24.7			15.2			16.9			24.2	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	457	235	321	123	1272	0	475	476	0	0	24	1185
v/c Ratio	1.26	0.30	0.20	0.63	1.57		1.55	1.55			0.04	1.83
Control Delay	184.6	44.4	0.3	70.0	298.0		297.0	296.1			32.7	405.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	184.6	44.4	0.3	70.0	298.0		297.0	296.1			32.7	405.2
Queue Length 50th (ft)	~251	87	0	100	~802		~597	~602			14	~1376
Queue Length 95th (ft)	#306	120	0	151	#854		#706	#710			34	#1464
Internal Link Dist (ft)		1190			699			788			1162	
Turn Bay Length (ft)	350		450	350								
Base Capacity (vph)	362	793	1583	244	809		307	308			557	646
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.26	0.30	0.20	0.50	1.57		1.55	1.55			0.04	1.83

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	190	260	100	1010	20	740	10	20	10	10	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.98	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3529		1665	1662			1800	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.98	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3529		1665	1662			1800	1568
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	457	235	321	123	1247	25	914	12	25	12	12	1185
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	0	161
Lane Group Flow (vph)	457	235	321	123	1271	0	475	474	0	0	24	1024
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Effective Green, g (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Actuated g/C Ratio	0.11	0.22	1.00	0.11	0.23		0.18	0.18			0.31	0.31
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	3.5	4.0		3.5	4.0		3.5	3.5			3.5	3.5
Lane Grp Cap (vph)	364	794	1583	196	808		307	307			556	484
v/s Ratio Prot	c0.13	0.07		0.07	c0.36		0.29	c0.29			0.01	
v/s Ratio Perm			0.20									c0.65
v/c Ratio	1.26	0.30	0.20	0.63	1.57		1.55	1.55			0.04	2.12
Uniform Delay, d1	58.6	42.3	0.0	55.7	50.5		53.4	53.4			31.7	45.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	135.6	0.3	0.3	6.4	264.0		261.8	261.0			0.0	509.0
Delay (s)	194.2	42.5	0.3	62.2	314.5		315.3	314.4			31.8	554.3
Level of Service	F	D	A	E	F		F	F			C	F
Approach Delay (s)		97.6			292.3			314.8			543.9	
Approach LOS		F			F			F			F	

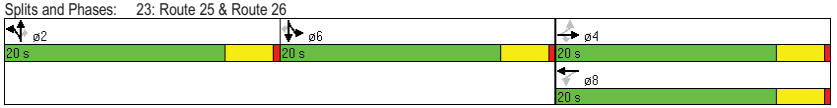
Intersection Summary					
HCM Average Control Delay	320.4	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.73				
Actuated Cycle Length (s)	131.1	Sum of lost time (s)		22.5	
Intersection Capacity Utilization	123.5%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	90	10	150	10	10	440	450	10	20	380	510
Turn Type	Perm		Perm	Perm		Split		Perm	Split		Perm
Protected Phases		4			8	2	2		6	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 51.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	10	150	10	10	60	440	450	10	20	380	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		636			405			396			486	
Travel Time (s)		12.4			7.9			7.7			9.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	170	0	90	0	500	511	11	23	432	580
v/c Ratio		0.43	0.41		0.28		0.89	0.86	0.02	0.04	0.73	0.65
Control Delay		24.9	7.3		10.2		41.6	37.6	9.9	14.8	27.5	6.3
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.9	7.3		10.2		41.6	37.6	9.9	14.8	27.5	6.3
Queue Length 50th (ft)		32	0		6		149	151	1	5	121	4
Queue Length 95th (ft)		68	37		34		#335	#335	10	19	#268	64
Internal Link Dist (ft)		556			325			316			406	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		487	619		552		562	592	509	562	592	887
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.23	0.27		0.16		0.89	0.86	0.02	0.04	0.73	0.65

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	10	150	10	10	60	440	450	10	20	380	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1782	1583		1663		1770	1863	1583	1770	1863	1583
Flt Permitted		0.82	1.00		0.95		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1533	1583		1591		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	11	170	11	11	68	500	511	11	23	432	580
RTOR Reduction (vph)	0	0	146	0	58	0	0	0	6	0	0	387
Lane Group Flow (vph)	0	113	24	0	32	0	500	511	5	23	432	193
Turn Type	Perm		Perm	Perm			Split		Perm	Split		Perm
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)		7.5	7.5		7.5		16.3	16.3	16.3	16.3	16.3	16.3
Effective Green, g (s)		7.5	7.5		7.5		16.3	16.3	16.3	16.3	16.3	16.3
Actuated g/C Ratio		0.14	0.14		0.14		0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		221	228		229		554	583	495	554	583	495
v/s Ratio Prot							c0.28	0.27		0.01	c0.23	
v/s Ratio Perm		c0.07	0.02		0.02				0.00			0.12
v/c Ratio		0.51	0.11		0.14		0.90	0.88	0.01	0.04	0.74	0.39
Uniform Delay, d1		20.6	19.4		19.5		17.1	16.9	12.3	12.5	16.0	14.0
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.8	0.1		0.1		20.5	16.8	0.0	0.1	8.2	2.3
Delay (s)		21.4	19.5		19.6		37.6	33.8	12.4	12.6	24.3	16.3
Level of Service		C	B		B		D	C	B	B	C	B
Approach Delay (s)		20.3			19.6			35.4			19.6	
Approach LOS		C			B			D			B	

Intersection Summary			
HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	52.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	10	340	10	10	10	250	280	10	20	410	270
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	163	12	395	12	12	12	291	326	12	23	477	314
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1448	1442	477	1436	1430	326	477			337		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1448	1442	477	1436	1430	326	477			337		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	88	33	55	88	98	73			98		
cM capacity (veh/h)	77	95	588	26	96	716	1080			1216		

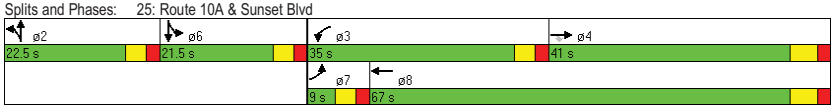
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	163	407	35	291	326	12	23	477	314
Volume Left	163	0	12	291	0	0	23	0	0
Volume Right	0	395	12	0	0	12	0	0	314
cSH	77	606	60	1080	1700	1700	1216	1700	1700
Volume to Capacity	2.13	0.67	0.58	0.27	0.19	0.01	0.02	0.28	0.18
Queue Length 95th (ft)	372	127	60	27	0	0	1	0	0
Control Delay (s)	636.3	23.5	128.8	9.6	0.0	0.0	8.0	0.0	0.0
Lane LOS	F	C	F	A			A		
Approach Delay (s)	198.6		128.8	4.4			0.2		
Approach LOS	F		F						

Intersection Summary					
Average Delay		58.9			
Intersection Capacity Utilization		59.9%	ICU Level of Service		B
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	650	10	310	2140	20	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	41.0	41.0	35.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	34.2%	34.2%	29.2%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	35.0	35.0	30.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 102.4
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	650	10	310	2140	50	20	10	100	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			892			650			525	
Travel Time (s)		26.3			20.3			14.8			11.9	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	783	12	373	2638	0	24	132	0	0	48	0
v/c Ratio	0.17	0.67	0.02	0.86	0.85		0.08	0.35			0.38	
Control Delay	57.1	34.4	13.4	57.5	21.1		39.8	12.4			46.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	57.1	34.4	13.4	57.5	21.1		39.8	12.4			46.8	
Queue Length 50th (ft)	8	242	0	223	476		13	7			23	
Queue Length 95th (ft)	27	303	13	332	621		37	51			58	
Internal Link Dist (ft)		1075			812			570			445	
Turn Bay Length (ft)	180		180	420								
Base Capacity (vph)	69	1249	567	522	3096		304	376			295	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	0.63	0.02	0.71	0.85		0.08	0.35			0.16	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	650	10	310	2140	50	20	10	100	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3539	1583	1770	5068		1770	1609			1756	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	1770	3539	1583	1770	5068		1770	1609			1756	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	12	783	12	373	2578	60	24	12	120	24	12	12
RTOR Reduction (vph)	0	0	8	0	2	0	0	100	0	0	11	0
Lane Group Flow (vph)	12	783	4	373	2636	0	24	32	0	0	37	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.7	38.2	38.2	25.0	62.5		17.6	17.6			5.7	
Effective Green, g (s)	0.7	38.2	38.2	25.0	62.5		17.6	17.6			5.7	
Actuated g/C Ratio	0.01	0.36	0.36	0.23	0.58		0.16	0.16			0.05	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1258	563	412	2947		290	263			93	
v/s Ratio Prot	0.01	0.22		c0.21	c0.52		0.01	c0.02			c0.02	
v/s Ratio Perm			0.00									
v/c Ratio	1.00	0.62	0.01	0.91	0.89		0.08	0.12			0.39	
Uniform Delay, d1	53.4	28.7	22.4	40.1	19.6		38.1	38.3			49.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	259.8	0.7	0.0	22.4	3.8		0.6	0.9			1.0	
Delay (s)	313.2	29.4	22.4	62.5	23.5		38.7	39.3			50.2	
Level of Service	F	C	C	E	C		D	D			D	
Approach Delay (s)		33.5			28.3			39.2			50.2	
Approach LOS		C			C			D			D	

Intersection Summary					
HCM Average Control Delay	30.0	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	107.5	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	68.0%	ICU Level of Service		C	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	250	1010	130	1650	120	40	90	370	30	150
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	39.0	12.0	33.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	24.0	63.0	22.0	61.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (%)	20.0%	52.5%	18.3%	50.8%	12.5%	12.5%	12.5%	16.7%	16.7%	16.7%
Maximum Green (s)	19.0	57.0	17.0	55.0	10.0	10.0	10.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1010	270	130	1650	420	120	40	90	370	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	150		150	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3056			1501			676			669	
Travel Time (s)		59.5			29.2			18.4			18.2	
Confl. Peds. (#/hr)						1			160			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							34%			46%		
Lane Group Flow (vph)	272	1391	0	141	2250	0	86	87	98	217	218	163
v/c Ratio	0.98	0.55		0.72	0.97		0.68	0.67	0.53	1.03	1.03	0.48
Control Delay	62.6	16.4		70.8	25.9		80.5	78.7	20.9	122.5	121.0	12.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.6	16.4		70.8	25.9		80.5	78.7	20.9	122.5	121.0	12.3
Queue Length 50th (ft)	222	178		113	345		69	69	0	~189	~189	0
Queue Length 95th (ft)	m211	m173		m132	#727		#141	#138	54	#355	#355	63
Internal Link Dist (ft)		2976			1421			596			589	
Turn Bay Length (ft)	630			350			150		150	360		250
Base Capacity (vph)	277	2538		248	2311		140	144	196	210	212	341
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.55		0.57	0.97		0.61	0.60	0.50	1.03	1.03	0.48

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

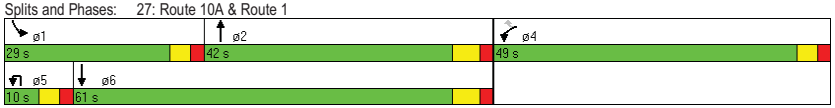
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1010	270	130	1650	420	120	40	90	370	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.81	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4877		1752	4869		1681	1726	1276	1681	1698	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4877		1752	4869		1681	1726	1276	1681	1698	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	1098	293	141	1793	457	130	43	98	402	33	163
RTOR Reduction (vph)	0	37	0	0	37	0	0	0	91	0	0	143
Lane Group Flow (vph)	272	1354	0	141	2213	0	86	87	7	217	218	20
Confl. Peds. (#/hr)						1			160			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Effective Green, g (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Actuated g/C Ratio	0.16	0.51		0.11	0.47		0.08	0.08	0.08	0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	277	2499		197	2272		126	129	96	210	212	198
v/s Ratio Prot	c0.16	0.28		0.08	c0.45		c0.05	0.05		c0.13	0.13	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.98	0.54		0.72	0.97		0.68	0.67	0.08	1.03	1.03	0.10
Uniform Delay, d1	50.3	19.7		51.4	31.3		54.1	54.1	51.6	52.5	52.5	46.5
Progression Factor	0.98	0.85		1.18	0.53		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	0.1		5.2	8.7		11.5	10.4	0.1	71.1	69.4	0.1
Delay (s)	61.7	16.8		65.7	25.3		65.6	64.5	51.8	123.6	121.9	46.6
Level of Service	E	B		E	C		E	E	D	F	F	D
Approach Delay (s)		24.1			27.6			60.2			102.0	
Approach LOS		C			C			E			F	

Intersection Summary				
HCM Average Control Delay	37.3	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	94.2%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1160	710	20	1010	330	1510
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	35.0	35.0	9.0	33.0	12.0	22.0
Total Split (s)	49.0	49.0	10.0	42.0	29.0	61.0
Total Split (%)	40.8%	40.8%	8.3%	35.0%	24.2%	50.8%
Maximum Green (s)	44.0	44.0	5.0	36.0	24.0	55.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		5		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 76 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1160	710	20	1010	450	330	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1896			1896			3056
Travel Time (s)	36.9			36.9			59.5
Confl. Peds. (#/hr)					11		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1303	798	22	1641	0	371	1697
v/c Ratio	1.03	0.97	0.30	1.10		1.06	0.69
Control Delay	72.4	45.5	73.4	71.5		96.7	8.2
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	72.4	45.5	73.4	71.5		96.7	8.2
Queue Length 50th (ft)	~559	378	16	~477		~306	205
Queue Length 95th (ft)	#680	#651	m40	m#554		m#347	m230
Internal Link Dist (ft)	1816			1816			2976
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	1259	821	75	1496		350	2476
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.97	0.29	1.10		1.06	0.69

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1160	710	20	1010	450	330	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	0.95		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4763		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4763		1752	5036
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1303	798	22	1135	506	371	1697
RTOR Reduction (vph)	0	241	0	67	0	0	0
Lane Group Flow (vph)	1303	557	22	1574	0	371	1697
Confl. Peds. (#/hr)					11		
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	44.0	44.0	3.0	36.0		24.0	57.0
Effective Green, g (s)	44.0	44.0	3.0	36.0		24.0	57.0
Actuated g/C Ratio	0.37	0.37	0.02	0.30		0.20	0.48
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1259	580	45	1429		350	2392
v/s Ratio Prot	c0.38		0.01	c0.33		c0.21	0.34
v/s Ratio Perm		0.35					
v/c Ratio	1.03	0.96	0.49	1.10		1.06	0.71
Uniform Delay, d1	38.0	37.2	57.7	42.0		48.0	24.9
Progression Factor	1.00	1.00	1.15	0.39		1.08	0.31
Incremental Delay, d2	34.8	27.6	2.6	55.4		47.3	0.7
Delay (s)	72.8	64.7	68.8	71.9		99.4	8.5
Level of Service	E	E	E	E		F	A
Approach Delay (s)	69.8			71.9			24.8
Approach LOS	E			E			C

Intersection Summary

HCM Average Control Delay	54.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	260	1260	10	2000	330	210
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	20.0	20.0
Total Split (s)	24.0	81.0	9.0	66.0	30.0	30.0
Total Split (%)	20.0%	67.5%	7.5%	55.0%	25.0%	25.0%
Maximum Green (s)	19.0	75.0	4.0	60.0	25.0	25.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 90 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1260	10	2000	320	330	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2658		1896		2759	
Travel Time (s)		51.8		36.9		75.2	
Confl. Peds. (#/hr)					4		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	286	1385	11	2550	0	363	231
v/c Ratio	1.03	0.40	0.18	1.03		0.98	0.54
Control Delay	80.7	13.3	52.2	45.4		90.8	25.0
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	80.7	13.3	52.2	45.4		90.8	25.0
Queue Length 50th (ft)	~207	258	8	~768		282	74
Queue Length 95th (ft)	m#328	m385	m10	m#790		#480	158
Internal Link Dist (ft)		2578		1816		2679	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	277	3450	60	2473		369	426
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.40	0.18	1.03		0.98	0.54

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

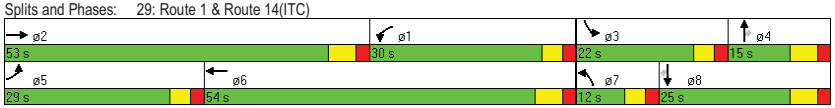
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1260	10	2000	320	330	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4910		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4910		1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	286	1385	11	2198	352	363	231
RTOR Reduction (vph)	0	0	0	18	0	0	96
Lane Group Flow (vph)	286	1385	11	2532	0	363	135
Confl. Peds. (#/hr)					4		
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	19.0	78.2	0.8	60.0		25.0	25.0
Effective Green, g (s)	19.0	78.2	0.8	60.0		25.0	25.0
Actuated g/C Ratio	0.16	0.65	0.01	0.50		0.21	0.21
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	277	3282	12	2455		369	330
v/s Ratio Prot	c0.16	0.28	c0.01	c0.52		c0.21	0.09
v/s Ratio Perm							
v/c Ratio	1.03	0.42	0.92	1.03		0.98	0.41
Uniform Delay, d1	50.5	10.0	59.6	30.0		47.3	41.1
Progression Factor	0.58	1.53	0.86	0.76		1.00	1.00
Incremental Delay, d2	48.5	0.2	147.6	22.2		42.1	0.3
Delay (s)	78.0	15.5	198.6	45.0		89.4	41.4
Level of Service	E	B	F	D		F	D
Approach Delay (s)		26.2		45.6		70.7	
Approach LOS		C		D		E	

Intersection Summary				
HCM Average Control Delay	42.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	370	960	190	1340	50	140	70	470	110	420
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	15.0	15.0	12.0	18.0	18.0
Total Split (s)	29.0	53.0	30.0	54.0	12.0	15.0	15.0	22.0	25.0	25.0
Total Split (%)	24.2%	44.2%	25.0%	45.0%	10.0%	12.5%	12.5%	18.3%	20.8%	20.8%
Maximum Green (s)	24.0	47.0	25.0	48.0	7.0	9.0	9.0	17.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	960	140	190	1340	560	50	140	70	470	110	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		2690			2658			634			1131	
Travel Time (s)		52.4			51.8			14.4			25.7	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	446	1326	0	229	2289	0	60	169	84	566	133	506
v/c Ratio	1.27	0.73		0.54	1.14		0.34	0.67	0.44	1.16	0.40	0.84
Control Delay	172.6	20.4		21.5	81.1		59.9	67.6	18.7	139.9	49.1	26.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	172.6	20.4		21.5	81.1		59.9	67.6	18.7	139.9	49.1	26.0
Queue Length 50th (ft)	~428	342		129	~731		23	67	0	~268	94	90
Queue Length 95th (ft)	#556	101		m141	m#694		42	97	42	#335	145	#211
Internal Link Dist (ft)		2610			2578			554			1051	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1951		422	2005		200	265	195	486	331	600
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.27	0.68		0.54	1.14		0.30	0.64	0.43	1.16	0.40	0.84

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	960	140	190	1340	560	50	140	70	470	110	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4940		1752	4813		3433	3539	1562	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4940		1752	4813		3433	3539	1562	3433	1863	1583
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	446	1157	169	229	1614	675	60	169	84	566	133	506
RTOR Reduction (vph)	0	17	0	0	64	0	0	0	77	0	0	319
Lane Group Flow (vph)	446	1309	0	229	2225	0	60	169	7	566	133	187
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	24.0	42.5		28.9	47.4		5.3	9.6	9.6	17.0	21.3	21.3
Effective Green, g (s)	24.0	42.5		28.9	47.4		5.3	9.6	9.6	17.0	21.3	21.3
Actuated g/C Ratio	0.20	0.35		0.24	0.39		0.04	0.08	0.08	0.14	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1750		422	1901		152	283	125	486	331	281
v/s Ratio Prot	c0.25	0.27		0.13	c0.46		0.02	0.05		c0.16	0.07	
v/s Ratio Perm									0.00			c0.12
v/c Ratio	1.27	0.75		0.54	1.17		0.39	0.60	0.05	1.16	0.40	0.67
Uniform Delay, d1	48.0	34.0		39.8	36.3		55.8	53.3	51.0	51.5	43.7	46.0
Progression Factor	0.71	0.56		0.48	0.31		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	141.2	2.5		0.2	78.8		0.6	2.3	0.1	94.6	0.3	4.5
Delay (s)	175.2	21.6		19.2	90.2		56.4	55.6	51.1	146.1	44.0	50.6
Level of Service	F	C		B	F		E	E	D	F	D	D
Approach Delay (s)		60.3			83.7			54.5			94.7	
Approach LOS		E			F			D			F	

Intersection Summary

HCM Average Control Delay	77.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	470	1390	50	1650	50	130	10	510
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	20.0	12.0	12.0	12.0
Total Split (s)	36.0	70.0	14.0	48.0	20.0	16.0	16.0	16.0
Total Split (%)	30.0%	58.3%	11.7%	40.0%	16.7%	13.3%	13.3%	13.3%
Maximum Green (s)	31.0	64.0	9.0	42.0	15.0	11.0	11.0	11.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	10	10	10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1390	10	50	1650	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2690			238			2279	
Travel Time (s)		25.0			52.4			6.5			62.2	
Confl. Peds. (#/hr)												24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	553	1647	0	59	2059	0	0	95	0	83	82	600
v/c Ratio	1.22	0.55		0.53	1.06			0.59		0.54	0.53	1.02
Control Delay	146.6	14.3		61.0	45.4			64.2		65.7	64.9	53.3
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	146.6	14.3		61.0	45.4			64.2		65.7	64.9	53.3
Queue Length 50th (ft)	~518	345		48	~621			68		66	65	~118
Queue Length 95th (ft)	#678	398		m46	m#571			114		114	113	#279
Internal Link Dist (ft)		1204			2610			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	453	3018		131	1946			231		154	156	588
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.22	0.55		0.45	1.06			0.41		0.54	0.53	1.02

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1390	10	50	1650	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5030		1752	4993			1808		1681	1697	1503
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5030		1752	4993			1808		1681	1697	1503
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	553	1635	12	59	1941	118	24	59	12	153	12	600
RTOR Reduction (vph)	0	0	0	0	6	0	0	5	0	0	0	451
Lane Group Flow (vph)	553	1647	0	59	2053	0	0	90	0	83	82	149
Confl. Peds. (#/hr)												24
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Effective Green, g (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Actuated g/C Ratio	0.26	0.59		0.06	0.39			0.09		0.09	0.09	0.09
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	453	2972		98	1939			157		154	156	138
v/s Ratio Prot	c0.32	0.33		0.03	c0.41			c0.05		0.05	0.05	
v/s Ratio Perm												c0.10
v/c Ratio	1.22	0.55		0.60	1.06			0.58		0.54	0.53	1.08
Uniform Delay, d1	44.5	14.9		55.3	36.7			52.7		52.1	52.0	54.5
Progression Factor	0.82	0.89		1.09	0.40			1.00		1.00	1.00	1.00
Incremental Delay, d2	112.9	0.5		0.6	28.0			3.2		1.8	1.5	100.6
Delay (s)	149.4	13.8		61.2	42.5			55.8		53.9	53.5	155.1
Level of Service	F	B		E	D			E		D	D	F
Approach Delay (s)		47.9			43.0			55.8			133.2	
Approach LOS		D			D			E			F	

Intersection Summary				
HCM Average Control Delay	58.7	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	88.3%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1050	140	1360	40	240	10	160	10	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	10.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	12.0	62.0	22.0	72.0	72.0	21.0	21.0	21.0	15.0	15.0
Total Split (%)	10.0%	51.7%	18.3%	60.0%	60.0%	17.5%	17.5%	17.5%	12.5%	12.5%
Maximum Green (s)	7.0	56.0	17.0	66.0	66.0	16.0	16.0	16.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		17.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 6 (Easterly Adelup) &

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1050	340	140	1360	40	240	10	160	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		722			5590			835			321	
Travel Time (s)		14.1			108.9			19.0			10.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	11	1495	0	151	1462	43	134	135	172	0	22	11
v/c Ratio	0.14	0.52		0.74	0.58	0.04	0.73	0.73	0.53		0.24	0.12
Control Delay	58.5	16.7		88.9	1.2	0.1	73.5	73.3	13.2		60.2	28.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	58.5	16.7		88.9	1.2	0.1	73.5	73.3	13.2		60.2	28.9
Queue Length 50th (ft)	8	253		101	0	0	106	107	0		17	0
Queue Length 95th (ft)	28	337		m158	0	m0	175	177	64		44	20
Internal Link Dist (ft)		642			5510			755			241	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	102	2860		248	2524	1140	224	226	360		152	142
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.11	0.52		0.61	0.58	0.04	0.60	0.60	0.48		0.14	0.08

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1050	340	140	1360	40	240	10	160	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)	1752	4851		1752	3505	1568	1681	1692	1583		1817	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (perm)	1752	4851		1752	3505	1568	1681	1692	1583		1817	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	1129	366	151	1462	43	258	11	172	11	11	11
RTOR Reduction (vph)	0	40	0	0	0	13	0	0	153	0	0	11
Lane Group Flow (vph)	11	1455	0	151	1462	30	134	135	19	0	22	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Effective Green, g (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Actuated g/C Ratio	0.01	0.57		0.12	0.67	0.67	0.11	0.11	0.11		0.03	0.03
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	19	2745		203	2351	1052	184	185	173		62	54
v/s Ratio Prot	0.01	0.30		c0.09	c0.42		0.08	c0.08			c0.01	
v/s Ratio Perm						0.02			0.01			0.00
v/c Ratio	0.58	0.53		0.74	0.62	0.03	0.73	0.73	0.11		0.35	0.01
Uniform Delay, d1	59.1	16.2		51.3	11.2	6.6	51.7	51.7	48.2		56.7	56.0
Progression Factor	1.00	1.00		1.43	0.05	0.01	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	23.8	0.7		8.8	0.9	0.0	11.5	11.5	0.1		1.3	0.0
Delay (s)	82.9	16.9		82.4	1.4	0.1	63.2	63.3	48.3		57.9	56.0
Level of Service	F	B		F	A	A	E	E	D		E	E
Approach Delay (s)		17.4			8.8			57.4			57.3	
Approach LOS		B			A			E			E	

Intersection Summary			
HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

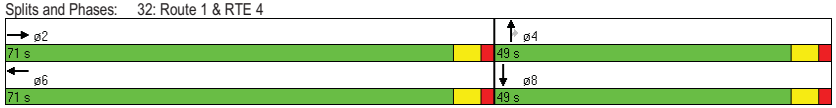
c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1140	1990	360	660	420
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	71.0	71.0	49.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%	40.8%
Maximum Green (s)	65.0	65.0	43.0	43.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	14.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 32: Route 1 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1140	60	0	1990	10	0	360	660	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			489			921			385	
Travel Time (s)		7.7			9.5			17.9			7.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1291	0	0	2151	0	0	742	355	0	452	0
v/c Ratio		0.42			0.69			0.80	0.80		0.45	
Control Delay		2.9			7.5			15.9	18.9		36.0	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		2.9			7.5			15.9	18.9		36.0	
Queue Length 50th (ft)		26			220			70	50		151	
Queue Length 95th (ft)		46			363			78	m73		180	
Internal Link Dist (ft)		313			409			841			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3087			3105			1161	550		1268	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.42			0.69			0.64	0.65		0.36	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1140	60	0	1990	10	0	360	660	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		4998			5032			3147	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		4998			5032			3147	1441		3539	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1226	65	0	2140	11	0	387	710	0	452	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	37	37	0	0	0
Lane Group Flow (vph)	0	1287	0	0	2151	0	0	705	318	0	452	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		74.0			74.0			34.0	34.0		34.0	
Effective Green, g (s)		74.0			74.0			34.0	34.0		34.0	
Actuated g/C Ratio		0.62			0.62			0.28	0.28		0.28	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3082			3103			892	408		1003	
v/s Ratio Prot		0.26			c0.43			c0.22			0.13	
v/s Ratio Perm									0.22			
v/c Ratio		0.42			0.69			0.79	0.78		0.45	
Uniform Delay, d1		11.9			15.4			39.7	39.5		35.3	
Progression Factor		0.20			0.39			0.27	0.22		1.00	
Incremental Delay, d2		0.4			1.0			3.8	7.0		0.1	
Delay (s)		2.8			7.0			14.6	15.5		35.4	
Level of Service		A			A			B	B		D	
Approach Delay (s)		2.8			7.0			14.9			35.4	
Approach LOS		A			A			B			D	

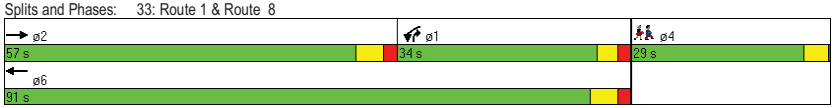
Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1430	440	1900	830	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	28.0	33.0	28.0	29.0
Total Split (s)	57.0	34.0	91.0	34.0	29.0
Total Split (%)	47.5%	28.3%	75.8%	28.3%	24%
Maximum Green (s)	51.0	29.0	85.0	29.0	25.0
Yellow Time (s)	4.0	3.0	4.0	3.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	5.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	C-Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 33: Route 1 & Route 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1430	290	440	1900	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	490			1938	458	
Travel Time (s)	9.5			37.8	8.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2023	0	518	2235	0	976
v/c Ratio	0.62		0.63	0.64		0.84
Control Delay	14.5		18.8	8.0		22.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	14.5		18.8	8.0		22.4
Queue Length 50th (ft)	414		131	245		151
Queue Length 95th (ft)	283		m113	m263		210
Internal Link Dist (ft)	410			1858	378	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3288		822	3505		1157
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.62		0.63	0.64		0.84

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1430	290	440	1900	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0		5.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4909		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4909		3400	3505		2787
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1682	341	518	2235	0	976
RTOR Reduction (vph)	15	0	0	0	0	483
Lane Group Flow (vph)	2008	0	518	2235	0	493
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	80.0		29.0	120.0		29.0
Effective Green, g (s)	80.0		29.0	120.0		29.0
Actuated g/C Ratio	0.67		0.24	1.00		0.24
Clearance Time (s)	6.0		5.0	6.0		5.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3273		822	3505		674
v/s Ratio Prot	0.41		0.15	c0.64		0.18
v/s Ratio Perm						
v/c Ratio	0.61		0.63	0.64		0.73
Uniform Delay, d1	11.3		40.7	0.0		41.9
Progression Factor	1.23		0.43	1.00		1.00
Incremental Delay, d2	0.8		0.3	0.3		3.5
Delay (s)	14.6		17.9	0.3		45.4
Level of Service	B		B	A		D
Approach Delay (s)	14.6			3.6	45.4	
Approach LOS	B			A	D	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	200	540	880	600	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	12	238	643	1048	714	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1210	458	
pX, platoon unblocked						
vC, conflicting volume	2524	357	714			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2524	357	714			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	63	27			
cM capacity (veh/h)	6	639	882			

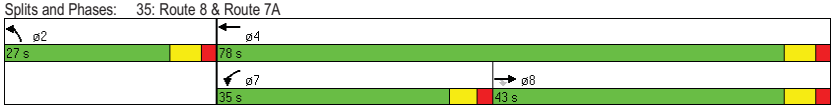
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	238	643	524	524	357	357	119
Volume Left	12	0	643	0	0	0	0	0
Volume Right	0	238	0	0	0	0	0	119
cSH	6	639	882	1700	1700	1700	1700	1700
Volume to Capacity	1.93	0.37	0.73	0.31	0.31	0.21	0.21	0.07
Queue Length 95th (ft)	63	43	165	0	0	0	0	0
Control Delay (s)	1537.0	13.9	19.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	C					
Approach Delay (s)	86.5		7.3			0.0		
Approach LOS	F							

Intersection Summary			
Average Delay		12.2	
Intersection Capacity Utilization		59.8%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	780	60	660	1280	200	640
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	20.5	31.0	16.0	
Total Split (s)	43.0	43.0	35.0	78.0	27.0	0.0
Total Split (%)	41.0%	41.0%	33.3%	74.3%	25.7%	0.0%
Maximum Green (s)	37.0	37.0	29.5	72.0	21.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	5	5			5	

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 97.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	780	60	660	1280	200	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1210			1375	661	
Travel Time (s)	23.6			26.8	12.9	
Confl. Peds. (#/hr)		5				5
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	940	72	795	1542	241	771
v/c Ratio	0.77	0.12	0.84	0.64	0.70	0.49
Control Delay	34.4	6.7	43.3	10.9	49.0	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	6.7	43.3	10.9	49.0	1.1
Queue Length 50th (ft)	286	0	254	261	151	0
Queue Length 95th (ft)	355	26	319	346	212	0
Internal Link Dist (ft)	1130			1295	581	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1373	647	1062	2671	409	1562
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.11	0.75	0.58	0.59	0.49

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	780	60	660	1280	200	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1556	3433	3539	1770	1562
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1556	3433	3539	1770	1562
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	940	72	795	1542	241	771
RTOR Reduction (vph)	0	47	0	0	0	0
Lane Group Flow (vph)	940	25	795	1542	241	771
Confl. Peds. (#/hr)		5				5
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	33.6	33.6	27.0	66.1	19.0	97.1
Effective Green, g (s)	33.6	33.6	27.0	66.1	19.0	97.1
Actuated g/C Ratio	0.35	0.35	0.28	0.68	0.20	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1225	538	955	2409	346	1562
v/s Ratio Prot	c0.27		c0.23	0.44	c0.14	
v/s Ratio Perm		0.02				0.49
v/c Ratio	0.77	0.05	0.83	0.64	0.70	0.49
Uniform Delay, d1	28.3	21.1	32.9	8.8	36.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.0	6.6	0.7	6.5	1.1
Delay (s)	31.4	21.2	39.5	9.4	42.8	1.1
Level of Service	C	C	D	A	D	A
Approach Delay (s)	30.7			19.7	11.0	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	97.1	Sum of lost time (s)	17.5
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

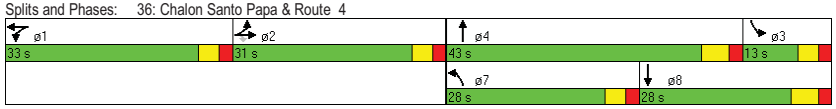
c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	130	90	270	170	830	40	420
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	26.0	12.0	28.0	12.0	28.0
Total Split (s)	31.0	31.0	33.0	28.0	43.0	13.0	28.0
Total Split (%)	25.8%	25.8%	27.5%	23.3%	35.8%	10.8%	23.3%
Maximum Green (s)	26.0	26.0	28.0	23.0	37.0	8.0	22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 70 (58%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	270	160	170	830	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			780			850	
Travel Time (s)		28.3			11.8			15.2			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	102	0	637	0	193	1057	0	45	591	0
v/c Ratio		0.81	0.29		0.87		0.76	0.52		0.42	0.39	
Control Delay		67.3	9.7		55.9		42.4	16.9		43.8	15.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.3	9.7		55.9		42.4	16.9		43.8	15.1	
Queue Length 50th (ft)		188	0		234		106	184		34	39	
Queue Length 95th (ft)		260	43		288		m126	m324		71	160	
Internal Link Dist (ft)		1164			439			700			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		395	423		818		339	2030		118	1535	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.63	0.24		0.78		0.57	0.52		0.38	0.39	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

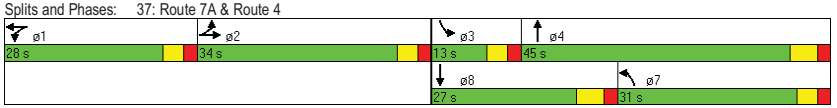
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	270	160	170	830	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.98		1.00	0.97	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1826	1583		3349		1770	5003		1770	4938	
Flt Permitted		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1826	1583		3349		1770	5003		1770	4938	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	148	102	148	307	182	193	943	114	45	477	114
RTOR Reduction (vph)	0	0	85	0	37	0	0	11	0	0	28	0
Lane Group Flow (vph)	0	250	17	0	600	0	193	1046	0	45	563	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		20.3	20.3		24.8		17.2	47.5		6.4	36.7	
Effective Green, g (s)		20.3	20.3		24.8		17.2	47.5		6.4	36.7	
Actuated g/C Ratio		0.17	0.17		0.21		0.14	0.40		0.05	0.31	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		309	268		692		254	1980		94	1510	
v/s Ratio Prot		c0.14			c0.18		c0.11	c0.21		c0.03	0.11	
v/s Ratio Perm			0.01									
v/c Ratio		0.81	0.06		0.87		0.76	0.53		0.48	0.37	
Uniform Delay, d1		48.0	41.9		46.0		49.4	27.7		55.2	32.6	
Progression Factor		1.00	1.00		1.00		0.61	0.56		0.60	0.43	
Incremental Delay, d2		13.6	0.0		10.7		7.2	0.6		1.4	0.7	
Delay (s)		61.6	41.9		56.7		37.2	16.2		34.5	14.8	
Level of Service		E	D		E		D	B		C	B	
Approach Delay (s)		55.9			56.7			19.4			16.2	
Approach LOS		E			E			B			B	

Intersection Summary				
HCM Average Control Delay	31.5	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	67.6%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	170	340	260	490	340	940	50	370
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.5	29.5	28.0	28.0	13.0	28.0	13.0	21.0
Total Split (s)	34.0	34.0	28.0	28.0	31.0	45.0	13.0	27.0
Total Split (%)	28.3%	28.3%	23.3%	23.3%	25.8%	37.5%	10.8%	22.5%
Maximum Green (s)	29.0	29.0	23.0	23.0	26.0	39.0	8.0	21.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	340	20	260	490	40	340	940	360	50	370	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	215		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		609			967			740			780	
Travel Time (s)		13.8			22.0			14.4			15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	189	400	0	260	617	0	378	1444	0	56	655	0
v/c Ratio	0.46	0.93		0.84	0.96		0.98	0.81		0.47	0.67	
Control Delay	43.4	74.0		70.8	73.8		89.5	38.1		52.9	29.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.4	74.0		70.8	73.8		89.5	38.1		52.9	29.7	
Queue Length 50th (ft)	125	300		215	260		294	367		42	149	
Queue Length 95th (ft)	198	#481		#373	#383		#494	431		m82	172	
Internal Link Dist (ft)		529			887			660			700	
Turn Bay Length (ft)				215			250			200		
Base Capacity (vph)	428	448		309	646		384	1790		118	974	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.89		0.84	0.96		0.98	0.81		0.47	0.67	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	340	20	260	490	40	340	940	360	50	370	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1847		1610	3346		1770	4874		1770	4801	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1847		1610	3346		1770	4874		1770	4801	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	189	378	22	289	544	44	378	1044	400	56	411	244
RTOR Reduction (vph)	0	2	0	0	5	0	0	55	0	0	89	0
Lane Group Flow (vph)	189	398	0	260	612	0	378	1389	0	56	566	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	27.9	27.9		23.0	23.0		27.0	41.7		6.4	21.1	
Effective Green, g (s)	27.9	27.9		23.0	23.0		27.0	41.7		6.4	21.1	
Actuated g/C Ratio	0.23	0.23		0.19	0.19		0.22	0.35		0.05	0.18	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	412	429		309	641		398	1694		94	844	
v/s Ratio Prot	0.11	c0.22		0.16	c0.18		c0.21	c0.28		0.03	c0.12	
v/s Ratio Perm												
v/c Ratio	0.46	0.93		0.84	0.95		0.95	0.82		0.60	0.67	
Uniform Delay, d1	39.6	45.1		46.7	48.0		45.8	35.7		55.5	46.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.75	0.69	
Incremental Delay, d2	0.3	25.9		17.6	24.5		31.7	4.6		6.0	3.9	
Delay (s)	39.9	71.0		64.4	72.5		77.6	40.3		47.6	35.6	
Level of Service	D	E		E	E		E	D		D	D	
Approach Delay (s)		61.0			70.1			48.0			36.5	
Approach LOS		E			E			D			D	

Intersection Summary					
HCM Average Control Delay	52.7	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.97				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.0	
Intersection Capacity Utilization	84.4%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	90	170	150	1690	600	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	102	193	170	1920	682	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1031	
pX, platoon unblocked	0.90	0.90	0.90			
vC, conflicting volume	2006	364	727			
vC1, stage 1 conf vol	705					
vC2, stage 2 conf vol	1301					
vCu, unblocked vol	1897	77	480			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	78	82			
cM capacity (veh/h)	169	874	973			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	295	170	960	960	455	273
Volume Left	102	170	0	0	0	0
Volume Right	193	0	0	0	0	45
cSH	358	973	1700	1700	1700	1700
Volume to Capacity	0.83	0.18	0.56	0.56	0.27	0.16
Queue Length 95th (ft)	183	16	0	0	0	0
Control Delay (s)	48.5	9.5	0.0	0.0	0.0	0.0
Lane LOS	E	A				
Approach Delay (s)	48.5	0.8			0.0	
Approach LOS	E					

Intersection Summary				
Average Delay		5.1		
Intersection Capacity Utilization		68.8%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	70	280	220	70
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	20.0	20.0
Total Split (s)	21.0	35.0	34.0	34.0
Total Split (%)	23.3%	38.9%	37.8%	37.8%
Maximum Green (s)	16.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	2.0	2.0	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 75.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route - 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	500	280	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		345			618			271			199	
Travel Time (s)		7.8			14.0			6.2			3.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	364	0	0	1176	0	259	764	0	0	0	0
v/c Ratio		0.67			0.86		0.48	0.91				
Control Delay		19.3			30.3		24.6	25.7				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		19.3			30.3		24.6	25.7				
Queue Length 50th (ft)		32			280		97	122				
Queue Length 95th (ft)		66			#425		162	#288				
Internal Link Dist (ft)		265			538			191			119	
Turn Bay Length (ft)												
Base Capacity (vph)		869			1375		715	949				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.42			0.86		0.36	0.81				

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	500	280	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.90			0.97		1.00	0.87				
Flt Protected		0.99			0.98		0.95	1.00				
Satd. Flow (prot)		3176			3339		1770	1613				
Flt Permitted		0.99			0.98		0.95	1.00				
Satd. Flow (perm)		3176			3339		1770	1613				
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	82	235	588	329	259	259	82	682	0	0	0
RTOR Reduction (vph)	0	210	0	0	26	0	0	348	0	0	0	0
Lane Group Flow (vph)	0	154	0	0	1150	0	259	416	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		8.0			30.6		22.9	22.9				
Effective Green, g (s)		8.0			30.6		22.9	22.9				
Actuated g/C Ratio		0.11			0.41		0.30	0.30				
Clearance Time (s)		5.0			5.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		337			1353		537	489				
v/s Ratio Prot		c0.05			c0.34		0.15	c0.26				
v/s Ratio Perm												
v/c Ratio		0.46			0.85		0.48	0.85				
Uniform Delay, d1		31.7			20.4		21.5	24.7				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		0.4			5.1		0.2	12.9				
Delay (s)		32.1			25.5		21.7	37.6				
Level of Service		C			C		C	D				
Approach Delay (s)		32.1			25.5			33.6			0.0	
Approach LOS		C			C			C			A	

Intersection Summary

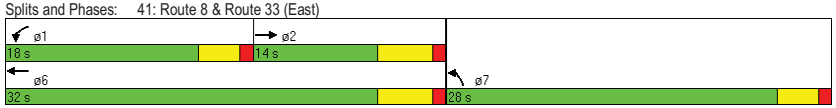
HCM Average Control Delay	29.7	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.80				
Actuated Cycle Length (s)	75.5	Sum of lost time (s)		14.0	
Intersection Capacity Utilization	90.0%	ICU Level of Service		E	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	350	340	1030	330
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	7.0	4.0	7.0	4.0
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	14.0	18.0	32.0	28.0
Total Split (%)	23.3%	30.0%	53.3%	46.7%
Maximum Green (s)	9.0	14.0	27.0	24.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	4.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	4.0	2.0	4.0	2.0
Minimum Gap (s)	2.0	0.5	2.0	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 62.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	350	180	340	1030	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2965			2384	2961	
Travel Time (s)	57.8			46.4	57.7	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	616	0	395	1198	756	0
v/c Ratio	0.87		0.99	0.72	1.06	
Control Delay	33.9		72.3	16.1	70.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	33.9		72.3	16.1	70.9	
Queue Length 50th (ft)	~95		141	178	~256	
Queue Length 95th (ft)	135		#353	221	#563	
Internal Link Dist (ft)	2885			2304	2881	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	711		398	1662	714	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.87		0.99	0.72	1.06	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	350	180	340	1030	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	5.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.95		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3359		1770	3539	1696	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	3359		1770	3539	1696	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	407	209	395	1198	384	372
RTOR Reduction (vph)	105	0	0	0	60	0
Lane Group Flow (vph)	511	0	395	1198	696	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	11.3		14.1	29.4	24.1	
Effective Green, g (s)	11.3		14.1	29.4	24.1	
Actuated g/C Ratio	0.18		0.23	0.47	0.39	
Clearance Time (s)	5.0		4.0	5.0	4.0	
Vehicle Extension (s)	4.0		2.0	4.0	2.0	
Lane Grp Cap (vph)	607		399	1665	654	
v/s Ratio Prot	0.15		c0.22	c0.34	c0.41	
v/s Ratio Perm						
v/c Ratio	0.84		0.99	0.72	1.06	
Uniform Delay, d1	24.7		24.1	13.2	19.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	10.7		41.8	1.6	53.7	
Delay (s)	35.4		65.9	14.9	72.9	
Level of Service	D		E	B	E	
Approach Delay (s)	35.4			27.5	72.9	
Approach LOS	D			C	E	

Intersection Summary				
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	410	290	740	620	770	1170
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	36.0	36.0	64.0	36.0	36.0
Total Split (%)	28.0%	36.0%	36.0%	64.0%	36.0%	36.0%
Maximum Green (s)	22.0	30.0	30.0	58.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	410	290	740	620	770	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			454	789	
Travel Time (s)	14.8			8.8	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	451	319	813	681	846	1286
v/c Ratio	0.53	0.35	0.80	0.32	0.88	0.71
Control Delay	36.4	11.2	34.4	9.0	46.4	12.8
Queue Delay	0.1	0.0	0.1	0.0	0.0	0.4
Total Delay	36.5	11.2	34.5	9.0	46.4	13.2
Queue Length 50th (ft)	135	90	251	92	258	235
Queue Length 95th (ft)	188	144	322	115	332	311
Internal Link Dist (ft)	682			374	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	847	895	1020	2109	1030	1824
Starvation Cap Reductn	0	0	6	0	0	0
Spillback Cap Reductn	30	0	0	0	0	160
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.36	0.80	0.32	0.82	0.77

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	410	290	740	620	770	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	451	319	813	681	846	1286
RTOR Reduction (vph)	0	13	0	0	0	53
Lane Group Flow (vph)	451	306	813	681	846	1233
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	24.2	52.0	30.0	60.2	27.8	57.8
Effective Green, g (s)	24.2	52.0	30.0	60.2	27.8	57.8
Actuated g/C Ratio	0.24	0.52	0.30	0.60	0.28	0.58
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	848	909	1020	2110	954	1778
v/s Ratio Prot	c0.13	0.09	c0.24	0.19	c0.25	0.21
v/s Ratio Perm		0.10				0.23
v/c Ratio	0.53	0.34	0.80	0.32	0.89	0.69
Uniform Delay, d1	33.0	14.0	32.2	9.8	34.6	14.9
Progression Factor	1.00	1.00	0.87	0.84	1.00	1.00
Incremental Delay, d2	2.4	0.1	3.8	0.4	9.7	1.0
Delay (s)	35.4	14.0	31.8	8.6	44.3	15.8
Level of Service	D	B	C	A	D	B
Approach Delay (s)	26.5			21.2	27.1	
Approach LOS	C			C	C	

Intersection Summary			
HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1310	130	1020	150	110
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	8.0	8.0
Minimum Split (s)	26.0	16.0	26.0	14.0	14.0
Total Split (s)	63.0	17.0	80.0	20.0	20.0
Total Split (%)	63.0%	17.0%	80.0%	20.0%	20.0%
Maximum Green (s)	57.0	11.0	74.0	14.0	14.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	Min	Max	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 52 (52%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1310	180	130	1020	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	454			482	431	
Travel Time (s)	8.8			9.4	8.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1732	0	151	1186	174	128
v/c Ratio	0.86		0.78	0.45	0.78	0.41
Control Delay	17.2		71.1	5.4	65.7	11.4
Queue Delay	2.8		0.0	0.0	0.0	0.0
Total Delay	20.0		71.1	5.4	65.7	11.4
Queue Length 50th (ft)	308		95	131	107	0
Queue Length 95th (ft)	373		#184	153	#183	46
Internal Link Dist (ft)	374			402	351	
Turn Bay Length (ft)			200			200
Base Capacity (vph)	2020		193	2642	248	332
Starvation Cap Reductn	189		0	0	0	0
Spillback Cap Reductn	0		0	25	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.95		0.78	0.45	0.70	0.39

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1310	180	130	1020	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3441		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3441		1752	3505	1770	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1523	209	151	1186	174	128
RTOR Reduction (vph)	10	0	0	0	0	112
Lane Group Flow (vph)	1722	0	151	1186	174	16
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	58.4		11.0	75.4	12.6	12.6
Effective Green, g (s)	58.4		11.0	75.4	12.6	12.6
Actuated g/C Ratio	0.58		0.11	0.75	0.13	0.13
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2010		193	2643	223	199
v/s Ratio Prot	c0.50		c0.09	0.34	c0.10	
v/s Ratio Perm						0.01
v/c Ratio	0.86		0.78	0.45	0.78	0.08
Uniform Delay, d1	17.3		43.3	4.6	42.4	38.6
Progression Factor	0.73		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8		17.1	0.6	14.9	0.1
Delay (s)	16.5		60.5	5.1	57.3	38.7
Level of Service	B		E	A	E	D
Approach Delay (s)	16.5			11.4	49.4	
Approach LOS	B			B	D	

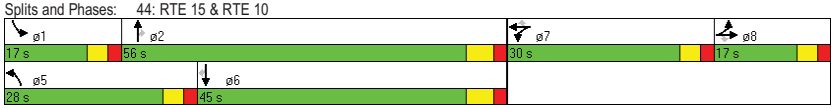
Intersection Summary				
HCM Average Control Delay	17.4	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	73.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	300	80	330	240	1240	260	140	790	130
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	8.0	21.0	21.0	8.0	36.0	36.0
Total Split (s)	17.0	17.0	17.0	30.0	30.0	30.0	28.0	56.0	56.0	17.0	45.0	45.0
Total Split (%)	14.2%	14.2%	14.2%	25.0%	25.0%	25.0%	23.3%	46.7%	46.7%	14.2%	37.5%	37.5%
Maximum Green (s)	12.0	12.0	12.0	25.0	25.0	25.0	23.0	50.0	50.0	12.0	39.0	39.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	300	80	330	240	1240	260	140	790	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		549			1964			2453			773	
Travel Time (s)		10.7			38.3			47.8			15.1	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	41%											
Lane Group Flow (vph)	146	146	135	337	90	371	270	1393	292	157	888	146
v/c Ratio	0.89	0.87	0.49	0.95	0.24	0.77	0.87	0.93	0.37	0.90	0.72	0.23
Control Delay	100.5	97.0	14.8	83.5	41.7	31.6	77.7	27.4	1.7	99.8	38.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.5	97.0	14.8	83.5	41.7	31.6	77.7	27.4	1.7	99.8	38.7	5.5
Queue Length 50th (ft)	118	118	0	258	58	124	197	425	3	122	325	0
Queue Length 95th (ft)	#244	#241	59	#426	105	239	m243	#666	m9	#244	397	45
Internal Link Dist (ft)		469			1884			2373			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	167	170	278	365	384	488	339	1505	798	177	1236	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.86	0.49	0.92	0.23	0.76	0.80	0.93	0.37	0.89	0.72	0.23

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	300	80	330	240	1240	260	140	790	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1694	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1694	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	247	45	135	337	90	371	270	1393	292	157	888	146
RTOR Reduction (vph)	0	0	122	0	0	163	0	0	125	0	0	95
Lane Group Flow (vph)	146	146	13	337	90	208	270	1393	167	157	888	51
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	11.8	11.8	11.8	24.4	24.4	24.4	21.0	51.0	51.0	11.8	41.8	41.8
Effective Green, g (s)	11.8	11.8	11.8	24.4	24.4	24.4	21.0	51.0	51.0	11.8	41.8	41.8
Actuated g/C Ratio	0.10	0.10	0.10	0.20	0.20	0.20	0.18	0.42	0.42	0.10	0.35	0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	164	167	154	356	375	319	310	1504	673	174	1233	551
v/s Ratio Prot	c0.09	0.09		c0.19	0.05		c0.15	c0.39		0.09	0.25	
v/s Ratio Perm			0.01			0.13			0.11			0.03
v/c Ratio	0.89	0.87	0.09	0.95	0.24	0.65	0.87	0.93	0.25	0.90	0.72	0.09
Uniform Delay, d1	53.5	53.4	49.2	47.2	40.0	43.9	48.2	32.7	22.2	53.5	34.0	26.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.25	0.59	0.14	1.00	1.00	1.00
Incremental Delay, d2	39.6	35.3	0.1	33.4	0.1	3.6	14.0	7.2	0.5	40.7	3.7	0.3
Delay (s)	93.1	88.7	49.3	80.6	40.2	47.6	74.4	26.3	3.7	94.2	37.7	26.7
Level of Service	F	F	D	F	D	D	E	C	A	F	D	C
Approach Delay (s)		77.7			60.7			29.6			43.8	
Approach LOS		E			E			C			D	

Intersection Summary

HCM Average Control Delay	43.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

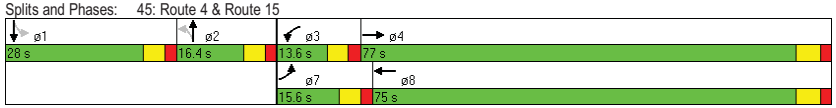
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	110	650	10	1690	40	10	50	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	15.6	77.0	13.6	75.0	16.4	16.4	28.0	28.0
Total Split (%)	11.6%	57.0%	10.1%	55.6%	12.1%	12.1%	20.7%	20.7%
Maximum Green (s)	10.1	71.0	8.1	69.0	10.9	10.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0	3.5	4.0	3.5	3.5	0.5	0.5
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.7
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	650	10	10	1690	40	40	10	40	50	10	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			548			338			351	
Travel Time (s)		12.5			10.7			6.6			6.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	750	0	11	1965	0	0	101	0	0	375	0
v/c Ratio	0.95	0.40		0.10	1.09			0.87			1.07	
Control Delay	126.0	19.9		62.5	81.1			101.7			98.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	126.0	19.9		62.5	81.1			101.7			98.5	
Queue Length 50th (ft)	111	201		9	~1020			69			~250	
Queue Length 95th (ft)	#233	242		29	#1113			#173			#433	
Internal Link Dist (ft)		561			468			258			271	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	132	1864		106	1808			118			352	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.95	0.40		0.10	1.09			0.86			1.07	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

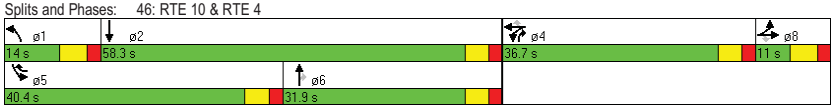
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	650	10	10	1690	40	40	10	40	50	10	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3531		1770	3527			1713			1644	
Flt Permitted	0.95	1.00		0.95	1.00			0.69			0.84	
Satd. Flow (perm)	1770	3531		1770	3527			1200			1395	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	125	739	11	11	1920	45	45	11	45	57	11	307
RTOR Reduction (vph)	0	1	0	0	1	0	0	21	0	0	120	0
Lane Group Flow (vph)	125	749	0	11	1964	0	0	80	0	0	255	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	10.1	71.1		8.0	69.0			10.6			22.5	
Effective Green, g (s)	10.1	71.1		8.0	69.0			10.6			22.5	
Actuated g/C Ratio	0.07	0.53		0.06	0.51			0.08			0.17	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	3.5	4.0		3.5	4.0			3.5			0.5	
Lane Grp Cap (vph)	133	1864		105	1807			94			233	
v/s Ratio Prot	c0.07	0.21		0.01	c0.56							
v/s Ratio Perm								c0.07			c0.18	
v/c Ratio	0.94	0.40		0.10	1.09			0.85			1.09	
Uniform Delay, d1	62.0	19.1		60.0	32.8			61.3			56.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	59.6	0.2		0.5	49.0			48.2			86.6	
Delay (s)	121.6	19.3		60.5	81.9			109.4			142.7	
Level of Service	F	B		E	F			F			F	
Approach Delay (s)		33.9			81.8			109.4			142.7	
Approach LOS		C			F			F			F	

Intersection Summary				
HCM Average Control Delay	76.9	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.05			
Actuated Cycle Length (s)	134.7	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	89.6%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	30	10	10	820	10	660	770	630	220
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	10.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.5	9.5	13.5	15.5
Total Split (s)	11.0	11.0	36.7	40.4	14.0	31.9	36.7	40.4	58.3
Total Split (%)	9.2%	9.2%	30.6%	33.7%	11.7%	26.6%	30.6%	33.7%	48.6%
Maximum Green (s)	5.0	5.0	31.2	34.9	8.0	26.4	31.2	34.9	52.8
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		
Flash Dont Walk (s)			20.0				20.0		
Pedestrian Calls (#/hr)			0				0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 119.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	340	10	820	10	660	770	630	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			759			914	
Travel Time (s)		7.3			12.6			14.8			17.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	11	0	381	891	11	717	837	685	261	0
v/c Ratio		0.87	0.14		0.82	0.98	0.09	0.94	0.96	0.68	0.27	
Control Delay		127.5	31.3		57.2	43.0	54.5	67.7	46.7	41.5	16.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		127.5	31.3		57.2	43.0	54.5	67.7	46.7	41.5	16.9	
Queue Length 50th (ft)		52	0		279	402	8	287	547	242	98	
Queue Length 95th (ft)		#140	20		#435	#938	28	#401	#849	309	191	
Internal Link Dist (ft)		295			565			679			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		76	77		465	911	119	784	873	1005	978	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.87	0.14		0.82	0.98	0.09	0.91	0.96	0.68	0.27	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	340	10	820	10	660	770	630	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	33	11	370	11	891	11	717	837	685	239	22
RTOR Reduction (vph)	0	0	11	0	0	34	0	0	49	0	2	0
Lane Group Flow (vph)	0	66	0	0	381	857	11	717	788	685	259	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		5.0	5.0		31.2	66.1	1.6	30.4	61.6	34.9	63.2	
Effective Green, g (s)		5.0	5.0		31.2	66.1	1.6	30.4	61.6	34.9	63.2	
Actuated g/C Ratio		0.04	0.04		0.25	0.53	0.01	0.25	0.50	0.28	0.51	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	5.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		73	64		447	844	23	868	857	966	937	
v/s Ratio Prot		c0.04			0.21	c0.29	0.01	0.20	c0.23	0.20	0.14	
v/s Ratio Perm			0.00			0.26			0.27			
v/c Ratio		0.90	0.01		0.85	1.02	0.48	0.83	0.92	0.71	0.28	
Uniform Delay, d1		59.3	57.1		44.2	29.0	60.8	44.3	28.9	40.0	17.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		71.7	0.0		14.0	34.8	5.6	6.2	14.4	2.0	0.1	
Delay (s)		130.9	57.1		58.2	63.8	66.4	50.5	43.3	42.0	17.4	
Level of Service		F	E		E	E	E	D	D	D	B	
Approach Delay (s)		120.4			62.1			46.8			35.2	
Approach LOS		F			E			D			D	

Intersection Summary			
HCM Average Control Delay	50.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	124.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1100	1200	280
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	24.0	24.0	13.0	22.0	33.0	33.0
Total Split (s)	24.0	24.0	21.0	96.0	75.0	75.0
Total Split (%)	20.0%	20.0%	17.5%	80.0%	62.5%	62.5%
Maximum Green (s)	19.0	19.0	16.0	90.0	69.0	69.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1100	1200	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	438			286	526	
Travel Time (s)	11.9			5.6	10.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	45	125	1250	1364	318
v/c Ratio	0.45	0.40	0.68	0.41	0.55	0.29
Control Delay	63.7	62.4	57.3	5.7	11.0	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	62.4	57.3	5.7	11.0	8.8
Queue Length 50th (ft)	43	34	95	138	257	88
Queue Length 95th (ft)	83	69	154	379	367	155
Internal Link Dist (ft)	358			206	446	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	251	224	234	3016	2469	1105
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.53	0.41	0.55	0.29

Intersection Summary

Area Type: Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1100	1200	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	57	45	125	1250	1364	318
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	57	45	125	1250	1364	318
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	8.0	8.0	12.5	101.0	83.5	83.5
Effective Green, g (s)	8.0	8.0	12.5	101.0	83.5	83.5
Actuated g/C Ratio	0.07	0.07	0.10	0.84	0.70	0.70
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	106	94	183	2950	2439	1091
v/s Ratio Prot	c0.04		c0.07	0.36	c0.39	
v/s Ratio Perm		0.03				0.20
v/c Ratio	0.54	0.48	0.68	0.42	0.56	0.29
Uniform Delay, d1	54.2	54.0	51.8	2.3	9.1	7.0
Progression Factor	1.00	1.00	0.79	2.09	1.00	1.00
Incremental Delay, d2	2.6	1.4	7.2	0.4	0.9	0.7
Delay (s)	56.8	55.4	47.9	5.3	10.0	7.6
Level of Service	E	E	D	A	B	A
Approach Delay (s)	56.2			9.2	9.6	
Approach LOS	E			A	A	

Intersection Summary				
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	90	100	1110	80	1140
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	23.0	23.0	28.0	13.0	22.0
Total Split (s)	26.0	26.0	74.0	20.0	94.0
Total Split (%)	21.7%	21.7%	61.7%	16.7%	78.3%
Maximum Green (s)	21.0	21.0	68.0	15.0	88.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6(V.Cementary) & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1110	90	80	1140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		550			1355
Travel Time (s)	16.0		10.7			26.4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	108	1291	0	86	1226
v/c Ratio	0.55	0.43	0.53		0.55	0.43
Control Delay	63.3	14.3	7.2		76.3	1.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	63.3	14.3	7.2		76.3	1.9
Queue Length 50th (ft)	74	0	120		72	61
Queue Length 95th (ft)	126	53	127		127	31
Internal Link Dist (ft)	506		470			1275
Turn Bay Length (ft)					200	
Base Capacity (vph)	310	366	2431		219	2837
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.31	0.30	0.53		0.39	0.43

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1110	90	80	1140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3465		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3465		1752	3505
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	108	1194	97	86	1226
RTOR Reduction (vph)	0	97	4	0	0	0
Lane Group Flow (vph)	97	11	1287	0	86	1226
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	11.9	11.9	83.0		9.1	97.1
Effective Green, g (s)	11.9	11.9	83.0		9.1	97.1
Actuated g/C Ratio	0.10	0.10	0.69		0.08	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	176	157	2397		133	2836
v/s Ratio Prot	c0.05		c0.37		c0.05	0.35
v/s Ratio Perm		0.01				
v/c Ratio	0.55	0.07	0.54		0.65	0.43
Uniform Delay, d1	51.5	49.0	9.1		53.9	3.4
Progression Factor	1.00	1.00	0.66		1.25	0.41
Incremental Delay, d2	2.1	0.1	0.8		6.7	0.4
Delay (s)	53.6	49.1	6.8		74.1	1.8
Level of Service	D	D	A		E	A
Approach Delay (s)	51.2		6.8			6.5
Approach LOS	D		A			A

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	20	220	1180	1180
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	20.0	13.0	22.0	30.0
Total Split (s)	20.0	31.0	100.0	69.0
Total Split (%)	16.7%	25.8%	83.3%	57.5%
Maximum Green (s)	15.0	26.0	94.0	63.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1180	1180	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2159			1944	7258	
Travel Time (s)	42.1			37.9	141.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	237	1269	1366	0
v/c Ratio	0.37		0.79	0.42	0.61	
Control Delay	34.5		58.7	2.2	11.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	34.5		58.7	2.2	11.3	
Queue Length 50th (ft)	16		157	66	193	
Queue Length 95th (ft)	58		m231	91	261	
Internal Link Dist (ft)	2079			1864	7178	
Turn Bay Length (ft)			125			
Base Capacity (vph)	238		385	3050	2249	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.23		0.62	0.42	0.61	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1180	1180	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1680		1752	3505	3468	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1680		1752	3505	3468	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	32	237	1269	1269	97
RTOR Reduction (vph)	30	0	0	0	4	0
Lane Group Flow (vph)	24	0	237	1269	1362	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.8		20.5	102.2	76.7	
Effective Green, g (s)	6.8		20.5	102.2	76.7	
Actuated g/C Ratio	0.06		0.17	0.85	0.64	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	95		299	2985	2217	
v/s Ratio Prot	c0.01		c0.14	0.36	c0.39	
v/s Ratio Perm						
v/c Ratio	0.25		0.79	0.43	0.61	
Uniform Delay, d1	54.2		47.7	2.1	12.9	
Progression Factor	1.00		0.93	0.88	0.72	
Incremental Delay, d2	0.5		9.8	0.3	1.2	
Delay (s)	54.7		54.3	2.2	10.5	
Level of Service	D		D	A	B	
Approach Delay (s)	54.7			10.4	10.5	
Approach LOS	D			B	B	

Intersection Summary				
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	270	70	540	780
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	25.0		33.0	33.0	22.0	21.0
Total Split (s)	36.0	0.0	40.0	40.0	44.0	84.0
Total Split (%)	30.0%	0.0%	33.3%	33.3%	36.7%	70.0%
Maximum Green (s)	31.0		34.0	34.0	39.0	78.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	270	70	540	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	531		795			527
Travel Time (s)	10.3		15.5			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	1212	318	82	635	918
v/c Ratio	0.68	0.77	0.18	0.10	0.73	0.33
Control Delay	67.0	3.6	18.9	5.0	33.5	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	3.6	18.9	5.0	33.5	5.3
Queue Length 50th (ft)	106	0	70	0	229	64
Queue Length 95th (ft)	157	0	112	28	188	165
Internal Link Dist (ft)	451		715			447
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	457	1583	1736	818	1105	2775
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.77	0.18	0.10	0.57	0.33

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	270	70	540	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3505	1568	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3505	1568	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	141	1212	318	82	635	918
RTOR Reduction (vph)	0	0	0	41	0	0
Lane Group Flow (vph)	141	1212	318	41	635	918
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	14.0	120.0	59.4	59.4	30.6	95.0
Effective Green, g (s)	14.0	120.0	59.4	59.4	30.6	95.0
Actuated g/C Ratio	0.12	1.00	0.49	0.49	0.26	0.79
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	207	1583	1735	776	867	2775
v/s Ratio Prot	0.08		0.09		0.19	0.26
v/s Ratio Perm		c0.77		0.03		
v/c Ratio	0.68	0.77	0.18	0.05	0.73	0.33
Uniform Delay, d1	50.9	0.0	16.8	15.7	40.9	3.5
Progression Factor	1.00	1.00	1.00	1.00	0.71	1.31
Incremental Delay, d2	7.1	3.6	0.2	0.1	3.4	0.3
Delay (s)	58.0	3.6	17.1	15.8	32.5	4.9
Level of Service	E	A	B	B	C	A
Approach Delay (s)	9.3		16.8			16.2
Approach LOS	A		B			B

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	36.0	36.0	37.0	37.0	27.0	64.0
Total Split (%)	36.0%	36.0%	37.0%	37.0%	27.0%	64.0%
Maximum Green (s)	30.5	30.5	31.0	31.0	21.5	58.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 73.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1169		1253			870
Travel Time (s)	22.8		24.4			16.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	448	677	42	229	198
v/c Ratio	0.57	0.72	0.45	0.06	0.69	0.08
Control Delay	38.5	10.6	17.5	8.3	39.6	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	10.6	17.5	8.3	39.6	4.2
Queue Length 50th (ft)	66	0	108	3	97	12
Queue Length 95th (ft)	133	82	200	24	179	27
Internal Link Dist (ft)	1089		1173			790
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	741	923	1506	691	522	2817
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.49	0.45	0.06	0.44	0.07

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	156	448	677	42	229	198
RTOR Reduction (vph)	0	379	0	18	0	0
Lane Group Flow (vph)	156	69	677	24	229	198
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.3	11.3	31.3	31.3	13.8	50.6
Effective Green, g (s)	11.3	11.3	31.3	31.3	13.8	50.6
Actuated g/C Ratio	0.15	0.15	0.43	0.43	0.19	0.69
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	272	244	1509	675	333	2440
v/s Ratio Prot	c0.09		c0.19		c0.13	0.06
v/s Ratio Perm		0.04		0.02		
v/c Ratio	0.57	0.28	0.45	0.04	0.69	0.08
Uniform Delay, d1	28.8	27.5	14.9	12.3	27.8	3.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.2	1.0	0.1	4.7	0.0
Delay (s)	30.6	27.7	15.9	12.4	32.4	3.8
Level of Service	C	C	B	B	C	A
Approach Delay (s)	28.5		15.7			19.1
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	36.0	36.0	66.0	66.0	18.0	84.0
Total Split (%)	30.0%	30.0%	55.0%	55.0%	15.0%	70.0%
Maximum Green (s)	30.5	30.5	60.0	60.0	12.5	78.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 111.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	665		412			515
Travel Time (s)	13.0		8.0			10.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	281	337	685	315	101	270
v/c Ratio	0.81	0.58	0.66	0.32	0.61	0.21
Control Delay	61.4	8.3	22.7	4.7	65.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	8.3	22.7	4.7	65.7	7.0
Queue Length 50th (ft)	194	0	327	21	70	60
Queue Length 95th (ft)	284	70	549	76	133	116
Internal Link Dist (ft)	585		332			435
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	485	679	1041	994	199	1307
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.50	0.66	0.32	0.51	0.21

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	281	337	685	315	101	270
RTOR Reduction (vph)	0	271	0	109	0	0
Lane Group Flow (vph)	281	66	685	206	101	270
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	21.8	21.8	62.3	62.3	10.4	78.2
Effective Green, g (s)	21.8	21.8	62.3	62.3	10.4	78.2
Actuated g/C Ratio	0.20	0.20	0.56	0.56	0.09	0.70
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	346	310	1041	884	165	1307
v/s Ratio Prot	c0.16		c0.37		c0.06	0.14
v/s Ratio Perm		0.04		0.13		
v/c Ratio	0.81	0.21	0.66	0.23	0.61	0.21
Uniform Delay, d1	42.9	37.6	17.2	12.5	48.6	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.8	0.1	1.2	0.0	4.7	0.4
Delay (s)	55.7	37.8	18.3	12.5	53.3	6.2
Level of Service	E	D	B	B	D	A
Approach Delay (s)	45.9		16.5			19.0
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	111.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	140	70	130	30	30	530
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	171	85	159	37	37	646
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	159				585	159
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159				585	159
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				91	27
cM capacity (veh/h)	1421				416	887

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	256	159	37	37	646
Volume Left	171	0	0	37	0
Volume Right	0	0	37	0	646
cSH	1421	1700	1700	416	887
Volume to Capacity	0.12	0.09	0.02	0.09	0.73
Queue Length 95th (ft)	10	0	0	7	165
Control Delay (s)	5.6	0.0	0.0	14.5	19.1
Lane LOS	A			B	C
Approach Delay (s)	5.6	0.0		18.9	
Approach LOS				C	

Intersection Summary				
Average Delay	12.6			
Intersection Capacity Utilization	46.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	40	40	20	100	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	15	60	60	30	149	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418	75			90	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418	75			90	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			90	
cM capacity (veh/h)	533	987			1506	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	75	90	194
Volume Left	15	0	149
Volume Right	60	30	0
cSH	843	1700	1506
Volume to Capacity	0.09	0.05	0.10
Queue Length 95th (ft)	7	0	8
Control Delay (s)	9.7	0.0	6.1
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	6.1
Approach LOS	A		

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	23.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	100	50	70	190	240	140
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	110	55	77	209	264	154
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			165		500	137
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			165		500	137
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		47	83
cM capacity (veh/h)			1413		501	911

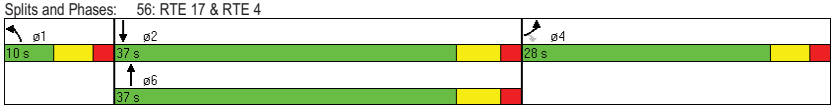
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	165	286	418
Volume Left	0	77	264
Volume Right	55	0	154
cSH	1700	1413	601
Volume to Capacity	0.10	0.05	0.69
Queue Length 95th (ft)	0	4	138
Control Delay (s)	0.0	2.4	23.5
Lane LOS		A	C
Approach Delay (s)	0.0	2.4	23.5
Approach LOS			C

Intersection Summary				
Average Delay			12.1	
Intersection Capacity Utilization			54.0%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	480	20	40	660	260
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	28.0	28.0	10.0	37.0	37.0
Total Split (%)	37.3%	37.3%	13.3%	49.3%	49.3%
Maximum Green (s)	22.5	22.5	4.5	31.0	31.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 71
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	480	20	40	660	260	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	456	
Travel Time (s)	16.3			14.6	8.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	615	26	51	846	628	0
v/c Ratio	1.09	0.05	0.45	1.03	0.78	
Control Delay	92.7	8.3	47.5	64.8	24.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	92.7	8.3	47.5	64.8	24.6	
Queue Length 50th (ft)	~345	0	24	~455	225	
Queue Length 95th (ft)	#429	13	49	#526	281	
Internal Link Dist (ft)	758			671	376	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	564	522	113	818	806	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.09	0.05	0.45	1.03	0.78	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	480	20	40	660	260	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1745	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1745	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	615	26	51	846	333	295
RTOR Reduction (vph)	0	18	0	0	41	0
Lane Group Flow (vph)	615	8	51	846	587	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	22.6	22.6	2.6	31.2	31.2	
Effective Green, g (s)	22.6	22.6	2.6	31.2	31.2	
Actuated g/C Ratio	0.31	0.31	0.04	0.43	0.43	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	545	487	63	792	742	
v/s Ratio Prot	c0.35		c0.03	c0.45	0.34	
v/s Ratio Perm		0.01				
v/c Ratio	1.13	0.02	0.81	1.07	0.79	
Uniform Delay, d1	25.4	17.7	35.2	21.1	18.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	79.0	0.0	49.3	51.8	5.4	
Delay (s)	104.4	17.7	84.5	72.9	23.6	
Level of Service	F	B	F	E	C	
Approach Delay (s)	100.9			73.5	23.6	
Approach LOS	F			E	C	

Intersection Summary			
HCM Average Control Delay	67.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	100	280	90	80	140	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	119	333	107	95	167	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	202				726	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202				726	155
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				53	95
cM capacity (veh/h)	1369				357	891

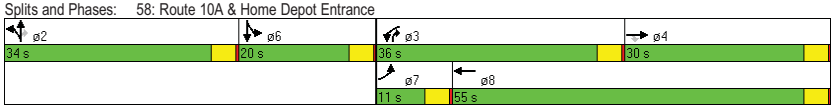
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	452	202	214
Volume Left	119	0	167
Volume Right	0	95	48
cSH	1369	1700	412
Volume to Capacity	0.09	0.12	0.52
Queue Length 95th (ft)	7	0	73
Control Delay (s)	2.7	0.0	22.8
Lane LOS	A		C
Approach Delay (s)	2.7	0.0	22.8
Approach LOS			C

Intersection Summary				
Average Delay		7.0		
Intersection Capacity Utilization		50.1%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	340	250	750	1260	690	40	370	20	10
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	11.0	30.0	30.0	36.0	55.0	34.0	34.0	36.0	20.0	20.0
Total Split (%)	9.2%	25.0%	25.0%	30.0%	45.8%	28.3%	28.3%	30.0%	16.7%	16.7%
Maximum Green (s)	7.0	26.0	26.0	32.0	51.0	30.0	30.0	32.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 102.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	340	250	750	1260	70	690	40	370	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1896			1155			624			394	
Travel Time (s)		43.1			22.5			12.2			9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	370	272	815	1446	0	750	43	402	22	65	0
v/c Ratio	0.70	0.41	0.55	0.84	0.88		0.83	0.09	0.38	0.20	0.43	
Control Delay	80.2	35.3	24.9	44.9	32.8		45.9	31.4	1.8	53.6	26.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	80.2	35.3	24.9	44.9	32.8		45.9	31.4	1.8	53.6	26.9	
Queue Length 50th (ft)	61	116	94	273	466		253	23	0	15	8	
Queue Length 95th (ft)	#154	170	191	#367	#660		339	53	27	42	51	
Internal Link Dist (ft)		1816			1075			544			314	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	124	949	511	1100	1796		1031	559	1103	284	307	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.70	0.39	0.53	0.74	0.81		0.73	0.08	0.36	0.08	0.21	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	340	250	750	1260	70	690	40	370	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3511		3433	1863	1583	1770	1631	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3511		3433	1863	1583	1770	1631	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	370	272	815	1370	76	750	43	402	22	11	54
RTOR Reduction (vph)	0	0	88	0	3	0	0	0	185	0	51	0
Lane Group Flow (vph)	87	370	184	815	1443	0	750	43	217	22	14	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	7.2	26.5	26.5	28.8	48.1		26.9	26.9	55.7	5.0	5.0	
Effective Green, g (s)	7.2	26.5	26.5	28.8	48.1		26.9	26.9	55.7	5.0	5.0	
Actuated g/C Ratio	0.07	0.26	0.26	0.28	0.47		0.26	0.26	0.54	0.05	0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	123	909	406	958	1636		895	486	854	86	79	
v/s Ratio Prot	0.05	0.10		c0.24	c0.41		c0.22	0.02	0.07	c0.01	0.01	
v/s Ratio Perm			0.12						0.07			
v/c Ratio	0.71	0.41	0.45	0.85	0.88		0.84	0.09	0.25	0.26	0.17	
Uniform Delay, d1	47.0	31.8	32.3	35.2	25.0		36.1	28.9	12.7	47.3	47.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.1	0.1	0.3	7.1	5.8		6.6	0.0	0.1	0.6	0.4	
Delay (s)	61.0	31.9	32.6	42.2	30.8		42.7	28.9	12.7	47.9	47.5	
Level of Service	E	C	C	D	C		D	C	B	D	D	
Approach Delay (s)		35.6			34.9			32.1			47.6	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	103.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

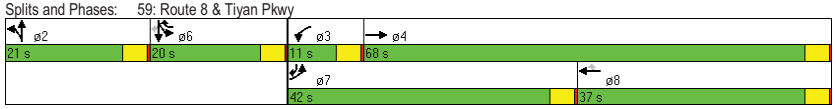
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	740	530	40	1010	480	110	90	120	50	890
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	42.0	68.0	11.0	37.0	20.0	21.0	21.0	20.0	20.0	42.0
Total Split (%)	35.0%	56.7%	9.2%	30.8%	16.7%	17.5%	17.5%	16.7%	16.7%	35.0%
Maximum Green (s)	38.0	64.0	7.0	33.0	16.0	17.0	17.0	16.0	16.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 111
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	530	70	40	1010	480	110	90	40	120	50	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2308			2965			532			1075	
Travel Time (s)		45.0			57.8			12.1			20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										30%		
Lane Group Flow (vph)	804	652	0	43	1098	522	120	141	0	91	93	967
v/c Ratio	0.68	0.30		0.43	1.04	0.70	0.62	0.68		0.52	0.51	1.16
Control Delay	35.8	11.8		66.3	77.3	16.1	62.5	60.0		58.4	57.9	111.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.8	11.8		66.3	77.3	16.1	62.5	60.0		58.4	57.9	111.2
Queue Length 50th (ft)	253	117		30	~450	134	83	88		65	67	~774
Queue Length 95th (ft)	359	183		72	#653	216	149	160		126	128	#1092
Internal Link Dist (ft)		2228			2885			452			995	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1180	2170		112	1057	798	272	286		243	251	832
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.68	0.30		0.38	1.04	0.65	0.44	0.49		0.37	0.37	1.16

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

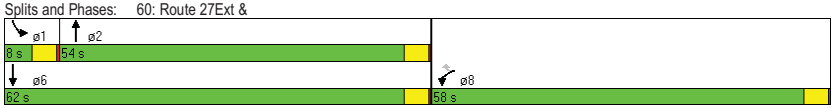
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	530	70	40	1010	480	110	90	40	120	50	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	3433	3477		1770	3539	1583	1770	1778		1681	1733	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (perm)	3433	3477		1770	3539	1583	1770	1778		1681	1733	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	576	76	43	1098	522	120	98	43	130	54	967
RTOR Reduction (vph)	0	7	0	0	0	102	0	13	0	0	0	71
Lane Group Flow (vph)	804	645	0	43	1098	420	120	128	0	91	93	896
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	38.2	69.0		4.0	34.8	46.4	12.0	12.0		11.6	11.6	49.8
Effective Green, g (s)	38.2	69.0		4.0	34.8	46.4	12.0	12.0		11.6	11.6	49.8
Actuated g/C Ratio	0.34	0.61		0.04	0.31	0.41	0.11	0.11		0.10	0.10	0.44
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1165	2131		63	1094	652	189	189		173	179	756
v/s Ratio Prot	0.23	0.19		0.02	c0.31	0.07	0.07	c0.07		0.05	0.05	c0.40
v/s Ratio Perm						0.20						0.16
v/c Ratio	0.69	0.30		0.68	1.00	0.64	0.63	0.68		0.53	0.52	1.19
Uniform Delay, d1	32.1	10.4		53.7	38.9	26.5	48.2	48.4		47.9	47.9	31.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	0.0		21.6	28.1	1.6	5.0	7.3		1.3	1.1	96.6
Delay (s)	33.5	10.4		75.2	67.0	28.1	53.2	55.7		49.2	48.9	128.0
Level of Service	C	B		E	E	C	D	E		D	D	F
Approach Delay (s)		23.2			55.0			54.6			115.4	
Approach LOS		C			E			D			F	

Intersection Summary				
HCM Average Control Delay	60.1	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	112.6	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	100.2%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	610	470	560	10	2050
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	58.0	58.0	54.0	8.0	62.0
Total Split (%)	48.3%	48.3%	45.0%	6.7%	51.7%
Maximum Green (s)	54.0	54.0	50.0	4.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext &



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	610	470	560	590	10	2050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1271		1087			986
Travel Time (s)	28.9		21.2			19.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	663	511	1250	0	11	2228
v/c Ratio	0.91	0.65	0.50		0.17	0.85
Control Delay	30.6	15.7	17.6		62.7	12.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.6	15.7	17.6		62.7	12.9
Queue Length 50th (ft)	292	144	136		8	517
Queue Length 95th (ft)	m136	m62	m149		m8	m535
Internal Link Dist (ft)	1191		1007			906
Turn Bay Length (ft)					300	
Base Capacity (vph)	797	838	2499		65	2630
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.83	0.61	0.50		0.17	0.85

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	610	470	560	590	10	2050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.92		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4649		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4649		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	663	511	609	641	11	2228
RTOR Reduction (vph)	0	135	141	0	0	0
Lane Group Flow (vph)	663	376	1109	0	11	2228
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	49.3	49.3	57.9		0.8	62.7
Effective Green, g (s)	49.3	49.3	57.9		0.8	62.7
Actuated g/C Ratio	0.41	0.41	0.48		0.01	0.52
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	727	650	2243		12	2631
v/s Ratio Prot	c0.37		0.24		0.01	c0.44
v/s Ratio Perm		0.24				
v/c Ratio	0.91	0.58	0.49		0.92	0.85
Uniform Delay, d1	33.3	27.3	21.1		59.6	24.5
Progression Factor	0.85	1.07	1.08		1.10	0.47
Incremental Delay, d2	1.8	0.1	0.6		52.1	0.3
Delay (s)	30.3	29.3	23.4		117.4	12.0
Level of Service	C	C	C		F	B
Approach Delay (s)	29.8		23.4			12.5
Approach LOS	C		C			B

Intersection Summary				
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	220	5	50	10	450	360	10	480
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	18.0	25.0	13.0	20.0	33.0	74.0	8.0	49.0
Total Split (%)	15.0%	20.8%	10.8%	16.7%	27.5%	61.7%	6.7%	40.8%
Maximum Green (s)	14.0	21.0	9.0	16.0	29.0	70.0	4.0	45.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 106.4
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	5	130	50	10	20	450	360	10	10	480	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	146	0	54	33	0	489	402	0	11	750	0
v/c Ratio	1.02	0.51		0.45	0.30		1.01	0.30		0.16	0.98	
Control Delay	112.2	15.3		60.4	33.5		84.0	7.1		57.5	59.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	112.2	15.3		60.4	33.5		84.0	7.1		57.5	59.2	
Queue Length 50th (ft)	~185	3		37	8		~371	89		8	~516	
Queue Length 95th (ft)	#353	63		80	39		#594	184		28	#806	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	234	425		150	271		483	1337		67	765	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.02	0.34		0.36	0.12		1.01	0.30		0.16	0.98	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	5	130	50	10	20	450	360	10	10	480	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86		1.00	0.90		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1577		1770	1676		1770	1855		1770	1778	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	1577		1770	1676		1770	1855		1770	1778	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	5	141	54	11	22	489	391	11	11	522	228
RTOR Reduction (vph)	0	126	0	0	21	0	0	1	0	0	12	0
Lane Group Flow (vph)	239	20	0	54	12	0	489	401	0	11	738	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.2	11.6		6.3	3.7		29.1	76.7		0.8	48.4	
Effective Green, g (s)	14.2	11.6		6.3	3.7		29.1	76.7		0.8	48.4	
Actuated g/C Ratio	0.13	0.10		0.06	0.03		0.26	0.69		0.01	0.43	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	223	164		100	56		462	1277		13	772	
v/s Ratio Prot	c0.14	0.01		0.03	c0.01		c0.28	0.22		0.01	c0.42	
v/s Ratio Perm												
v/c Ratio	1.07	0.12		0.54	0.21		1.06	0.31		0.85	0.96	
Uniform Delay, d1	48.6	45.3		51.1	52.4		41.2	6.9		55.2	30.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	80.6	0.1		3.2	0.7		58.2	0.1		162.2	21.9	
Delay (s)	129.2	45.4		54.3	53.1		99.3	6.9		217.4	52.4	
Level of Service	F	D		D	D		F	A		F	D	
Approach Delay (s)		97.4			53.8			57.7			54.8	
Approach LOS		F			D			E			D	

Intersection Summary				
HCM Average Control Delay	63.7	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	111.4	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	91.8%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	40	210	820	930
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	16.0	70.0	54.0
Total Split (%)	22.2%	22.2%	17.8%	77.8%	60.0%
Maximum Green (s)	16.0	16.0	12.0	66.0	50.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 81.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	210	820	930	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	43	228	891	1098	0
v/c Ratio	0.25	0.27	0.87	0.56	0.91	
Control Delay	39.4	16.1	67.4	3.9	27.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	39.4	16.1	67.4	3.9	27.5	
Queue Length 50th (ft)	16	0	113	94	449	
Queue Length 95th (ft)	43	30	#243	187	#818	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	347	345	261	1596	1201	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.10	0.12	0.87	0.56	0.91	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	210	820	930	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1843	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1843	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	43	228	891	1011	87
RTOR Reduction (vph)	0	40	0	0	3	0
Lane Group Flow (vph)	33	3	228	891	1095	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.2	5.2	12.0	69.0	53.0	
Effective Green, g (s)	5.2	5.2	12.0	69.0	53.0	
Actuated g/C Ratio	0.06	0.06	0.15	0.84	0.64	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	112	100	258	1564	1188	
v/s Ratio Prot	c0.02		c0.13	0.48	c0.59	
v/s Ratio Perm		0.00				
v/c Ratio	0.29	0.03	0.88	0.57	0.92	
Uniform Delay, d1	36.7	36.1	34.4	2.0	12.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.0	27.3	0.3	11.5	
Delay (s)	37.3	36.2	61.7	2.3	24.3	
Level of Service	D	D	E	A	C	
Approach Delay (s)	36.7			14.4	24.3	
Approach LOS	D			B	C	

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	180	350	430	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	196	380	467	5	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	473				1242	470
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	473				1242	470
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				97	99
cM capacity (veh/h)	1084				158	593

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	196	380	473	11
Volume Left	196	0	0	5
Volume Right	0	0	5	5
cSH	1084	1700	1700	316
Volume to Capacity	0.18	0.22	0.28	0.03
Queue Length 95th (ft)	16	0	0	3
Control Delay (s)	9.1	0.0	0.0	19.9
Lane LOS	A			C
Approach Delay (s)	3.1		0.0	19.9
Approach LOS				C

Intersection Summary				
Average Delay	1.9			
Intersection Capacity Utilization	46.2%	ICU Level of Service	A	
Analysis Period (min)	15			

INTERSECTION ANALYSIS

Synchro Output

Year 2030 Finegayan/South Finegayan Cantonment/Housing (Alternative B) Conditions

Weekday p.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	540	650	10	10	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	600	722	11	11	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	733				1350	728
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	733				1350	728
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				93	90
cM capacity (veh/h)	872				164	424

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	11	600	733	56
Volume Left	11	0	0	11
Volume Right	0	0	11	44
cSH	872	1700	1700	322
Volume to Capacity	0.01	0.35	0.43	0.17
Queue Length 95th (ft)	1	0	0	15
Control Delay (s)	9.2	0.0	0.0	18.5
Lane LOS	A			C
Approach Delay (s)	0.2		0.0	18.5
Approach LOS				C

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	44.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	380	130	50	530	80	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	422	144	56	589	89	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			567		1194	494
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			567		1194	494
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			94		54	96
cM capacity (veh/h)			976		194	575

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	567	644	111
Volume Left	0	56	89
Volume Right	144	0	22
cSH	1700	976	224
Volume to Capacity	0.33	0.06	0.50
Queue Length 95th (ft)	0	5	63
Control Delay (s)	0.0	1.5	35.9
Lane LOS		A	E
Approach Delay (s)	0.0	1.5	35.9
Approach LOS			E

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	74.2%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	400	550	10	60	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	444	611	11	67	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	622				1083	617
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	622				1083	617
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				72	98
cM capacity (veh/h)	959				238	490

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	456	622	78
Volume Left	11	0	67
Volume Right	0	11	11
cSH	959	1700	256
Volume to Capacity	0.01	0.37	0.30
Queue Length 95th (ft)	1	0	31
Control Delay (s)	0.3	0.0	25.0
Lane LOS	A		D
Approach Delay (s)	0.3	0.0	25.0
Approach LOS			D

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	40.2%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	60	690	810	20	5	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	68	784	920	23	6	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		653				
pX, platoon unblocked					0.79	
vC, conflicting volume	943				1852	932
vC1, stage 1 conf vol					932	
vC2, stage 2 conf vol					920	
vCu, unblocked vol	943				1946	932
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	91				98	96
cM capacity (veh/h)	719				246	323

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	68	784	943	17
Volume Left	68	0	0	6
Volume Right	0	0	23	11
cSH	719	1700	1700	485
Volume to Capacity	0.09	0.46	0.55	0.04
Queue Length 95th (ft)	8	0	0	3
Control Delay (s)	10.5	0.0	0.0	17.7
Lane LOS	B			C
Approach Delay (s)	0.8		0.0	17.7
Approach LOS				C

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	59.9%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	330	790	560	150	890
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	27.5	71.5	71.5	21.0	92.5
Total Split (%)	22.9%	59.6%	59.6%	17.5%	77.1%
Maximum Green (s)	22.0	65.5	65.5	15.5	86.5
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 118.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	330	110	790	560	150	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	479	0	859	609	163	967
v/c Ratio	0.81		0.82	0.55	0.76	0.37
Control Delay	55.1		30.1	4.7	72.7	6.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	55.1		30.1	4.7	72.7	6.5
Queue Length 50th (ft)	170		539	34	122	132
Queue Length 95th (ft)	230		#761	109	#219	165
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	647		1042	1110	232	2593
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.74		0.82	0.55	0.70	0.37

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	330	110	790	560	150	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3320		1845	1568	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3320		1845	1568	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	359	120	859	609	163	967
RTOR Reduction (vph)	29	0	0	224	0	0
Lane Group Flow (vph)	450	0	859	385	163	967
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	20.1		66.7	66.7	14.3	86.5
Effective Green, g (s)	20.1		66.7	66.7	14.3	86.5
Actuated g/C Ratio	0.17		0.56	0.56	0.12	0.73
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	565		1042	886	214	2592
v/s Ratio Prot	c0.14		c0.47		c0.09	0.27
v/s Ratio Perm				0.25		
v/c Ratio	0.80		0.82	0.43	0.76	0.37
Uniform Delay, d1	47.0		20.9	14.8	50.3	5.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.9		7.4	1.6	15.2	0.4
Delay (s)	54.9		28.3	16.4	65.4	6.2
Level of Service	D		C	B	E	A
Approach Delay (s)	54.9		23.4			14.8
Approach LOS	D		C			B

Intersection Summary				
HCM Average Control Delay	25.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	118.1	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	77.0%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	80	10	80	1340	920	340
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	83	10	83	1396	958	354
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2000	656	1312			
vC1, stage 1 conf vol	1135					
vC2, stage 2 conf vol	865					
vCu, unblocked vol	2000	656	1312			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	59	97	84			
cM capacity (veh/h)	202	408	523			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	94	83	698	698	639	674
Volume Left	83	83	0	0	0	0
Volume Right	10	0	0	0	0	354
cSH	214	523	1700	1700	1700	1700
Volume to Capacity	0.44	0.16	0.41	0.41	0.38	0.40
Queue Length 95th (ft)	52	14	0	0	0	0
Control Delay (s)	34.4	13.2	0.0	0.0	0.0	0.0
Lane LOS	D	B				
Approach Delay (s)	34.4	0.7			0.0	
Approach LOS	D					

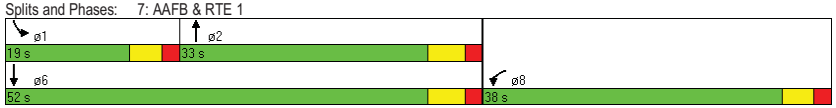
Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	55.8%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	660	160	270	230	100	270
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	38.0	0.0	33.0	0.0	19.0	52.0
Total Split (%)	42.2%	0.0%	36.7%	0.0%	21.1%	57.8%
Maximum Green (s)	32.5		27.0		13.5	46.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 60.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	660	160	270	230	100	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	776	188	318	271	118	318
v/c Ratio	0.72	0.12	0.65	0.18	0.39	0.36
Control Delay	24.4	0.2	28.5	0.3	32.3	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	0.2	28.5	0.3	32.3	11.4
Queue Length 50th (ft)	128	0	104	0	40	65
Queue Length 95th (ft)	228	0	214	0	104	135
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	2048	1583	871	1468	446	1418
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.12	0.37	0.18	0.26	0.22

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	660	160	270	230	100	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1727	1468	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1727	1468	1770	1863
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	776	188	318	271	118	318
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	776	188	318	271	118	318
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	18.8	60.3	17.2	60.3	7.3	30.0
Effective Green, g (s)	18.8	60.3	17.2	60.3	7.3	30.0
Actuated g/C Ratio	0.31	1.00	0.29	1.00	0.12	0.50
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1070	1583	493	1468	214	927
v/s Ratio Prot	c0.23		c0.18		c0.07	0.17
v/s Ratio Perm		0.12		0.18		
v/c Ratio	0.73	0.12	0.65	0.18	0.55	0.34
Uniform Delay, d1	18.5	0.0	18.9	0.0	25.0	9.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.2	2.2	0.3	1.7	0.1
Delay (s)	20.5	0.2	21.0	0.3	26.7	9.3
Level of Service	C	A	C	A	C	A
Approach Delay (s)	16.6		11.5			14.0
Approach LOS	B		B			B

Intersection Summary				
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	17.0
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	310	10	10	980	60	1110
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	60	1110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Shared Lane Traffic (%)				32%								
Lane Group Flow (vph)	0	66	0	232	219	0	11	1440	0	66	1231	0
v/c Ratio		0.54		0.84	0.76		0.15	0.74		0.57	0.55	
Control Delay		51.6		77.4	61.2		71.2	14.8		77.1	16.9	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		77.4	61.2		71.2	14.8		77.1	16.9	
Queue Length 50th (ft)		30		200	162		9	153		55	273	
Queue Length 95th (ft)		78		292	249		m16	205		104	474	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	345		92	1935		137	2234	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.69	0.63		0.12	0.74		0.48	0.55	

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	60	1110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.93		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1610		1703	3277		1752	3500	
Flt Permitted		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1610		1703	3277		1752	3500	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	341	11	99	11	1077	363	66	1220	11
RTOR Reduction (vph)	0	29	0	0	24	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	37	0	232	195	0	11	1418	0	66	1231	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Effective Green, g (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.57		0.06	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		277	265		34	1863		102	2124	
v/s Ratio Prot		c0.02		c0.14	0.12		0.01	c0.43		c0.04	c0.35	
v/s Ratio Perm												
v/c Ratio		0.46		0.84	0.73		0.32	0.76		0.65	0.58	
Uniform Delay, d1		60.4		52.6	51.6		62.8	21.3		59.9	15.5	
Progression Factor		1.00		1.00	1.00		1.14	0.55		1.00	1.00	
Incremental Delay, d2		1.5		18.5	8.8		1.6	2.3		10.1	1.2	
Delay (s)		61.9		71.2	60.4		73.1	14.1		70.0	16.7	
Level of Service		E		E	E		E	B		E	B	
Approach Delay (s)		61.9			65.9			14.6			19.4	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	50	40	20	20	10	50	150	30	10	270	140
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	53	42	21	21	11	53	158	32	11	284	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	679	674	358	726	732	174	432			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	679	674	358	726	732	174	432			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	85	94	92	94	99	95			99		
cM capacity (veh/h)	329	356	686	271	330	870	1123			1378		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	53	242	442
Volume Left	147	21	53	11
Volume Right	42	11	32	147
cSH	369	343	1123	1378
Volume to Capacity	0.66	0.15	0.05	0.01
Queue Length 95th (ft)	112	13	4	1
Control Delay (s)	31.6	17.4	2.2	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	31.6	17.4	2.2	0.3
Approach LOS	D	C		

Intersection Summary					
Average Delay			9.4		
Intersection Capacity Utilization			63.7%	ICU Level of Service	B
Analysis Period (min)			15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	180	170	1190	140	1190
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	170	1190	180	140	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	5%	5%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	177	1428	0	146	1240
v/c Ratio	0.77	0.50	0.68		0.75	0.46
Control Delay	73.3	14.0	6.5		85.3	4.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.3	14.0	6.5		85.3	4.3
Queue Length 50th (ft)	155	12	54		103	73
Queue Length 95th (ft)	226	77	m276		m187	105
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	334	429	2111		243	2714
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.56	0.41	0.68		0.60	0.46

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	170	1190	180	140	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1736	1553	3370		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1736	1553	3370		1752	3505
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	177	1240	188	146	1240
RTOR Reduction (vph)	0	138	8	0	0	0
Lane Group Flow (vph)	188	39	1420	0	146	1240
Heavy Vehicles (%)	4%	4%	5%	5%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	18.3	18.3	81.2		14.5	100.7
Effective Green, g (s)	18.3	18.3	81.2		14.5	100.7
Actuated g/C Ratio	0.14	0.14	0.62		0.11	0.77
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	244	219	2105		195	2715
v/s Ratio Prot	c0.11		c0.42		c0.08	0.35
v/s Ratio Perm		0.02				
v/c Ratio	0.77	0.18	0.67		0.75	0.46
Uniform Delay, d1	53.8	49.2	15.8		56.0	5.1
Progression Factor	1.00	1.00	0.30		1.19	0.68
Incremental Delay, d2	12.8	0.1	1.4		10.8	0.5
Delay (s)	66.6	49.4	6.1		77.4	3.9
Level of Service	E	D	A		E	A
Approach Delay (s)	58.2		6.1			11.7
Approach LOS	E		A			B

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	140	130	210	270	270	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	141	228	293	293	109
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1098	348	402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1098	348	402			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	19	80	80			
cM capacity (veh/h)	188	693	1146			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	293	522	402
Volume Left	152	228	0
Volume Right	141	0	109
cSH	289	1146	1700
Volume to Capacity	1.01	0.20	0.24
Queue Length 95th (ft)	269	19	0
Control Delay (s)	96.1	5.1	0.0
Lane LOS	F	A	
Approach Delay (s)	96.1	5.1	0.0
Approach LOS	F		

Intersection Summary				
Average Delay		25.4		
Intersection Capacity Utilization		71.8%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1290	1230	850	160	830	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1290	1230	0	850	170	160	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1358	1295	0	1074	0	168	874
v/c Ratio	1.59	0.34		0.89		0.69	0.77
Control Delay	285.7	3.9		34.1		68.1	8.2
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	285.7	3.9		34.1		68.1	8.2
Queue Length 50th (ft)	~1674	83		94		136	0
Queue Length 95th (ft)	m#1508	m109		#420		206	60
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	855	3846		1202		313	1212
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.59	0.34		0.89		0.54	0.72

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1290	1230	0	850	170	160	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.97		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1736	4988		4910		1770	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1736	4988		4910		1770	2787
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1358	1295	0	895	179	168	874
RTOR Reduction (vph)	0	0	0	22	0	0	754
Lane Group Flow (vph)	1358	1295	0	1052	0	168	120
Heavy Vehicles (%)	4%	4%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	100.2		31.2		17.8	17.8
Effective Green, g (s)	64.0	100.2		31.2		17.8	17.8
Actuated g/C Ratio	0.49	0.77		0.24		0.14	0.14
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	855	3845		1178		242	382
v/s Ratio Prot	c0.78	0.26		c0.21		c0.09	
v/s Ratio Perm							0.04
v/c Ratio	1.59	0.34		0.89		0.69	0.31
Uniform Delay, d1	33.0	4.6		47.8		53.5	50.6
Progression Factor	0.49	0.78		0.48		1.00	1.00
Incremental Delay, d2	265.2	0.0		9.7		6.8	0.2
Delay (s)	281.4	3.6		32.4		60.3	50.8
Level of Service	F	A		C		E	D
Approach Delay (s)		145.8		32.4		52.3	
Approach LOS		F		C		D	

Intersection Summary

HCM Average Control Delay	99.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	114.7%	ICU Level of Service	H
Analysis Period (min)	15		

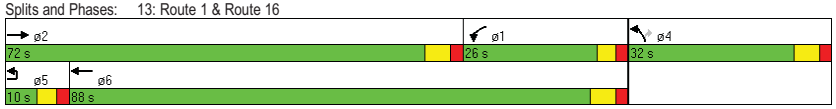
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1850	320	1440	560	590
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1850	680	320	1440	560	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	4%	4%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2635	0	333	1500	583	615
v/c Ratio	0.14	1.06		1.18	0.43	0.87	1.17
Control Delay	56.9	61.5		132.9	5.2	35.0	103.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	56.9	61.5		132.9	5.2	35.0	103.6
Queue Length 50th (ft)	8	~870		~340	75	204	~412
Queue Length 95th (ft)	m11	m#906		m#459	146	m223	m#467
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2496		283	3487	673	525
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.06		1.18	0.43	0.87	1.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1850	680	320	1440	560	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4815		1752	5036	3367	1530
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4815		1752	5036	3367	1530
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1927	708	333	1500	583	615
RTOR Reduction (vph)	0	54	0	0	0	0	219
Lane Group Flow (vph)	10	2581	0	333	1500	583	396
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	4%	4%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	62.0		25.0	86.0	26.0	26.0
Effective Green, g (s)	1.0	62.0		25.0	86.0	26.0	26.0
Actuated g/C Ratio	0.01	0.48		0.19	0.66	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2296		337	3332	673	306
v/s Ratio Prot	0.01	c0.54		c0.19	0.30	0.17	
v/s Ratio Perm							c0.26
v/c Ratio	0.71	1.12		0.99	0.45	0.87	1.29
Uniform Delay, d1	64.4	34.0		52.4	10.6	50.3	52.0
Progression Factor	0.90	1.00		0.63	0.54	0.54	0.51
Incremental Delay, d2	56.2	59.5		34.5	0.3	5.2	142.5
Delay (s)	113.9	93.4		67.3	6.0	32.6	168.9
Level of Service	F	F		E	A	C	F
Approach Delay (s)		93.5			17.1	102.5	
Approach LOS		F			B	F	

Intersection Summary				
HCM Average Control Delay	70.7	HCM Level of Service		E
HCM Volume to Capacity ratio	1.13			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		17.0
Intersection Capacity Utilization	99.2%	ICU Level of Service		F
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	830	190	260	2020	30	1330
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	830	190	260	2020	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	922	211	289	2244	33	2289	0
v/c Ratio	1.06	0.41	1.02	0.72	0.49	1.01	
Control Delay	93.5	15.5	87.8	18.6	93.3	47.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	93.5	15.5	87.8	18.6	93.3	47.3	
Queue Length 50th (ft)	~438	42	~265	367	26	~718	
Queue Length 95th (ft)	#569	114	m#270	m371	m56	#782	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	512	283	3099	69	2277	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.06	0.41	1.02	0.72	0.48	1.01	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	830	190	260	2020	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4768	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4768	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	922	211	289	2244	33	1478	811
RTOR Reduction (vph)	0	110	0	0	0	76	0
Lane Group Flow (vph)	922	101	289	2244	33	2213	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Effective Green, g (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Actuated g/C Ratio	0.25	0.25	0.16	0.60	0.02	0.46	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	283	3022	42	2201	
v/s Ratio Prot	c0.27		c0.16	0.45	0.02	c0.46	
v/s Ratio Perm		0.06					
v/c Ratio	1.06	0.25	1.02	0.74	0.79	1.01	
Uniform Delay, d1	48.5	38.6	54.5	18.8	63.2	35.0	
Progression Factor	1.00	1.00	1.06	1.00	1.18	0.85	
Incremental Delay, d2	47.2	0.1	31.6	0.4	53.5	19.3	
Delay (s)	95.7	38.8	89.5	19.1	128.1	49.1	
Level of Service	F	D	F	B	F	D	
Approach Delay (s)	85.1			27.1		50.2	
Approach LOS	F			C		D	

Intersection Summary

HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	380	180	1150	290	880
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1150	660	290	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	194	1947	0	312	946
v/c Ratio	0.88	0.35	0.97		0.86	0.29
Control Delay	47.2	2.8	19.0		48.9	2.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	47.2	2.8	19.0		48.9	2.8
Queue Length 50th (ft)	327	16	178		256	47
Queue Length 95th (ft)	m#478	m3	m166		m251	m45
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	557	2001		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.88	0.35	0.97		0.86	0.29

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1150	660	290	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4715		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4715		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	409	194	1237	710	312	946
RTOR Reduction (vph)	0	143	79	0	0	0
Lane Group Flow (vph)	409	51	1868	0	312	946
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1922		364	3293
v/s Ratio Prot	c0.23	0.03	c0.40		c0.18	0.19
v/s Ratio Perm						
v/c Ratio	0.88	0.12	0.97		0.86	0.29
Uniform Delay, d1	46.1	36.6	37.8		49.6	9.6
Progression Factor	0.61	0.27	0.35		0.76	0.28
Incremental Delay, d2	17.7	0.5	5.3		7.8	0.1
Delay (s)	45.9	10.5	18.6		45.3	2.8
Level of Service	D	B	B		D	A
Approach Delay (s)	34.5		18.6			13.4
Approach LOS	C		B			B

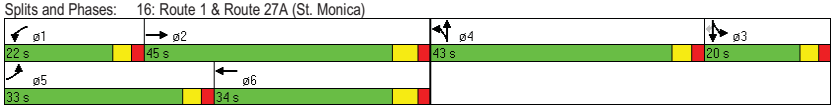
Intersection Summary				
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	300	930	180	690	100	200	20	170	150
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	930	90	180	690	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	316	1074	0	189	737	0	105	411	0	21	179	158
v/c Ratio	0.91	0.60		0.87	0.52		0.24	0.90		0.11	0.87	0.50
Control Delay	96.8	25.3		91.3	30.0		44.6	58.5		53.0	92.7	13.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	96.8	25.3		91.3	30.0		44.6	58.5		53.0	92.7	13.7
Queue Length 50th (ft)	259	138		157	204		61	221		16	150	0
Queue Length 95th (ft)	#394	175		#282	273		m59	m212		43	#278	65
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1776		229	1411		517	531		204	215	322
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.84	0.60		0.83	0.52		0.20	0.77		0.10	0.83	0.49

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	930	90	180	690	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4969		1752	5025		1770	1727		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4969		1752	5025		1770	1727		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	979	95	189	726	11	105	211	200	21	179	158
RTOR Reduction (vph)	0	8	0	0	1	0	0	28	0	0	0	140
Lane Group Flow (vph)	316	1066	0	189	736	0	105	383	0	21	179	18
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Effective Green, g (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Actuated g/C Ratio	0.20	0.36		0.12	0.28		0.25	0.25		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	349	1766		217	1407		440	429		196	206	175
v/s Ratio Prot	c0.18	c0.21		0.11	0.15		0.06	c0.22		0.01	c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.91	0.60		0.87	0.52		0.24	0.89		0.11	0.87	0.10
Uniform Delay, d1	50.9	34.4		55.9	39.5		39.0	47.2		52.0	56.9	52.0
Progression Factor	1.36	0.67		1.03	0.69		1.17	1.14		1.00	1.00	1.00
Incremental Delay, d2	24.4	1.5		27.4	1.3		0.0	8.3		0.1	29.0	0.1
Delay (s)	93.7	24.5		85.3	28.7		45.8	62.2		52.1	85.9	52.1
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		40.2			40.2			58.9			69.0	
Approach LOS		D			D			E			E	

Intersection Summary

HCM Average Control Delay	46.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	80	220	40	70	20	20	340	30	20	310	330
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	117	104	286	52	91	26	26	442	39	26	403	429

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	117	390	169	26	481	429	429
Volume Left (vph)	117	0	52	26	0	26	0
Volume Right (vph)	0	286	26	0	39	0	429
Hadj (s)	0.53	-0.48	0.00	0.53	-0.02	0.06	-0.67
Departure Headway (s)	9.1	8.1	9.4	9.3	8.7	8.4	7.6
Degree Utilization, x	0.29	0.87	0.44	0.07	1.16	0.99	0.91
Capacity (veh/h)	390	439	352	382	429	429	460
Control Delay (s)	14.6	44.4	19.6	11.7	123.2	70.0	48.2
Approach Delay (s)	37.6		19.6	117.4		59.1	
Approach LOS	E		C	F		F	

Intersection Summary					
Delay		65.0			
HCM Level of Service		F			
Intersection Capacity Utilization	67.6%	ICU Level of Service		C	
Analysis Period (min)	15				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	100	1080	500	780	140	340	1090	120	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1080	70	500	780	30	140	340	1090	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	1223	0	532	862	0	149	362	1160	0	181	43
v/c Ratio	0.67	0.99		1.04	0.38		0.44	1.01	0.88		0.98	0.24
Control Delay	88.4	51.1		110.4	20.0		39.7	62.1	9.1		120.4	35.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	88.4	51.1		110.4	20.0		39.7	62.1	9.1		120.4	35.4
Queue Length 50th (ft)	94	372		~467	101		109	~309	153		155	16
Queue Length 95th (ft)	m153	#482		m#647	m119		m77	m203	m52		#307	55
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1233		512	2246		340	358	1316		184	178
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.52	0.99		1.04	0.38		0.44	1.01	0.88		0.98	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1080	70	500	780	30	140	340	1090	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4986		1752	5008		1770	1863	2745		1836	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4986		1752	5008		1770	1863	2745		1836	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1149	74	532	830	32	149	362	1160	53	128	43
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	788	0	0	20
Lane Group Flow (vph)	106	1218	0	532	859	0	149	362	372	0	181	23
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Effective Green, g (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Actuated g/C Ratio	0.09	0.25		0.29	0.45		0.19	0.19	0.19		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	159	1227		512	2242		340	358	528		184	158
v/s Ratio Prot	0.06	c0.24		c0.30	0.17		0.08	c0.19			c0.10	
v/s Ratio Perm									0.14			0.01
v/c Ratio	0.67	0.99		1.04	0.38		0.44	1.01	0.70		0.98	0.15
Uniform Delay, d1	57.2	48.9		46.0	23.9		46.3	52.5	49.0		58.4	53.4
Progression Factor	1.25	0.58		1.45	0.80		0.84	0.85	0.97		1.00	1.00
Incremental Delay, d2	6.6	21.7		48.3	0.5		0.0	17.1	0.3		61.0	0.2
Delay (s)	78.4	50.2		114.8	19.7		38.8	61.6	47.7		119.4	53.6
Level of Service	E	D		F	B		D	E	D		F	D
Approach Delay (s)		52.5			56.0			49.9			106.8	
Approach LOS		D			E			D			F	

Intersection Summary

HCM Average Control Delay	55.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

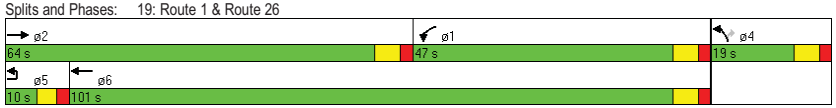
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1760	580	1110	320	610
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	530	580	1110	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2436	0	617	1181	340	649
v/c Ratio	0.31	1.10		1.12	0.31	0.99	1.10
Control Delay	75.2	70.8		82.0	1.8	104.6	82.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	75.2	70.8		82.0	1.8	104.6	82.3
Queue Length 50th (ft)	18	~812		~588	34	150	~234
Queue Length 95th (ft)	m20	m#863		m#689	m53	#251	#473
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2210		553	3835	343	589
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.10		1.12	0.31	0.99	1.10

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	530	580	1110	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4861		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4861		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1872	564	617	1181	340	649
RTOR Reduction (vph)	0	43	0	0	0	0	430
Lane Group Flow (vph)	21	2393	0	617	1181	340	219
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2094		580	3758	343	158
v/s Ratio Prot	0.01	c0.49		c0.35	0.23	0.10	
v/s Ratio Perm							c0.14
v/c Ratio	0.50	1.14		1.06	0.31	0.99	1.38
Uniform Delay, d1	62.8	37.0		43.5	5.5	58.4	58.5
Progression Factor	1.15	0.56		0.34	0.34	1.00	1.00
Incremental Delay, d2	1.4	67.0		43.3	0.1	46.0	207.4
Delay (s)	73.3	87.9		58.0	1.9	104.5	265.9
Level of Service	E	F		E	A	F	F
Approach Delay (s)		87.8			21.2	210.4	
Approach LOS		F			C	F	

Intersection Summary				
HCM Average Control Delay	88.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	490	1770	20	1340	100	50	20	290
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1340	120	70	100	50	150	20	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	521	1883	0	21	1554	0	0	180	53	0	181	309
v/c Ratio	1.02	0.61		0.27	0.92			0.98	0.26		0.94	0.76
Control Delay	73.3	2.9		59.7	46.9			120.6	17.1		109.0	23.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	73.3	2.9		59.7	46.9			120.6	17.1		109.0	23.5
Queue Length 50th (ft)	~410	71		18	294			154	0		154	35
Queue Length 95th (ft)	m345	m66		m38	#528			#306	41		#299	#157
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3100		94	1692			183	206		192	407
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.02	0.61		0.22	0.92			0.98	0.26		0.94	0.76

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1340	120	70	100	50	150	20	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4974			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4974			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	521	1883	0	21	1426	128	74	106	53	160	21	309
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	48	0	0	236
Lane Group Flow (vph)	521	1883	0	21	1546	0	0	180	5	0	181	73
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Effective Green, g (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.29	0.60		0.03	0.34			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	512	3022		54	1684			183	158		192	170
v/s Ratio Prot	c0.30	0.37		0.01	c0.31			c0.10			c0.10	
v/s Ratio Perm									0.00			0.05
v/c Ratio	1.02	0.62		0.39	0.92			0.98	0.03		0.94	0.43
Uniform Delay, d1	46.0	16.6		61.8	41.3			58.4	52.8		57.6	54.2
Progression Factor	1.28	0.17		0.88	0.92			1.00	1.00		1.00	1.00
Incremental Delay, d2	16.6	0.1		1.6	8.9			61.2	0.0		48.0	0.6
Delay (s)	75.5	3.0		55.6	46.9			119.6	52.9		105.7	54.9
Level of Service	E	A		E	D			F	D		F	D
Approach Delay (s)		18.7			47.0			104.4			73.6	
Approach LOS		B			D			F			E	

Intersection Summary

HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		

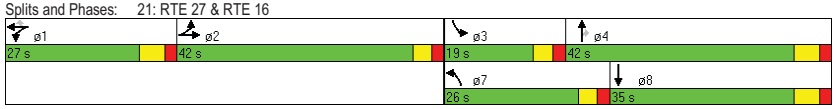
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	320	830	490	270	310	340	1140	830	250	840
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	830	530	490	270	310	340	1140	830	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		3150			1269			820			2979	
Travel Time (s)		71.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	337	1432	0	516	284	326	358	1200	874	263	926	0
v/c Ratio	0.67	1.39		0.93	0.94	0.65	1.28	1.25	1.30	1.39	0.83	
Control Delay	47.0	214.3		70.4	83.4	21.7	193.5	160.3	170.6	242.3	55.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.0	214.3		70.4	83.4	21.7	193.5	160.3	170.6	242.3	55.9	
Queue Length 50th (ft)	237	~810		213	229	94	~381	~662	~728	~297	279	
Queue Length 95th (ft)	m265	m#846		m232	m#286	m113	#577	#801	#983	m#441	m321	
Internal Link Dist (ft)		3070			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1028		555	301	501	280	961	672	189	1119	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.67	1.39		0.93	0.94	0.65	1.28	1.25	1.30	1.39	0.83	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	830	530	490	270	310	340	1140	830	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3332		3433	1863	1583	1736	3471	1553	1752	5002	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3332		3433	1863	1583	1736	3471	1553	1752	5002	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	874	558	516	284	326	358	1200	874	263	884	42
RTOR Reduction (vph)	0	79	0	0	0	245	0	0	242	0	4	0
Lane Group Flow (vph)	337	1353	0	516	284	81	358	1200	632	263	922	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.22	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	948		555	301	256	280	961	430	189	1116	
v/s Ratio Prot	0.19	c0.41		0.15	c0.15		c0.21	0.35		0.15	0.18	
v/s Ratio Perm						0.05			c0.41			
v/c Ratio	0.67	1.43		0.93	0.94	0.32	1.28	1.25	1.47	1.39	0.83	
Uniform Delay, d1	41.1	46.5		53.8	53.9	48.2	54.5	47.0	47.0	58.0	48.1	
Progression Factor	1.01	1.01		0.94	0.94	2.00	1.00	1.00	1.00	0.92	1.03	
Incremental Delay, d2	4.6	196.4		17.4	30.1	0.2	150.0	120.6	223.5	202.6	6.4	
Delay (s)	46.2	243.4		67.8	80.5	96.5	204.5	167.6	270.5	255.8	55.9	
Level of Service	D	F		E	F	F	F	F	F	F	E	
Approach Delay (s)		205.8			79.3			210.0			100.1	
Approach LOS		F			E			F			F	

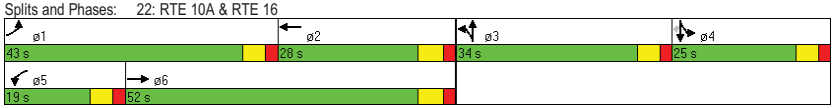
Intersection Summary				
HCM Average Control Delay	166.2	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.36			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	118.5%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	880	760	410	110	430	460	30	10	510
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	32.5	32.5	16.0	16.0
Total Split (s)	43.0	52.0	0.0	19.0	28.0	34.0	34.0	25.0	25.0
Total Split (%)	33.1%	40.0%	0.0%	14.6%	21.5%	26.2%	26.2%	19.2%	19.2%
Maximum Green (s)	37.5	46.0		13.5	22.0	28.5	28.5	19.5	19.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 123.6
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	880	760	410	110	430	20	460	30	110	50	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	400		0	0		400
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1065			746			868			1242	
Travel Time (s)		20.7			14.5			16.9			24.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							34%					
Lane Group Flow (vph)	978	844	456	122	500	0	337	329	0	0	67	567
v/c Ratio	0.95	0.66	0.29	0.69	0.87		0.92	0.89			0.28	0.95
Control Delay	62.1	36.6	0.5	76.3	66.8		79.6	70.9			52.4	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	62.1	36.6	0.5	76.3	66.8		79.6	70.9			52.4	39.1
Queue Length 50th (ft)	423	316	0	101	215		294	269			51	109
Queue Length 95th (ft)	#567	390	0	#182	#300		#485	#451			97	#341
Internal Link Dist (ft)		985			666			788			1162	
Turn Bay Length (ft)	350		450	350			400					400
Base Capacity (vph)	1049	1330	1583	195	632		387	391			282	624
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.93	0.63	0.29	0.63	0.79		0.87	0.84			0.24	0.91

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	880	760	410	110	430	20	460	30	110	50	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3516		1665	1612			1771	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3516		1665	1612			1771	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	978	844	456	122	478	22	511	33	122	56	11	567
RTOR Reduction (vph)	0	0	0	0	3	0	0	16	0	0	0	386
Lane Group Flow (vph)	978	844	456	122	497	0	337	313	0	0	67	181
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	37.0	45.0	123.5	12.3	20.3		27.1	27.1			16.6	16.6
Effective Green, g (s)	37.0	45.0	123.5	12.3	20.3		27.1	27.1			16.6	16.6
Actuated g/C Ratio	0.30	0.36	1.00	0.10	0.16		0.22	0.22			0.13	0.13
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	1029	1290	1583	176	578		365	354			238	211
v/s Ratio Prot	c0.28	0.24		0.07	c0.14		c0.20	0.19			0.04	
v/s Ratio Perm			0.29									c0.12
v/c Ratio	0.95	0.65	0.29	0.69	0.86		0.92	0.88			0.28	0.86
Uniform Delay, d1	42.4	32.8	0.0	53.8	50.2		47.2	46.7			48.1	52.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	17.2	0.9	0.5	9.1	12.1		28.0	21.4			0.2	26.5
Delay (s)	59.6	33.7	0.5	62.9	62.3		75.2	68.1			48.3	78.8
Level of Service	E	C	A	E	E		E	E			D	E
Approach Delay (s)		38.1			62.4			71.7			75.6	
Approach LOS		D			E			E			E	

Intersection Summary

HCM Average Control Delay	52.7	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.91				
Actuated Cycle Length (s)	123.5	Sum of lost time (s)		22.5	
Intersection Capacity Utilization	81.6%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	260	10	330	10	10	220	500	10	30	500	390
Turn Type	Perm		Perm	Perm		Perm		Perm	Perm		Perm
Protected Phases		4			8		2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 41.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	10	330	10	10	20	220	500	10	30	500	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		870			640			642			991	
Travel Time (s)		16.9			12.5			12.5			19.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	281	344	0	41	0	229	521	10	31	521	406
v/c Ratio		0.67	0.47		0.08		0.75	0.61	0.01	0.10	0.61	0.43
Control Delay		24.6	4.9		9.4		26.2	11.5	3.6	7.2	11.5	2.4
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.6	4.9		9.4		26.2	11.5	3.6	7.2	11.5	2.4
Queue Length 50th (ft)		52	2		3		37	77	0	3	77	0
Queue Length 95th (ft)		#194	54		24		#127	167	5	15	167	30
Internal Link Dist (ft)		790			560			562			911	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		643	946		790		539	1515	1289	539	1515	1363
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.44	0.36		0.05		0.42	0.34	0.01	0.06	0.34	0.30

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	10	330	10	10	20	220	500	10	30	500	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1777	1583		1713		1770	1863	1583	1770	1863	1583
Flt Permitted		0.70	1.00		0.91		0.36	1.00	1.00	0.36	1.00	1.00
Satd. Flow (perm)		1311	1583		1586		663	1863	1583	663	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	271	10	344	10	10	21	229	521	10	31	521	406
RTOR Reduction (vph)	0	0	223	0	14	0	0	0	5	0	0	214
Lane Group Flow (vph)	0	281	121	0	27	0	229	521	5	31	521	192
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)		13.2	13.2		13.2		19.0	19.0	19.0	19.0	19.0	19.0
Effective Green, g (s)		13.2	13.2		13.2		19.0	19.0	19.0	19.0	19.0	19.0
Actuated g/C Ratio		0.33	0.33		0.33		0.47	0.47	0.47	0.47	0.47	0.47
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		430	520		521		313	881	748	313	881	748
v/s Ratio Prot								0.28			0.28	
v/s Ratio Perm		c0.21	0.08		0.02		c0.35		0.00	0.05		0.12
v/c Ratio		0.65	0.23		0.05		0.73	0.59	0.01	0.10	0.59	0.26
Uniform Delay, d1		11.5	9.8		9.2		8.5	7.8	5.6	5.9	7.8	6.4
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.7	0.1		0.0		7.4	0.7	0.0	0.1	0.7	0.1
Delay (s)		14.3	9.9		9.2		15.9	8.5	5.6	5.9	8.5	6.4
Level of Service		B	A		A		B	A	A	A	A	A
Approach Delay (s)		11.9			9.2			10.7			7.5	
Approach LOS		B			A			B			A	

Intersection Summary				
HCM Average Control Delay	9.7	HCM Level of Service	A	
HCM Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	40.2	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	70.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	10	290	10	10	10	370	360	10	10	310	170
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	214	12	345	12	12	12	440	429	12	12	369	202
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1720	1714	369	1708	1702	429	369			440		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1720	1714	369	1708	1702	429	369			440		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	79	49	43	79	98	63			99		
cM capacity (veh/h)	41	56	677	21	57	626	1184			1114		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	214	357	36	440	429	12	12	369	202
Volume Left	214	0	12	440	0	0	12	0	0
Volume Right	0	345	12	0	0	12	0	0	202
cSH	41	700	45	1184	1700	1700	1114	1700	1700
Volume to Capacity	5.18	0.51	0.80	0.37	0.25	0.01	0.01	0.22	0.12
Queue Length 95th (ft)	Err	73	78	44	0	0	1	0	0
Control Delay (s)	Err	18.1	214.5	9.8	0.0	0.0	8.3	0.0	0.0
Lane LOS	F	C	F	A			A		
Approach Delay (s)	3760.9		214.5	4.9			0.2		
Approach LOS	F		F						

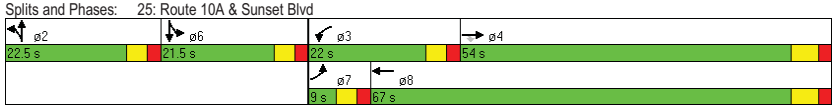
Intersection Summary					
Average Delay	1043.3				
Intersection Capacity Utilization	63.5%	ICU Level of Service		B	
Analysis Period (min)	15				

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	1590	10	310	1220	60	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	54.0	54.0	22.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	45.0%	45.0%	18.3%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	48.0	48.0	17.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 109
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1590	10	310	1220	40	60	10	170	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		165	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1228			925			632			353	
Travel Time (s)		27.9			21.0			14.4			8.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1691	11	330	1341	0	64	192	0	0	54	0
v/c Ratio	0.17	1.08	0.02	1.19	0.42		0.22	0.47			0.43	
Control Delay	58.8	79.2	12.9	157.9	11.7		43.9	11.7			53.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	58.8	79.2	12.9	157.9	11.7		43.9	11.7			53.3	
Queue Length 50th (ft)	8	~721	2	~288	160		40	7			31	
Queue Length 95th (ft)	28	#902	13	#484	257		84	73			73	
Internal Link Dist (ft)		1148			845			552			273	
Turn Bay Length (ft)	180		165	420								
Base Capacity (vph)	65	1563	703	277	3182		285	409			275	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	1.08	0.02	1.19	0.42		0.22	0.47			0.20	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

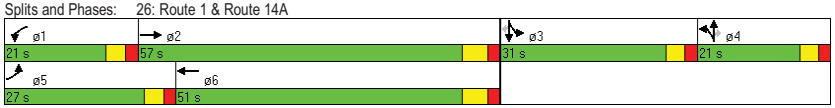
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1590	10	310	1220	40	60	10	170	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1770	3539	1583	1770	5061		1770	1599			1759	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (perm)	1770	3539	1583	1770	5061		1770	1599			1759	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1691	11	330	1298	43	64	11	181	32	11	11
RTOR Reduction (vph)	0	0	4	0	2	0	0	153	0	0	9	0
Lane Group Flow (vph)	11	1691	7	330	1339	0	64	39	0	0	45	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Effective Green, g (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Actuated g/C Ratio	0.01	0.46	0.46	0.15	0.60		0.15	0.15			0.06	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1622	726	264	3038		271	245			97	
v/s Ratio Prot	0.01	c0.48		c0.19	0.26		c0.04	0.02			c0.03	
v/s Ratio Perm			0.00									
v/c Ratio	0.92	1.04	0.01	1.25	0.44		0.24	0.16			0.47	
Uniform Delay, d1	56.6	30.9	16.8	48.5	12.4		42.4	41.9			52.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	209.7	34.3	0.0	139.9	0.0		2.0	1.4			1.3	
Delay (s)	266.3	65.2	16.8	188.5	12.4		44.5	43.3			53.6	
Level of Service	F	E	B	F	B		D	D			D	
Approach Delay (s)		66.2			47.2			43.6			53.6	
Approach LOS		E			D			D			D	

Intersection Summary				
HCM Average Control Delay	55.8	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	114.1	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	93.0%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	430	1750	290	1880	400	80	210	790	70	220
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	43.0	12.0	33.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (s)	27.0	57.0	21.0	51.0	21.0	21.0	21.0	31.0	31.0	31.0
Total Split (%)	20.8%	43.8%	16.2%	39.2%	16.2%	16.2%	16.2%	23.8%	23.8%	23.8%
Maximum Green (s)	22.0	51.0	16.0	45.0	16.0	16.0	16.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		5		0	0	0	0	10	10	10

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 22 (17%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1750	550	290	1880	340	400	80	210	790	70	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	200		200	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3050			1510			526			604	
Travel Time (s)		59.4			29.4			14.3			16.5	
Confl. Peds. (#/hr)			5									142
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							40%			46%		
Lane Group Flow (vph)	473	2527	0	319	2440	0	264	264	231	469	476	242
v/c Ratio	1.60	1.30		1.48	1.42		1.28	1.25	0.62	1.40	1.40	0.58
Control Delay	312.0	159.4		284.8	214.8		201.0	191.9	18.9	234.2	235.7	17.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	312.0	159.4		284.8	214.8		201.0	191.9	18.9	234.2	235.7	17.3
Queue Length 50th (ft)	~567	~975		~380	~999		~295	~292	24	~554	~564	34
Queue Length 95th (ft)	m#486	m#758		#574	#1086		#482	#477	110	#777	#790	123
Internal Link Dist (ft)		2970			1430			446			524	
Turn Bay Length (ft)	630			350			200		200	360		250
Base Capacity (vph)	296	1940		216	1723		207	211	370	336	340	414
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.60	1.30		1.48	1.42		1.28	1.25	0.62	1.40	1.40	0.58

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1750	550	290	1880	340	400	80	210	790	70	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4834		1752	4920		1681	1713	1583	1681	1698	1296
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4834		1752	4920		1681	1713	1583	1681	1698	1296
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	473	1923	604	319	2066	374	440	88	231	868	77	242
RTOR Reduction (vph)	0	44	0	0	20	0	0	0	175	0	0	155
Lane Group Flow (vph)	473	2483	0	319	2420	0	264	264	56	469	476	87
Confl. Peds. (#/hr)			5									142
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Effective Green, g (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Actuated g/C Ratio	0.17	0.39		0.12	0.35		0.12	0.12	0.12	0.20	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	296	1896		216	1703		207	211	195	336	340	259
v/s Ratio Prot	c0.27	0.51		0.18	c0.49		c0.16	0.15		0.28	c0.28	
v/s Ratio Perm									0.04			0.07
v/c Ratio	1.60	1.31		1.48	1.42		1.28	1.25	0.29	1.40	1.40	0.34
Uniform Delay, d1	54.0	39.5		57.0	42.5		57.0	57.0	51.8	52.0	52.0	44.6
Progression Factor	1.19	0.52		1.42	0.58		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	272.9	140.3		234.8	192.6		155.9	145.9	0.3	195.4	196.9	0.3
Delay (s)	337.0	160.8		315.7	217.3		212.9	202.9	52.1	247.4	248.9	44.9
Level of Service	F	F		F	F		F	F	D	F	F	D
Approach Delay (s)		188.6			228.7			160.5			206.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	203.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		

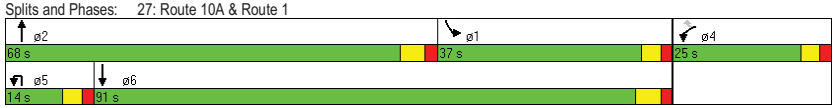
c Critical Lane Group

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	650	570	50	1740	600	1370
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	18.0	18.0	9.0	35.0	12.0	25.0
Total Split (s)	25.0	25.0	14.0	68.0	37.0	91.0
Total Split (%)	19.2%	19.2%	10.8%	52.3%	28.5%	70.0%
Maximum Green (s)	20.0	20.0	9.0	62.0	32.0	85.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lead	Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 93 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	650	570	50	1740	1120	600	1370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1852			1905			3050
Travel Time (s)	36.1			37.1			59.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	684	600	53	3011	0	632	1442
v/c Ratio	1.30	1.05	0.50	1.41dr		1.47	0.42
Control Delay	189.8	69.9	67.0	161.6		246.3	4.7
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	189.8	69.9	67.0	161.6		246.3	4.7
Queue Length 50th (ft)	~378	~254	46	~1164		~727	129
Queue Length 95th (ft)	#501	#487	m59	m#1239		m#465	m72
Internal Link Dist (ft)	1772			1825			2970
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	528	572	125	2350		431	3425
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.30	1.05	0.42	1.28		1.47	0.42

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	650	570	50	1740	1120	600	1370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	1.00	0.94		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4740		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4740		1752	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	684	600	53	1832	1179	632	1442
RTOR Reduction (vph)	0	328	0	91	0	0	0
Lane Group Flow (vph)	684	272	53	2920	0	632	1442
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	20.0	20.0	6.6	61.0		33.0	87.4
Effective Green, g (s)	20.0	20.0	6.6	61.0		33.0	87.4
Actuated g/C Ratio	0.15	0.15	0.05	0.47		0.25	0.67
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	528	244	92	2224		445	3386
v/s Ratio Prot	c0.20		0.03	c0.62		c0.36	0.29
v/s Ratio Perm		0.17					
v/c Ratio	1.30	1.11	0.58	1.41dr		1.42	0.43
Uniform Delay, d1	55.0	55.0	60.3	34.5		48.5	9.8
Progression Factor	1.00	1.00	0.94	1.17		0.98	0.47
Incremental Delay, d2	146.5	91.5	3.7	143.2		190.3	0.0
Delay (s)	201.5	146.5	60.2	183.4		237.7	4.7
Level of Service	F	F	E	F		F	A
Approach Delay (s)	175.8			181.3			75.7
Approach LOS	F			F			E

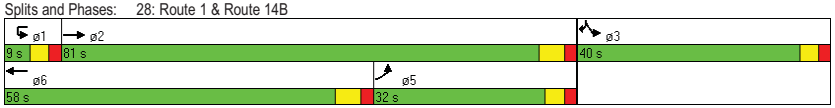
Intersection Summary			
HCM Average Control Delay	146.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.8%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	340	2240	10	1550	450	220
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	28.0	28.0
Total Split (s)	32.0	81.0	9.0	58.0	40.0	40.0
Total Split (%)	24.6%	62.3%	6.9%	44.6%	30.8%	30.8%
Maximum Green (s)	27.0	75.0	4.0	52.0	35.0	35.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 121 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2240	10	1550	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2667		1905		583	
Travel Time (s)		52.0		37.1		15.9	
Confl. Peds. (#/hr)							3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	354	2333	10	1896	0	469	229
v/c Ratio	0.97	0.73	0.18	0.95		0.98	0.46
Control Delay	67.2	6.5	70.9	28.0		84.6	26.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	67.2	6.5	70.9	28.0		84.6	26.4
Queue Length 50th (ft)	281	81	9	273		395	94
Queue Length 95th (ft)	m#402	m353	m17	m274		#616	175
Internal Link Dist (ft)		2587		1825		503	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	364	3184	56	1989		477	494
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.97	0.73	0.18	0.95		0.98	0.46

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2240	10	1550	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4924		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4924		1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	354	2333	10	1615	281	469	229
RTOR Reduction (vph)	0	0	0	20	0	0	68
Lane Group Flow (vph)	354	2333	10	1876	0	469	161
Confl. Peds. (#/hr)							3
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	31.0	78.2	0.8	48.0		35.0	35.0
Effective Green, g (s)	31.0	78.2	0.8	48.0		35.0	35.0
Actuated g/C Ratio	0.24	0.60	0.01	0.37		0.27	0.27
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	418	3029	11	1818		477	426
v/s Ratio Prot	c0.20	0.46	0.01	c0.38		c0.27	0.10
v/s Ratio Perm							
v/c Ratio	0.85	0.77	0.91	1.03		0.98	0.38
Uniform Delay, d1	47.2	19.2	64.6	41.0		47.2	38.6
Progression Factor	0.71	0.33	1.07	0.49		1.00	1.00
Incremental Delay, d2	8.5	1.1	177.5	26.7		36.5	0.2
Delay (s)	42.0	7.4	246.4	46.6		83.7	38.8
Level of Service	D	A	F	D		F	D
Approach Delay (s)		12.0		47.6		69.0	
Approach LOS		B		D		E	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	350	1300	190	990	190	260	280	740	190	450
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	18.0	18.0	12.0	25.0	25.0
Total Split (s)	31.0	56.0	24.0	49.0	15.0	18.0	18.0	32.0	35.0	35.0
Total Split (%)	23.8%	43.1%	18.5%	37.7%	11.5%	13.8%	13.8%	24.6%	26.9%	26.9%
Maximum Green (s)	26.0	50.0	19.0	43.0	10.0	12.0	12.0	27.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 39 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 125
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1300	180	190	990	630	190	260	280	740	190	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		2679			2667			634			1132	
Travel Time (s)		52.2			52.0			12.4			25.7	
Confl. Peds. (#/hr)			3						4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	368	1557	0	200	1705	0	200	274	295	779	200	474
v/c Ratio	1.05	0.79		0.85	1.09dr		0.78	0.85	0.80	1.09	0.48	0.72
Control Delay	95.4	24.6		73.6	34.9		79.5	82.1	28.4	109.4	48.5	16.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	24.6		73.6	34.9		79.5	82.1	28.4	109.4	48.5	16.6
Queue Length 50th (ft)	~334	452		137	~365		86	121	36	~381	148	62
Queue Length 95th (ft)	m#536	m524		m162	m#573		#142	#195	#172	#507	227	196
Internal Link Dist (ft)		2599			2587			554			1052	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1981		256	1665		264	327	370	713	417	654
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.79		0.78	1.02		0.76	0.84	0.80	1.09	0.48	0.72

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1300	180	190	990	630	190	260	280	740	190	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4934		1752	4742		3433	3539	1554	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4934		1752	4742		3433	3539	1554	3433	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	368	1368	189	200	1042	663	200	274	295	779	200	474
RTOR Reduction (vph)	0	13	0	0	88	0	0	0	227	0	0	300
Lane Group Flow (vph)	368	1544	0	200	1617	0	200	274	68	779	200	174
Confl. Peds. (#/hr)			3						4			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	26.0	51.8		17.4	43.2		9.7	11.8	11.8	27.0	29.1	29.1
Effective Green, g (s)	26.0	51.8		17.4	43.2		9.7	11.8	11.8	27.0	29.1	29.1
Actuated g/C Ratio	0.20	0.40		0.13	0.33		0.07	0.09	0.09	0.21	0.22	0.22
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1966		234	1576		256	321	141	713	417	354
v/s Ratio Prot	c0.21	0.31		0.11	c0.34		0.06	c0.08		c0.23	0.11	
v/s Ratio Perm									0.04			0.11
v/c Ratio	1.05	0.79		0.85	1.09dr		0.78	0.85	0.48	1.09	0.48	0.49
Uniform Delay, d1	52.0	34.2		55.1	43.4		59.1	58.2	56.2	51.5	43.9	44.0
Progression Factor	0.76	0.65		1.03	0.27		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	55.8	2.4		13.1	22.7		13.3	18.6	0.9	61.8	0.3	0.4
Delay (s)	95.4	24.5		69.9	34.3		72.4	76.9	57.1	113.3	44.2	44.4
Level of Service	F	C		E	C		E	E	E	F	D	D
Approach Delay (s)		38.1			38.0			68.1			81.3	
Approach LOS		D			D			E			F	

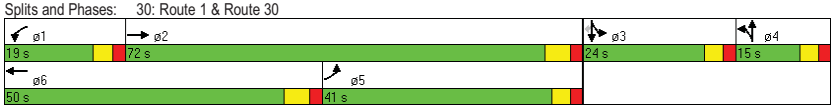
Intersection Summary				
HCM Average Control Delay	52.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	100.9%	ICU Level of Service	G	
Analysis Period (min)	15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	450	1700	90	1500	90	230	20	590
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	15.0	10.0	10.0	10.0
Total Split (s)	41.0	72.0	19.0	50.0	15.0	24.0	24.0	24.0
Total Split (%)	31.5%	55.4%	14.6%	38.5%	11.5%	18.5%	18.5%	18.5%
Maximum Green (s)	36.0	66.0	14.0	44.0	10.0	19.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 92 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1700	30	90	1500	180	20	90	20	230	20	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2679			238			2279	
Travel Time (s)		25.0			52.2			6.5			62.2	
Confl. Peds. (#/hr)			4									4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	484	1860	0	97	1807	0	0	141	0	133	136	634
v/c Ratio	1.00	0.67		0.65	1.00			0.97		0.65	0.66	0.95
Control Delay	76.2	20.0		76.9	39.5			124.8		69.0	69.5	33.9
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	76.2	20.0		76.9	39.5			124.8		69.0	69.5	33.9
Queue Length 50th (ft)	428	334		74	~604			116		110	113	71
Queue Length 95th (ft)	#634	363		m84	m#635			#256		184	187	#319
Internal Link Dist (ft)		1204			2599			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	485	2788		189	1812			145		246	248	692
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.00	0.67		0.51	1.00			0.97		0.54	0.55	0.92

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1700	30	90	1500	180	20	90	20	230	20	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5020		1752	4955			1809		1681	1698	1553
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5020		1752	4955			1809		1681	1698	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	484	1828	32	97	1613	194	22	97	22	247	22	634
RTOR Reduction (vph)	0	1	0	0	11	0	0	6	0	0	0	479
Lane Group Flow (vph)	484	1859	0	97	1796	0	0	135	0	133	136	155
Confl. Peds. (#/hr)			4									4
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	36.0	72.2		11.1	47.3			10.0		15.7	15.7	15.7
Effective Green, g (s)	36.0	72.2		11.1	47.3			10.0		15.7	15.7	15.7
Actuated g/C Ratio	0.28	0.56		0.09	0.36			0.08		0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	485	2788		150	1803			139		203	205	188
v/s Ratio Prot	c0.28	0.37		0.06	c0.36			c0.07		0.08	0.08	
v/s Ratio Perm												c0.10
v/c Ratio	1.00	0.67		0.65	1.00			0.97		0.66	0.66	0.82
Uniform Delay, d1	47.0	20.4		57.6	41.3			59.9		54.6	54.6	55.8
Progression Factor	0.88	0.89		1.15	0.54			1.00		1.00	1.00	1.00
Incremental Delay, d2	33.8	0.9		3.9	14.8			67.8		5.7	6.1	23.3
Delay (s)	75.2	19.0		69.8	37.1			127.7		60.3	60.7	79.1
Level of Service	E	B		E	D			F		E	E	E
Approach Delay (s)		30.6			38.8			127.7			73.6	
Approach LOS		C			D			F			E	

Intersection Summary

HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		

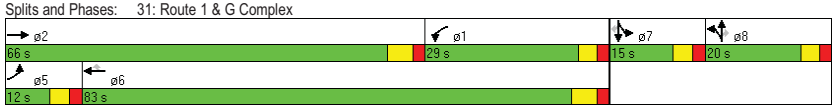
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1120	190	930	30	200	20	120	30	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	6.5	10.0	6.5	10.0	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	28.0	12.0	24.0	24.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	12.0	66.0	29.0	83.0	83.0	20.0	20.0	20.0	15.0	15.0
Total Split (%)	9.2%	50.8%	22.3%	63.8%	63.8%	15.4%	15.4%	15.4%	11.5%	11.5%
Maximum Green (s)	7.0	60.0	24.0	77.0	77.0	15.0	15.0	15.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		15.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 17 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 1 & G Complex



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1120	370	190	930	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		1343			5039			848			380	
Travel Time (s)		26.2			98.2			19.3			13.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	12	1753	0	224	1094	35	129	130	141	0	82	12
v/c Ratio	0.13	0.69		0.83	0.47	0.03	0.76	0.76	0.49		0.63	0.10
Control Delay	62.4	25.6		46.2	3.2	0.1	84.1	83.4	14.5		80.2	27.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	62.4	25.6		46.2	3.2	0.1	84.1	83.4	14.5		80.2	27.6
Queue Length 50th (ft)	10	399		197	36	0	111	112	0		68	0
Queue Length 95th (ft)	30	441		202	42	m1	173	175	52		116	19
Internal Link Dist (ft)		1263			4959			768			300	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	94	2524		323	2343	1060	194	196	307		139	133
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.13	0.69		0.69	0.47	0.03	0.66	0.66	0.46		0.59	0.09

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1120	370	190	930	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)	1752	4848		1752	3505	1568	1681	1700	1583		1811	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)	1752	4848		1752	3505	1568	1681	1700	1583		1811	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	1318	435	224	1094	35	235	24	141	47	35	12
RTOR Reduction (vph)	0	43	0	0	0	12	0	0	127	0	0	11
Lane Group Flow (vph)	12	1710	0	224	1094	23	129	130	14	0	82	1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Effective Green, g (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Actuated g/C Ratio	0.02	0.49		0.18	0.65	0.65	0.10	0.10	0.10		0.07	0.07
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	36	2368		311	2262	1012	169	171	160		130	113
v/s Ratio Prot	0.01	c0.35		c0.13	0.31		c0.08	0.08			c0.05	
v/s Ratio Perm						0.01			0.01			0.00
v/c Ratio	0.33	0.72		0.72	0.48	0.02	0.76	0.76	0.09		0.63	0.01
Uniform Delay, d1	62.8	26.3		50.4	11.9	8.3	56.9	56.9	53.0		58.7	56.1
Progression Factor	1.00	1.00		0.47	0.23	0.01	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0	1.9		5.8	0.6	0.0	16.6	16.2	0.1		7.1	0.0
Delay (s)	64.7	28.2		29.4	3.3	0.2	73.6	73.2	53.1		65.8	56.1
Level of Service	E	C		C	A	A	E	E	D		E	E
Approach Delay (s)		28.5			7.5			66.2			64.6	
Approach LOS		C			A			E			E	

Intersection Summary				
HCM Average Control Delay	25.8	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	66.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1500	1560	300	580	680
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	74.0	74.0	56.0	56.0	56.0
Total Split (%)	56.9%	56.9%	43.1%	43.1%	43.1%
Maximum Green (s)	68.0	68.0	50.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	15.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 32: RTE 1 & Route 4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1500	60	0	1560	30	0	300	580	0	680	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		115	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			979			889			385	
Travel Time (s)		7.7			19.1			17.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1695	0	0	1729	0	0	641	315	0	739	0
v/c Ratio		0.53			0.54			0.75	0.79		0.78	
Control Delay		11.0			9.6			19.9	25.5		49.7	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		11.0			9.6			19.9	25.5		49.7	
Queue Length 50th (ft)		131			168			190	61		306	
Queue Length 95th (ft)		241			468			65	69		335	
Internal Link Dist (ft)		313			899			809			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3206			3215			1217	563		1361	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.53			0.54			0.53	0.56		0.54	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1500	60	0	1560	30	0	300	580	0	680	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		5007			5022			3140	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		5007			5022			3140	1441		3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1630	65	0	1696	33	0	326	630	0	739	0
RTOR Reduction (vph)	0	3	0	0	1	0	0	11	11	0	0	0
Lane Group Flow (vph)	0	1692	0	0	1728	0	0	630	304	0	739	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		83.2			83.2			34.8	34.8		34.8	
Effective Green, g (s)		83.2			83.2			34.8	34.8		34.8	
Actuated g/C Ratio		0.64			0.64			0.27	0.27		0.27	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3204			3214			841	386		947	
v/s Ratio Prot		0.34			c0.34			0.20			0.21	
v/s Ratio Perm									c0.21			
v/c Ratio		0.53			0.54			0.75	0.79		0.78	
Uniform Delay, d1		12.7			12.8			43.6	44.2		44.1	
Progression Factor		0.77			0.65			0.36	0.33		1.00	
Incremental Delay, d2		0.5			0.6			2.5	7.5		3.9	
Delay (s)		10.3			9.0			18.3	21.9		48.0	
Level of Service		B			A			B	C		D	
Approach Delay (s)		10.3			9.0			19.5			48.0	
Approach LOS		B			A			B			D	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

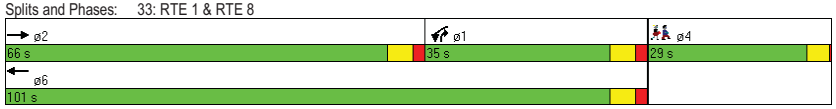
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1770	700	1530	610	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	35.0	22.0	35.0	29.0
Total Split (s)	66.0	35.0	101.0	35.0	29.0
Total Split (%)	50.8%	26.9%	77.7%	26.9%	22%
Maximum Green (s)	60.0	29.0	95.0	29.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 50 (38%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 33: RTE 1 & RTE 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1770	370	700	1530	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	979			927	469	
Travel Time (s)	19.1			18.1	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2378	0	778	1700	0	678
v/c Ratio	0.71		1.03	0.49		0.64
Control Delay	10.7		67.1	2.0		10.8
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	10.7		67.1	2.0		10.8
Queue Length 50th (ft)	375		~314	25		43
Queue Length 95th (ft)	231		m#374	m35		110
Internal Link Dist (ft)	899			847	389	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3373		758	3505		1063
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.71		1.03	0.49		0.64

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1770	370	700	1530	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0		6.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4905		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4905		3400	3505		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1967	411	778	1700	0	678
RTOR Reduction (vph)	15	0	0	0	0	441
Lane Group Flow (vph)	2363	0	778	1700	0	237
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	89.0		29.0	130.0		29.0
Effective Green, g (s)	89.0		29.0	130.0		29.0
Actuated g/C Ratio	0.68		0.22	1.00		0.22
Clearance Time (s)	6.0		6.0	6.0		6.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3358		758	3505		622
v/s Ratio Prot	c0.48		c0.23	0.49		0.08
v/s Ratio Perm						
v/c Ratio	0.70		1.03	0.49		0.38
Uniform Delay, d1	12.5		50.5	0.0		42.9
Progression Factor	0.78		0.75	1.00		1.00
Incremental Delay, d2	1.1		28.8	0.2		0.1
Delay (s)	10.8		66.7	0.2		43.0
Level of Service	B		E	A		D
Approach Delay (s)	10.8			21.1	43.0	
Approach LOS	B			C	D	

Intersection Summary				
HCM Average Control Delay	19.4	HCM Level of Service		B
HCM Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		12.0
Intersection Capacity Utilization	73.8%	ICU Level of Service		D
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	30	590	310	610	950	90
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	32	634	333	656	1022	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1157	469	
pX, platoon unblocked						
vC, conflicting volume	2016	511	1022			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2016	511	1022			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	51			
cM capacity (veh/h)	26	508	675			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	32	634	333	328	328	511	511	97
Volume Left	32	0	333	0	0	0	0	0
Volume Right	0	634	0	0	0	0	0	97
cSH	26	508	675	1700	1700	1700	1700	1700
Volume to Capacity	1.25	1.25	0.49	0.19	0.19	0.30	0.30	0.06
Queue Length 95th (ft)	98	631	69	0	0	0	0	0
Control Delay (s)	488.7	152.5	15.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	F	C					
Approach Delay (s)	168.8		5.2			0.0		
Approach LOS	F							

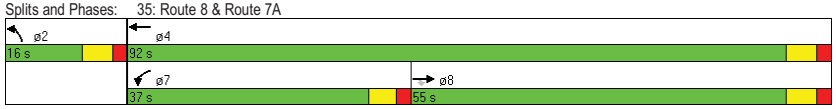
Intersection Summary			
Average Delay	42.4		
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1350	220	950	790	110	680
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	21.0	31.0	16.0	
Total Split (s)	55.0	55.0	37.0	92.0	16.0	0.0
Total Split (%)	50.9%	50.9%	34.3%	85.2%	14.8%	0.0%
Maximum Green (s)	49.0	49.0	31.5	86.0	10.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	0	0			0	

Intersection Summary

Cycle Length: 108
Actuated Cycle Length: 108
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1350	220	950	790	110	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1157			1264	644	
Travel Time (s)	22.5			24.6	12.5	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1709	278	1203	1000	139	861
v/c Ratio	1.06	0.33	1.20	0.35	0.85	0.54
Control Delay	71.4	6.3	135.4	3.5	88.4	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.4	6.3	135.4	3.5	88.4	1.3
Queue Length 50th (ft)	~689	27	~523	81	96	0
Queue Length 95th (ft)	#652	55	#528	84	#168	0
Internal Link Dist (ft)	1077			1184	564	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1606	832	1001	2818	164	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.33	1.20	0.35	0.85	0.54

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

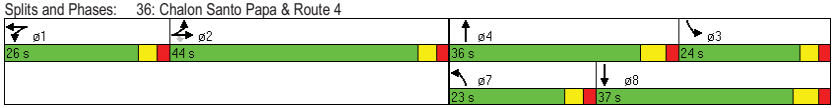
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1350	220	950	790	110	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	1770	1583
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	1709	278	1203	1000	139	861
RTOR Reduction (vph)	0	114	0	0	0	0
Lane Group Flow (vph)	1709	164	1203	1000	139	861
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	49.0	49.0	31.5	86.0	10.0	108.0
Effective Green, g (s)	49.0	49.0	31.5	86.0	10.0	108.0
Actuated g/C Ratio	0.45	0.45	0.29	0.80	0.09	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1606	718	1001	2818	164	1583
v/s Ratio Prot	c0.48		c0.35	0.28	0.08	
v/s Ratio Perm		0.10				c0.54
v/c Ratio	1.06	0.23	1.20	0.35	0.85	0.54
Uniform Delay, d1	29.5	18.0	38.2	3.1	48.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	41.7	0.1	100.5	0.0	30.2	1.3
Delay (s)	71.2	18.0	138.7	3.2	78.4	1.3
Level of Service	E	B	F	A	E	A
Approach Delay (s)	63.8			77.2	12.1	
Approach LOS	E			E	B	

Intersection Summary				
HCM Average Control Delay	59.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	280	180	150	120	690	130	750
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	25.0	25.0	26.0	8.0	22.0	8.0	22.0
Total Split (s)	44.0	44.0	26.0	23.0	36.0	24.0	37.0
Total Split (%)	33.8%	33.8%	20.0%	17.7%	27.7%	18.5%	28.5%
Maximum Green (s)	39.0	39.0	21.0	18.0	30.0	19.0	31.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	180	100	150	80	120	690	180	130	750	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			810			850	
Travel Time (s)		28.3			11.8			15.8			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	205	0	375	0	136	989	0	148	909	0
v/c Ratio		0.89	0.39		0.79		0.72	0.60		0.65	0.52	
Control Delay		67.8	9.6		62.5		61.7	37.3		38.3	15.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.8	9.6		62.5		61.7	37.3		38.3	15.8	
Queue Length 50th (ft)		331	17		151		116	283		86	73	
Queue Length 95th (ft)		421	72		196		m170	m339		167	197	
Internal Link Dist (ft)		1164			439			730			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		553	600		566		245	1635		259	1752	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.74	0.34		0.66		0.56	0.60		0.57	0.52	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	180	100	150	80	120	690	180	130	750	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.97		1.00	0.99	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1842	1583		3359		1770	4927		1770	5037	
Flt Permitted		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1842	1583		3359		1770	4927		1770	5037	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	91	318	205	114	170	91	136	784	205	148	852	57
RTOR Reduction (vph)	0	0	133	0	24	0	0	32	0	0	5	0
Lane Group Flow (vph)	0	409	72	0	351	0	136	957	0	148	904	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		32.6	32.6		17.5		13.9	42.2		16.7	45.0	
Effective Green, g (s)		32.6	32.6		17.5		13.9	42.2		16.7	45.0	
Actuated g/C Ratio		0.25	0.25		0.13		0.11	0.32		0.13	0.35	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		462	397		452		189	1599		227	1744	
v/s Ratio Prot		c0.22			c0.10		c0.08	c0.19		c0.08	0.18	
v/s Ratio Perm			0.05									
v/c Ratio		0.89	0.18		0.78		0.72	0.60		0.65	0.52	
Uniform Delay, d1		46.9	38.2		54.4		56.2	36.8		53.9	33.9	
Progression Factor		1.00	1.00		1.00		0.80	0.97		0.47	0.41	
Incremental Delay, d2		17.6	0.1		7.5		8.3	1.3		4.7	1.0	
Delay (s)		64.5	38.3		61.8		53.5	37.2		30.1	14.9	
Level of Service		E	D		E		D	D		C	B	
Approach Delay (s)		55.7			61.8			39.1			17.0	
Approach LOS		E			E			D			B	

Intersection Summary					
HCM Average Control Delay	37.7	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.72				
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	70.8%	ICU Level of Service		C	
Analysis Period (min)	15				

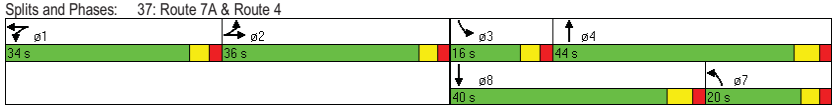
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	210	290	460	410	160	630	100	790
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.0	29.0	27.0	27.0	13.0	25.0	13.0	29.0
Total Split (s)	36.0	36.0	34.0	34.0	20.0	44.0	16.0	40.0
Total Split (%)	27.7%	27.7%	26.2%	26.2%	15.4%	33.8%	12.3%	30.8%
Maximum Green (s)	31.0	31.0	29.0	29.0	15.0	38.0	11.0	34.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 126 (97%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	290	90	460	410	90	160	630	330	100	790	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		827			967			716			810	
Travel Time (s)		18.8			22.0			13.9			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)				31%								
Lane Group Flow (vph)	228	413	0	345	699	0	174	1044	0	109	1066	0
v/c Ratio	0.55	0.96		0.96	0.94		0.89	0.69		0.77	0.79	
Control Delay	49.3	83.3		88.7	70.7		96.9	39.0		64.9	31.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.3	83.3		88.7	70.7		96.9	39.0		64.9	31.9	
Queue Length 50th (ft)	169	338		318	315		146	260		94	323	
Queue Length 95th (ft)	256	#545		#529	#443		#275	314		m#178	365	
Internal Link Dist (ft)		747			887			636			730	
Turn Bay Length (ft)				250			250			200		
Base Capacity (vph)	418	432		359	741		204	1515		150	1354	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.55	0.96		0.96	0.94		0.85	0.69		0.73	0.79	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	290	90	460	410	90	160	630	330	100	790	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.96		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1779		1610	3283		1770	4823		1770	4937	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	1779		1610	3283		1770	4823		1770	4937	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	315	98	500	446	98	174	685	359	109	859	207
RTOR Reduction (vph)	0	8	0	0	9	0	0	72	0	0	31	0
Lane Group Flow (vph)	228	405	0	345	690	0	174	972	0	109	1035	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	30.7	30.7		29.0	29.0		14.5	38.9		10.4	34.8	
Effective Green, g (s)	30.7	30.7		29.0	29.0		14.5	38.9		10.4	34.8	
Actuated g/C Ratio	0.24	0.24		0.22	0.22		0.11	0.30		0.08	0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	414	420		359	732		197	1443		142	1322	
v/s Ratio Prot	0.13	c0.23		c0.21	0.21		c0.10	0.20		0.06	c0.21	
v/s Ratio Perm												
v/c Ratio	0.55	0.96		0.96	0.94		0.88	0.67		0.77	0.78	
Uniform Delay, d1	43.6	49.1		49.9	49.7		56.9	40.0		58.6	44.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.58	0.65	
Incremental Delay, d2	0.9	34.1		36.9	20.1		33.2	2.5		17.6	4.1	
Delay (s)	44.5	83.2		86.9	69.8		90.1	42.5		51.7	32.7	
Level of Service	D	F		F	E		F	D		D	C	
Approach Delay (s)		69.4			75.5			49.3			34.5	
Approach LOS		E			E			D			C	

Intersection Summary				
HCM Average Control Delay	54.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	85.0%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	110	210	90	920	1400	110
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	124	236	101	1034	1573	124
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1030	
pX, platoon unblocked	0.79	0.79	0.79			
vC, conflicting volume	2354	848	1697			
vC1, stage 1 conf vol	1635					
vC2, stage 2 conf vol	719					
vCu, unblocked vol	2178	261	1341			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	20	59	75			
cM capacity (veh/h)	154	580	401			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	360	101	517	517	1049	648
Volume Left	124	101	0	0	0	0
Volume Right	236	0	0	0	0	124
cSH	297	401	1700	1700	1700	1700
Volume to Capacity	1.21	0.25	0.30	0.30	0.62	0.38
Queue Length 95th (ft)	405	25	0	0	0	0
Control Delay (s)	159.0	17.0	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	159.0	1.5			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay	18.4			
Intersection Capacity Utilization	76.2%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	220	190	160	40
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	32.0	36.0	36.0
Total Split (%)	24.4%	35.6%	40.0%	40.0%
Maximum Green (s)	18.0	28.0	32.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	510	190	20	160	40	390	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		350			827			400			205	
Travel Time (s)		8.0			18.8			9.1			4.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	596	0	0	766	0	170	458	0	0	0	0
v/c Ratio		0.77			1.09dl		0.23	0.50				
Control Delay		20.4			33.3		18.4	5.4				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		20.4			33.3		18.4	5.4				
Queue Length 50th (ft)		58			180		53	12				
Queue Length 95th (ft)		121			268		118	88				
Internal Link Dist (ft)		270			747			320			125	
Turn Bay Length (ft)												
Base Capacity (vph)		1025			1243		737	913				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.58			0.62		0.23	0.50				

Intersection Summary

Area Type: Other
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	510	190	20	160	40	390	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.91			1.00		1.00	0.86				
Flt Protected		1.00			0.97		0.95	1.00				
Satd. Flow (prot)		3224			3404		1770	1610				
Flt Permitted		1.00			0.97		0.95	1.00				
Satd. Flow (perm)		3224			3404		1770	1610				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	234	351	543	202	21	170	43	415	0	0	0
RTOR Reduction (vph)	0	300	0	0	2	0	0	242	0	0	0	0
Lane Group Flow (vph)	0	296	0	0	764	0	170	216	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		11.4			21.9		32.5	32.5				
Effective Green, g (s)		11.4			21.9		32.5	32.5				
Actuated g/C Ratio		0.15			0.28		0.42	0.42				
Clearance Time (s)		4.0			4.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		472			958		739	673				
v/s Ratio Prot		c0.09			c0.22		0.10	c0.13				
v/s Ratio Perm												
v/c Ratio		0.63			1.09dl		0.23	0.32				
Uniform Delay, d1		31.2			25.9		14.6	15.2				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		1.9			4.4		0.7	1.3				
Delay (s)		33.1			30.3		15.3	16.5				
Level of Service		C			C		B	B				
Approach Delay (s)		33.1			30.3			16.2			0.0	
Approach LOS		C			C			B			A	

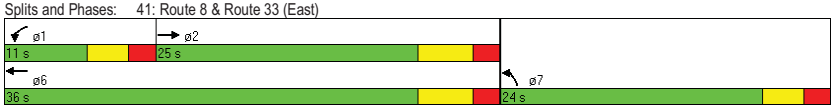
Intersection Summary					
HCM Average Control Delay	26.7	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.53				
Actuated Cycle Length (s)	77.8	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	81.4%	ICU Level of Service		D	
Analysis Period (min)	15				

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	590	90	450	230
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	6.0	2.5	2.0	2.5
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	25.0	11.0	36.0	24.0
Total Split (%)	41.7%	18.3%	60.0%	40.0%
Maximum Green (s)	19.0	6.0	30.0	19.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.0	6.0	5.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 52.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	590	130	90	450	230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2670			2651	2228	
Travel Time (s)	52.0			51.6	43.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	847	0	106	529	447	0
v/c Ratio	0.75		0.51	0.32	0.80	
Control Delay	20.9		37.6	9.0	29.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	20.9		37.6	9.0	29.6	
Queue Length 50th (ft)	133		37	54	125	
Queue Length 95th (ft)	177		#94	75	#251	
Internal Link Dist (ft)	2590			2571	2148	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	1421		221	2197	711	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.60		0.48	0.24	0.63	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	590	130	90	450	230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	5.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.97		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3443		1770	3539	1712	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	3443		1770	3539	1712	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	694	153	106	529	271	176
RTOR Reduction (vph)	31	0	0	0	40	0
Lane Group Flow (vph)	816	0	106	529	407	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	16.7		4.3	26.0	15.9	
Effective Green, g (s)	16.7		4.3	26.0	15.9	
Actuated g/C Ratio	0.32		0.08	0.49	0.30	
Clearance Time (s)	6.0		5.0	6.0	5.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	1087		144	1739	515	
v/s Ratio Prot	c0.24		c0.06	0.15	c0.24	
v/s Ratio Perm						
v/c Ratio	0.75		0.74	0.30	0.79	
Uniform Delay, d1	16.2		23.7	8.0	17.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	2.6		15.4	0.0	7.6	
Delay (s)	18.9		39.2	8.1	24.5	
Level of Service	B		D	A	C	
Approach Delay (s)	18.9			13.3	24.5	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

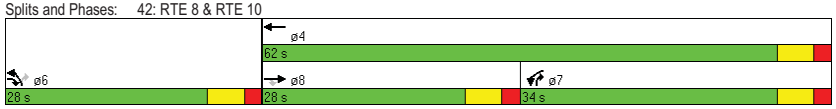
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	650	540	910	480	450	750
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	28.0	34.0	62.0	28.0	34.0
Total Split (%)	31.1%	31.1%	37.8%	68.9%	31.1%	37.8%
Maximum Green (s)	22.0	22.0	28.0	56.0	22.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	650	540	910	480	450	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			433	789	
Travel Time (s)	14.8			8.4	15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	691	574	968	511	479	798
v/c Ratio	0.77	0.65	0.91	0.23	0.61	0.47
Control Delay	38.3	18.0	40.9	6.3	34.3	9.9
Queue Delay	0.5	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	18.0	40.9	6.3	34.3	9.9
Queue Length 50th (ft)	195	207	274	46	123	116
Queue Length 95th (ft)	#266	323	#393	58	173	160
Internal Link Dist (ft)	682			353	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	898	876	1058	2222	831	1701
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	35	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.66	0.91	0.23	0.58	0.47

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	650	540	910	480	450	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3400	2760
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3400	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	691	574	968	511	479	798
RTOR Reduction (vph)	0	8	0	0	0	19
Lane Group Flow (vph)	691	566	968	511	479	779
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	23.1	44.0	28.0	57.1	20.9	48.9
Effective Green, g (s)	23.1	44.0	28.0	57.1	20.9	48.9
Actuated g/C Ratio	0.26	0.49	0.31	0.63	0.23	0.54
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	900	871	1058	2224	790	1684
v/s Ratio Prot	c0.20	c0.15	c0.28	0.15	0.14	0.14
v/s Ratio Perm		0.21				0.14
v/c Ratio	0.77	0.65	0.91	0.23	0.61	0.46
Uniform Delay, d1	31.0	17.2	29.9	7.0	30.9	12.5
Progression Factor	1.00	1.00	0.92	0.83	1.00	1.00
Incremental Delay, d2	6.2	1.3	10.7	0.2	0.9	0.1
Delay (s)	37.2	18.5	38.2	6.1	31.8	12.6
Level of Service	D	B	D	A	C	B
Approach Delay (s)	28.7			27.1	19.8	
Approach LOS	C			C	B	

Intersection Summary				
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1290	60	1320	80	50
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	7.0	7.0
Minimum Split (s)	26.0	16.0	26.0	13.0	13.0
Total Split (s)	59.0	16.0	75.0	15.0	15.0
Total Split (%)	65.6%	17.8%	83.3%	16.7%	16.7%
Maximum Green (s)	53.0	10.0	69.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1290	50	60	1320	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	220
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	433			505	486	
Travel Time (s)	8.4			9.8	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1411	0	63	1389	84	53
v/c Ratio	0.60		0.32	0.48	0.53	0.28
Control Delay	5.8		41.9	4.0	51.1	15.1
Queue Delay	0.5		0.0	0.0	0.0	0.0
Total Delay	6.3		41.9	4.1	51.1	15.1
Queue Length 50th (ft)	105		34	123	46	0
Queue Length 95th (ft)	130		73	161	92	34
Internal Link Dist (ft)	353			425	406	
Turn Bay Length (ft)			200			220
Base Capacity (vph)	2335		195	2869	177	206
Starvation Cap Reductn	440		0	0	0	0
Spillback Cap Reductn	0		0	127	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.74		0.32	0.51	0.47	0.26

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1290	50	60	1320	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3452		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3452		1752	3505	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1358	53	63	1389	84	53
RTOR Reduction (vph)	3	0	0	0	0	49
Lane Group Flow (vph)	1408	0	63	1389	84	4
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	57.3		8.0	71.3	6.7	6.7
Effective Green, g (s)	57.3		8.0	71.3	6.7	6.7
Actuated g/C Ratio	0.64		0.09	0.79	0.07	0.07
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2198		156	2777	132	118
v/s Ratio Prot	c0.41		0.04	c0.40	c0.05	
v/s Ratio Perm						0.00
v/c Ratio	0.64		0.40	0.50	0.64	0.03
Uniform Delay, d1	10.0		38.7	3.2	40.5	38.6
Progression Factor	0.44		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2		0.6	0.1	7.2	0.0
Delay (s)	5.6		39.4	3.3	47.6	38.7
Level of Service	A		D	A	D	D
Approach Delay (s)	5.6			4.8	44.2	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

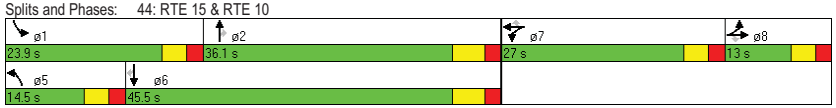
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	70	110	290	50	210	100	860	430	240	1090	110
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	10.0	10.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.5	16.0	16.0	11.5	36.0	36.0
Total Split (s)	13.0	13.0	13.0	27.0	27.0	27.0	14.5	36.1	36.1	23.9	45.5	45.5
Total Split (%)	13.0%	13.0%	13.0%	27.0%	27.0%	27.0%	14.5%	36.1%	36.1%	23.9%	45.5%	45.5%
Maximum Green (s)	8.0	8.0	8.0	22.0	22.0	22.0	9.5	30.1	30.1	18.9	39.5	39.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	70	110	290	50	210	100	860	430	240	1090	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		611			945			3059			773	
Travel Time (s)		11.9			18.4			59.6			15.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)	13%											
Lane Group Flow (vph)	89	93	125	330	57	239	114	977	489	273	1239	125
v/c Ratio	0.70	0.70	0.53	0.90	0.15	0.46	0.73	0.85	0.58	0.88	0.84	0.17
Control Delay	73.4	72.2	17.0	67.6	32.7	7.6	78.6	26.4	3.6	68.1	33.6	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.4	72.2	17.0	67.6	32.7	7.6	78.6	26.4	3.6	68.1	33.6	4.6
Queue Length 50th (ft)	58	62	0	203	29	0	78	251	18	168	380	2
Queue Length 95th (ft)	#131	#133	52	#341	62	57	m107	#411	37	#289	459	34
Internal Link Dist (ft)		531			865			2979			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	134	140	241	385	406	531	166	1153	844	335	1472	729
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.66	0.52	0.86	0.14	0.45	0.69	0.85	0.58	0.81	0.84	0.17

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	70	110	290	50	210	100	860	430	240	1090	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1740	1568	1752	1845	1568	1752	3505	1568	1770	3539	1583
Flt Permitted	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1740	1568	1752	1845	1568	1752	3505	1568	1770	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	80	125	330	57	239	114	977	489	273	1239	125
RTOR Reduction (vph)	0	0	115	0	0	189	0	0	328	0	0	71
Lane Group Flow (vph)	89	93	10	330	57	50	114	977	161	273	1239	54
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	7.7	7.7	7.7	20.8	20.8	20.8	8.9	32.9	32.9	17.6	41.6	41.6
Effective Green, g (s)	7.7	7.7	7.7	20.8	20.8	20.8	8.9	32.9	32.9	17.6	41.6	41.6
Actuated g/C Ratio	0.08	0.08	0.08	0.21	0.21	0.21	0.09	0.33	0.33	0.18	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	128	134	121	364	384	326	156	1153	516	312	1472	659
v/s Ratio Prot	c0.05	0.05		c0.19	0.03		0.07	0.28		c0.15	c0.35	
v/s Ratio Perm			0.01			0.03			0.10			0.03
v/c Ratio	0.70	0.69	0.08	0.91	0.15	0.15	0.73	0.85	0.31	0.88	0.84	0.08
Uniform Delay, d1	45.0	45.0	42.9	38.7	32.4	32.4	44.4	31.2	25.1	40.1	26.2	17.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.37	0.61	0.62	1.00	1.00	1.00
Incremental Delay, d2	12.4	11.8	0.1	24.8	0.1	0.1	9.6	5.3	1.0	22.2	6.0	0.2
Delay (s)	57.4	56.8	43.0	63.4	32.4	32.5	70.3	24.5	16.7	62.3	32.2	17.9
Level of Service	E	E	D	E	C	C	E	C	B	E	C	B
Approach Delay (s)		51.4			48.8			25.4			36.2	
Approach LOS		D			D			C			D	

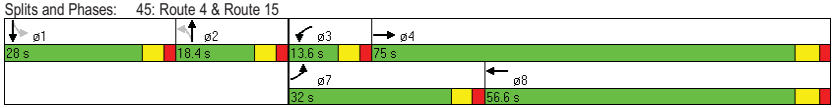
Intersection Summary				
HCM Average Control Delay	35.1	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	73.1%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	220	1310	30	810	20	10	40	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	16.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	32.0	75.0	13.6	56.6	18.4	18.4	28.0	28.0
Total Split (%)	23.7%	55.6%	10.1%	41.9%	13.6%	13.6%	20.7%	20.7%
Maximum Green (s)	26.5	69.0	8.1	50.6	12.9	12.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 135
Actuated Cycle Length: 116.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	1310	60	30	810	70	20	10	30	40	10	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		749			563			294			294	
Travel Time (s)		14.6			11.0			5.7			5.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	1612	0	35	1035	0	0	71	0	0	200	0
v/c Ratio	0.80	0.91		0.28	0.75			0.50			0.85	
Control Delay	66.8	35.4		63.9	35.7			49.3			62.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	66.8	35.4		63.9	35.7			49.3			62.1	
Queue Length 50th (ft)	196	565		27	358			32			96	
Queue Length 95th (ft)	296	688		63	463			81			#201	
Internal Link Dist (ft)		669			483			214			214	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	414	2142		127	1566			186			294	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.63	0.75		0.28	0.66			0.38			0.68	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	1310	60	30	810	70	20	10	30	40	10	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3516		1770	3497			1710			1666	
Flt Permitted	0.95	1.00		0.95	1.00			0.81			0.70	
Satd. Flow (perm)	1770	3516		1770	3497			1407			1172	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	259	1541	71	35	953	82	24	12	35	47	12	141
RTOR Reduction (vph)	0	2	0	0	5	0	0	27	0	0	65	0
Lane Group Flow (vph)	259	1610	0	35	1030	0	0	44	0	0	135	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	21.2	58.6		8.3	45.7			9.6			16.8	
Effective Green, g (s)	21.2	58.6		8.3	45.7			9.6			16.8	
Actuated g/C Ratio	0.18	0.51		0.07	0.39			0.08			0.15	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	324	1779		127	1380			117			170	
v/s Ratio Prot	c0.15	c0.46		0.02	0.29							
v/s Ratio Perm								c0.03			c0.12	
v/c Ratio	0.80	0.90		0.28	0.75			0.38			0.79	
Uniform Delay, d1	45.3	26.1		50.9	30.1			50.3			47.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	12.1	6.8		0.4	2.0			0.8			20.7	
Delay (s)	57.4	32.9		51.3	32.0			51.0			68.5	
Level of Service	E	C		D	C			D			E	
Approach Delay (s)		36.3			32.7			51.0			68.5	
Approach LOS		D			C			D			E	

Intersection Summary

HCM Average Control Delay	37.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	115.8	Sum of lost time (s)	22.5
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

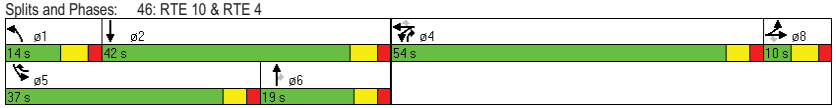
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	20	10	20	630	10	250	450	690	420
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	9.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.0	9.5	13.5	16.0
Total Split (s)	10.0	10.0	54.0	37.0	14.0	19.0	54.0	37.0	42.0
Total Split (%)	8.3%	8.3%	45.0%	30.8%	11.7%	15.8%	45.0%	30.8%	35.0%
Maximum Green (s)	4.0	4.0	48.5	31.5	8.0	13.5	48.5	31.5	36.0
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		17.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 111.4
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	580	20	630	10	250	450	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			734			914	
Travel Time (s)		7.3			12.6			14.3			17.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	11	0	682	716	11	284	511	784	500	0
v/c Ratio		0.69	0.16		0.94	0.64	0.09	0.74	0.56	0.88	0.68	
Control Delay		102.2	32.9		54.6	7.6	54.3	61.9	16.0	52.8	36.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		102.2	32.9		54.6	7.6	54.3	61.9	16.0	52.8	36.1	
Queue Length 50th (ft)		36	0		504	127	8	113	204	300	303	
Queue Length 95th (ft)		#103	19		#722	183	27	158	294	#372	#547	
Internal Link Dist (ft)		295			565			654			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		67	69		794	1168	128	431	975	996	736	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.69	0.16		0.86	0.61	0.09	0.66	0.52	0.79	0.68	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	580	20	630	10	250	450	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1777	1583	1736	3471	1553	3433	1850	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1777	1583	1736	3471	1553	3433	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	23	23	11	659	23	716	11	284	511	784	477	23
RTOR Reduction (vph)	0	0	11	0	0	49	0	0	36	0	1	0
Lane Group Flow (vph)	0	46	0	0	682	667	11	284	475	784	499	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		3.0	3.0		45.6	74.6	1.5	17.4	63.0	29.0	43.9	
Effective Green, g (s)		3.0	3.0		45.6	74.6	1.5	17.4	63.0	29.0	43.9	
Actuated g/C Ratio		0.03	0.03		0.39	0.63	0.01	0.15	0.54	0.25	0.37	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		46	40		690	1005	22	514	905	847	691	
v/s Ratio Prot		c0.03			c0.38	0.16	0.01	0.08	0.20	c0.23	c0.27	
v/s Ratio Perm			0.00			0.26			0.10			
v/c Ratio		1.00	0.01		0.99	0.66	0.50	0.55	0.53	0.93	0.72	
Uniform Delay, d1		57.2	55.8		35.7	13.5	57.6	46.4	17.6	43.2	31.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		132.7	0.0		30.9	1.3	6.4	0.7	0.3	15.5	3.2	
Delay (s)		189.9	55.8		66.6	14.8	64.0	47.2	17.8	58.7	34.7	
Level of Service		F	E		E	B	E	D	B	E	C	
Approach Delay (s)		164.1			40.1			28.8			49.3	
Approach LOS		F			D			C			D	

Intersection Summary				
HCM Average Control Delay	42.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	117.5	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	84.4%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1140	1000	60
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	32.0	32.0	13.0	22.0	33.0	33.0
Total Split (s)	43.0	43.0	15.0	87.0	72.0	72.0
Total Split (%)	33.1%	33.1%	11.5%	66.9%	55.4%	55.4%
Maximum Green (s)	38.0	38.0	10.0	81.0	66.0	66.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 103 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1140	1000	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	784			300	778	
Travel Time (s)	21.4			5.8	15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	116	21	1200	1053	63
v/c Ratio	0.81	0.44	0.19	0.47	0.45	0.06
Control Delay	71.0	50.4	69.9	1.7	12.9	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	50.4	69.9	1.7	12.9	10.6
Queue Length 50th (ft)	197	87	15	77	233	19
Queue Length 95th (ft)	273	137	m32	21	342	46
Internal Link Dist (ft)	704			220	698	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	463	414	135	2551	2339	1046
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.28	0.16	0.47	0.45	0.06

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1140	1000	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	116	21	1200	1053	63
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	242	116	21	1200	1053	63
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	24.4	24.4	4.9	94.6	84.7	84.7
Effective Green, g (s)	24.4	24.4	4.9	94.6	84.7	84.7
Actuated g/C Ratio	0.19	0.19	0.04	0.73	0.65	0.65
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	297	266	66	2551	2284	1022
v/s Ratio Prot	c0.15		0.01	c0.34	0.30	
v/s Ratio Perm		0.08				0.04
v/c Ratio	0.81	0.44	0.32	0.47	0.46	0.06
Uniform Delay, d1	50.6	46.7	60.9	7.3	11.3	8.2
Progression Factor	1.00	1.00	1.14	0.15	1.00	1.00
Incremental Delay, d2	14.9	0.4	0.9	0.5	0.7	0.1
Delay (s)	65.5	47.1	70.3	1.6	12.0	8.3
Level of Service	E	D	E	A	B	A
Approach Delay (s)	59.6			2.8	11.7	
Approach LOS	E			A	B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	110	30	1000	80	970
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	25.0	25.0	28.0	13.5	22.0
Total Split (s)	27.0	27.0	83.0	20.0	103.0
Total Split (%)	20.8%	20.8%	63.8%	15.4%	79.2%
Maximum Green (s)	22.0	22.0	77.0	15.0	97.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 61 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6 & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	1000	160	80	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		553			1337
Travel Time (s)	16.0		10.8			26.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	34	1333	0	92	1115
v/c Ratio	0.66	0.17	0.57		0.60	0.39
Control Delay	71.8	17.2	6.8		61.4	10.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	71.8	17.2	6.8		61.4	10.8
Queue Length 50th (ft)	104	0	115		77	262
Queue Length 95th (ft)	159	29	145		128	416
Internal Link Dist (ft)	506		473			1257
Turn Bay Length (ft)					200	
Base Capacity (vph)	300	296	2348		202	2831
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.42	0.11	0.57		0.46	0.39

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	1000	160	80	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3432		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3432		1752	3505
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	126	34	1149	184	92	1115
RTOR Reduction (vph)	0	30	8	0	0	0
Lane Group Flow (vph)	126	4	1325	0	92	1115
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	14.0	14.0	88.7		11.3	105.0
Effective Green, g (s)	14.0	14.0	88.7		11.3	105.0
Actuated g/C Ratio	0.11	0.11	0.68		0.09	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	191	170	2342		152	2831
v/s Ratio Prot	c0.07		c0.39		c0.05	0.32
v/s Ratio Perm		0.00				
v/c Ratio	0.66	0.02	0.57		0.61	0.39
Uniform Delay, d1	55.7	51.9	10.7		57.2	3.5
Progression Factor	1.00	1.00	0.51		0.81	2.74
Incremental Delay, d2	6.1	0.0	0.9		4.3	0.4
Delay (s)	61.9	51.9	6.4		50.8	10.0
Level of Service	E	D	A		D	B
Approach Delay (s)	59.7		6.4			13.1
Approach LOS	E		A			B

Intersection Summary				
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	40	30	1130	980
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	26.0	13.0	22.0	30.0
Total Split (s)	31.0	17.0	99.0	82.0
Total Split (%)	23.8%	13.1%	76.2%	63.1%
Maximum Green (s)	26.0	12.0	93.0	76.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 83 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1130	980	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2042			2039	7256	
Travel Time (s)	39.8			39.7	141.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	33	1256	1111	0
v/c Ratio	0.61		0.29	0.43	0.41	
Control Delay	45.7		69.6	2.1	3.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	45.7		69.6	2.1	3.0	
Queue Length 50th (ft)	48		29	34	123	
Queue Length 95th (ft)	107		m60	55	7	
Internal Link Dist (ft)	1962			1959	7176	
Turn Bay Length (ft)			125			
Base Capacity (vph)	378		162	2934	2706	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.29		0.20	0.43	0.41	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1130	980	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	1.00	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1678		1752	3505	3494	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1678		1752	3505	3494	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	67	33	1256	1089	22
RTOR Reduction (vph)	49	0	0	0	1	0
Lane Group Flow (vph)	62	0	33	1256	1110	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	10.2		5.1	108.8	98.7	
Effective Green, g (s)	10.2		5.1	108.8	98.7	
Actuated g/C Ratio	0.08		0.04	0.84	0.76	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	132		69	2933	2653	
v/s Ratio Prot	c0.04		0.02	c0.36	0.32	
v/s Ratio Perm						
v/c Ratio	0.47		0.48	0.43	0.42	
Uniform Delay, d1	57.3		61.1	2.7	5.5	
Progression Factor	1.00		1.09	0.57	0.43	
Incremental Delay, d2	1.0		1.7	0.4	0.5	
Delay (s)	58.3		68.5	2.0	2.9	
Level of Service	E		E	A	A	
Approach Delay (s)	58.3			3.7	2.9	
Approach LOS	E			A	A	

Intersection Summary			
HCM Average Control Delay	5.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

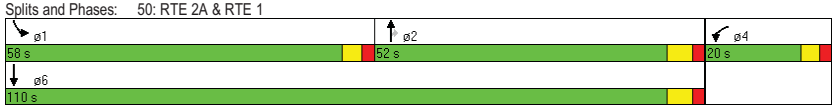
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	610	170	940	280
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	20.0		33.0	33.0	9.0	21.0
Total Split (s)	20.0	0.0	52.0	52.0	58.0	110.0
Total Split (%)	15.4%	0.0%	40.0%	40.0%	44.6%	84.6%
Maximum Green (s)	15.0		46.0	46.0	53.0	104.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 33 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	610	170	940	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	763		960			531
Travel Time (s)	14.9		18.7			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	588	718	200	1106	329
v/c Ratio	0.62	0.37	0.51	0.27	0.83	0.11
Control Delay	74.6	0.7	32.2	4.7	34.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	0.7	32.2	4.7	34.1	1.4
Queue Length 50th (ft)	78	0	243	0	441	10
Queue Length 95th (ft)	125	0	300	42	348	12
Internal Link Dist (ft)	683		880			451
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	204	1583	1395	744	1395	2910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.37	0.51	0.27	0.79	0.11

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	610	170	940	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3471	1553	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3471	1553	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	94	588	718	200	1106	329
RTOR Reduction (vph)	0	0	0	120	0	0
Lane Group Flow (vph)	94	588	718	80	1106	329
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	11.1	130.0	52.2	52.2	50.7	107.9
Effective Green, g (s)	11.1	130.0	52.2	52.2	50.7	107.9
Actuated g/C Ratio	0.09	1.00	0.40	0.40	0.39	0.83
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	151	1583	1394	624	1326	2909
v/s Ratio Prot	c0.05		c0.21		c0.33	0.09
v/s Ratio Perm		0.37		0.05		
v/c Ratio	0.62	0.37	0.52	0.13	0.83	0.11
Uniform Delay, d1	57.4	0.0	29.4	24.5	35.8	2.1
Progression Factor	1.00	1.00	1.00	1.00	0.78	0.57
Incremental Delay, d2	5.6	0.7	1.4	0.4	5.0	0.1
Delay (s)	63.1	0.7	30.7	25.0	33.1	1.3
Level of Service	E	A	C	C	C	A
Approach Delay (s)	9.3		29.5			25.8
Approach LOS	A		C			C

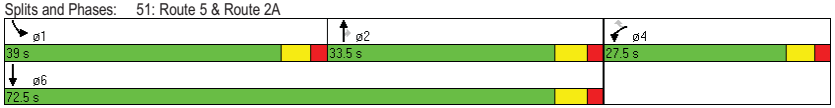
Intersection Summary				
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	27.5	27.5	33.5	33.5	39.0	72.5
Total Split (%)	27.5%	27.5%	33.5%	33.5%	39.0%	72.5%
Maximum Green (s)	22.0	22.0	27.5	27.5	33.5	66.5
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 73.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1099		864			879
Travel Time (s)	21.4		16.8			17.1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	172	290	75	387	462
v/c Ratio	0.26	0.51	0.22	0.12	0.80	0.18
Control Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Length 50th (ft)	23	0	44	0	160	26
Queue Length 95th (ft)	61	56	91	29	264	44
Internal Link Dist (ft)	1019		784			799
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	534	598	1334	644	813	3215
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.29	0.22	0.12	0.48	0.14

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	172	290	75	387	462
RTOR Reduction (vph)	0	152	0	47	0	0
Lane Group Flow (vph)	54	20	290	28	387	462
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.5	8.5	27.8	27.8	20.1	53.4
Effective Green, g (s)	8.5	8.5	27.8	27.8	20.1	53.4
Actuated g/C Ratio	0.12	0.12	0.38	0.38	0.27	0.73
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	205	183	1340	600	485	2575
v/s Ratio Prot	c0.03		c0.08		c0.22	0.13
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.26	0.11	0.22	0.05	0.80	0.18
Uniform Delay, d1	29.6	29.1	15.4	14.4	24.8	3.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.4	0.1	8.3	0.0
Delay (s)	29.8	29.2	15.8	14.6	33.1	3.1
Level of Service	C	C	B	B	C	A
Approach Delay (s)	29.3		15.5			16.8
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	33.0	33.0	49.0	49.0	38.0	87.0
Total Split (%)	27.5%	27.5%	40.8%	40.8%	31.7%	72.5%
Maximum Green (s)	27.5	27.5	43.0	43.0	32.5	81.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 58.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1682		1244			1258
Travel Time (s)	32.8		24.2			24.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	113	320	144	227	567
v/c Ratio	0.48	0.29	0.62	0.27	0.57	0.51
Control Delay	28.7	8.0	25.4	5.4	27.9	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.7	8.0	25.4	5.4	27.9	8.5
Queue Length 50th (ft)	49	0	91	0	66	90
Queue Length 95th (ft)	131	40	210	38	166	195
Internal Link Dist (ft)	1602		1164			1178
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	880	844	1448	1262	1039	1863
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.13	0.22	0.11	0.22	0.30

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	113	320	144	227	567
RTOR Reduction (vph)	0	91	0	103	0	0
Lane Group Flow (vph)	165	22	320	41	227	567
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.2	11.2	16.2	16.2	13.1	34.8
Effective Green, g (s)	11.2	11.2	16.2	16.2	13.1	34.8
Actuated g/C Ratio	0.19	0.19	0.28	0.28	0.23	0.61
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	345	308	525	446	403	1128
v/s Ratio Prot	c0.09		c0.17		0.13	c0.30
v/s Ratio Perm		0.01		0.03		
v/c Ratio	0.48	0.07	0.61	0.09	0.56	0.50
Uniform Delay, d1	20.6	18.9	17.9	15.2	19.7	6.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	1.4	0.0	1.1	0.1
Delay (s)	20.9	18.9	19.3	15.3	20.7	6.6
Level of Service	C	B	B	B	C	A
Approach Delay (s)	20.1		18.0			10.6
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	14.6	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	51.5%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	360	80	70	20	30	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	434	96	84	24	36	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	84				1060	96
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	84				1060	96
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	71				80	85
cM capacity (veh/h)	1512				177	960

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	530	108	36	145
Volume Left	434	0	36	0
Volume Right	0	24	0	145
cSH	1512	1700	177	960
Volume to Capacity	0.29	0.06	0.20	0.15
Queue Length 95th (ft)	30	0	18	13
Control Delay (s)	7.3	0.0	30.5	9.4
Lane LOS	A		D	A
Approach Delay (s)	7.3	0.0	13.6	
Approach LOS			B	

Intersection Summary				
Average Delay	7.7			
Intersection Capacity Utilization	40.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	30	40	10	20	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	14	41	54	14	27	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	155	61			68	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	155	61			68	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	96			98	
cM capacity (veh/h)	821	1004			1534	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	54	68	68
Volume Left	14	0	27
Volume Right	41	14	0
cSH	951	1700	1534
Volume to Capacity	0.06	0.04	0.02
Queue Length 95th (ft)	5	0	1
Control Delay (s)	9.0	0.0	3.0
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	3.0
Approach LOS	A		

Intersection Summary			
Average Delay		3.7	
Intersection Capacity Utilization		19.4%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	170	130	130	120	60	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	254	194	194	179	90	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			448		918	351
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			448		918	351
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			83		64	83
cM capacity (veh/h)			1113		249	693

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	448	373	209
Volume Left	0	194	90
Volume Right	194	0	119
cSH	1700	1113	393
Volume to Capacity	0.26	0.17	0.53
Queue Length 95th (ft)	0	16	75
Control Delay (s)	0.0	5.5	24.1
Lane LOS		A	C
Approach Delay (s)	0.0	5.5	24.1
Approach LOS			C

Intersection Summary			
Average Delay		6.9	
Intersection Capacity Utilization		48.6%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	210	30	20	240	370
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	22.0	22.0	10.0	43.0	43.0
Total Split (%)	29.3%	29.3%	13.3%	57.3%	57.3%
Maximum Green (s)	16.5	16.5	4.5	37.0	37.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 57.5
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	240	370	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	454	
Travel Time (s)	16.3			14.6	8.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	7%	7%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	247	35	24	282	776	0
v/c Ratio	0.61	0.09	0.17	0.32	0.85	
Control Delay	29.8	9.9	34.6	10.7	23.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.8	9.9	34.6	10.7	23.2	
Queue Length 50th (ft)	67	0	7	42	154	
Queue Length 95th (ft)	166	20	32	116	#453	
Internal Link Dist (ft)	758			671	374	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	542	509	141	1219	1227	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.07	0.17	0.23	0.63	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	240	370	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1687	1776	1752	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1687	1776	1752	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	247	35	24	282	435	341
RTOR Reduction (vph)	0	27	0	0	39	0
Lane Group Flow (vph)	247	8	24	282	737	0
Heavy Vehicles (%)	2%	2%	7%	7%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	13.3	13.3	1.4	28.9	28.9	
Effective Green, g (s)	13.3	13.3	1.4	28.9	28.9	
Actuated g/C Ratio	0.22	0.22	0.02	0.48	0.48	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	388	347	39	847	836	
v/s Ratio Prot	c0.14		c0.01	0.16	c0.42	
v/s Ratio Perm		0.00				
v/c Ratio	0.64	0.02	0.62	0.33	0.88	
Uniform Delay, d1	21.5	18.5	29.3	9.9	14.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.5	0.0	18.5	0.1	10.5	
Delay (s)	24.0	18.6	47.9	9.9	24.8	
Level of Service	C	B	D	A	C	
Approach Delay (s)	23.3			12.9	24.8	
Approach LOS	C			B	C	

Intersection Summary				
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.6	Sum of lost time (s)	17.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	150	200	80	70	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	52	156	208	83	73	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	292				510	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	292				510	250
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				85	92
cM capacity (veh/h)	1231				501	789

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	208	292	135
Volume Left	52	0	73
Volume Right	0	83	62
cSH	1231	1700	602
Volume to Capacity	0.04	0.17	0.22
Queue Length 95th (ft)	3	0	21
Control Delay (s)	2.3	0.0	12.7
Lane LOS	A		B
Approach Delay (s)	2.3	0.0	12.7
Approach LOS			B

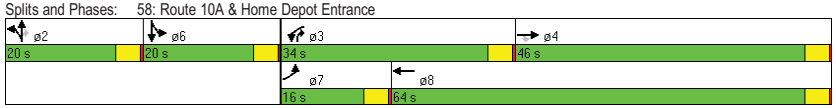
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	930	710	410	820	310	30	730	80	40
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	46.0	46.0	34.0	64.0	20.0	20.0	34.0	20.0	20.0
Total Split (%)	13.3%	38.3%	38.3%	28.3%	53.3%	16.7%	16.7%	28.3%	16.7%	16.7%
Maximum Green (s)	12.0	42.0	42.0	30.0	60.0	16.0	16.0	30.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 112.7
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	710	410	820	60	310	30	730	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1852			1228			703			493	
Travel Time (s)		42.1			23.9			13.7			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	1011	772	446	956	0	337	33	793	87	163	0
v/c Ratio	0.59	0.76	1.13	0.49	0.47		0.77	0.14	1.12	0.54	0.68	
Control Delay	66.8	36.4	104.1	37.8	16.6		61.0	46.2	94.1	61.8	36.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	66.8	36.4	104.1	37.8	16.6		61.0	46.2	94.1	61.8	36.5	
Queue Length 50th (ft)	62	338	~588	142	216		123	22	~498	62	47	
Queue Length 95th (ft)	119	458	#887	206	318		182	55	#914	115	118	
Internal Link Dist (ft)		1772			1148			623			413	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	189	1322	684	916	2021		489	265	711	252	319	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.46	0.76	1.13	0.49	0.47		0.69	0.12	1.12	0.35	0.51	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

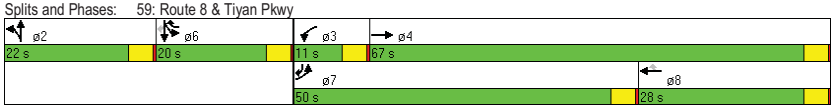
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	710	410	820	60	310	30	730	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3503		3433	1863	1583	1770	1657	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3503		3433	1863	1583	1770	1657	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1011	772	446	891	65	337	33	793	87	43	120
RTOR Reduction (vph)	0	0	91	0	4	0	0	0	88	0	88	0
Lane Group Flow (vph)	87	1011	681	446	952	0	337	33	705	87	75	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	8.2	43.0	43.0	30.1	64.9		14.3	14.3	44.4	10.2	10.2	
Effective Green, g (s)	8.2	43.0	43.0	30.1	64.9		14.3	14.3	44.4	10.2	10.2	
Actuated g/C Ratio	0.07	0.38	0.38	0.26	0.57		0.13	0.13	0.39	0.09	0.09	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	128	1340	599	910	2001		432	235	619	159	149	
v/s Ratio Prot	0.05	0.29		0.13	0.27		0.10	0.02	c0.30	c0.05	0.05	
v/s Ratio Perm			c0.43						0.14			
v/c Ratio	0.68	0.75	1.14	0.49	0.48		0.78	0.14	1.14	0.55	0.50	
Uniform Delay, d1	51.4	30.7	35.3	35.3	14.3		48.1	44.2	34.6	49.5	49.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.7	2.2	80.4	0.2	0.1		8.2	0.1	80.7	2.1	1.0	
Delay (s)	62.1	32.9	115.7	35.4	14.4		56.3	44.3	115.3	51.5	50.2	
Level of Service	E	C	F	D	B		E	D	F	D	D	
Approach Delay (s)		68.5			21.1			96.2			50.7	
Approach LOS		E			C			F			D	

Intersection Summary				
HCM Average Control Delay	60.2	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.08			
Actuated Cycle Length (s)	113.6	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	85.3%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	930	930	40	680	170	80	60	360	90	980
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	50.0	67.0	11.0	28.0	20.0	22.0	22.0	20.0	20.0	50.0
Total Split (%)	41.7%	55.8%	9.2%	23.3%	16.7%	18.3%	18.3%	16.7%	16.7%	41.7%
Maximum Green (s)	46.0	63.0	7.0	24.0	16.0	18.0	18.0	16.0	16.0	46.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 112.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	930	930	110	40	680	170	80	60	50	360	90	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2791			2670			614			1053	
Travel Time (s)		54.4			52.0			14.0			20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										38%		
Lane Group Flow (vph)	1011	1131	0	43	739	185	87	119	0	242	247	1065
v/c Ratio	0.72	0.56		0.44	0.98	0.27	0.53	0.64		1.01	1.01	1.04
Control Delay	31.9	16.6		66.2	72.5	3.3	60.4	52.3		110.2	109.3	59.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	31.9	16.6		66.2	72.5	3.3	60.4	52.3		110.2	109.3	59.4
Queue Length 50th (ft)	309	260		30	281	0	61	63		~189	~192	~761
Queue Length 95th (ft)	418	362		71	#438	33	113	124		#384	#390	#1084
Internal Link Dist (ft)		2711			2590			534			973	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1405	2037		110	756	683	283	303		239	244	1023
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.72	0.56		0.39	0.98	0.27	0.31	0.39		1.01	1.01	1.04

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	930	930	110	40	680	170	80	60	50	360	90	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	3433	3483		1770	3539	1583	1770	1736		1681	1718	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	3433	3483		1770	3539	1583	1770	1736		1681	1718	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1011	1011	120	43	739	185	87	65	54	391	98	1065
RTOR Reduction (vph)	0	7	0	0	0	118	0	26	0	0	0	102
Lane Group Flow (vph)	1011	1124	0	43	739	67	87	93	0	242	247	963
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Effective Green, g (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Actuated g/C Ratio	0.41	0.58		0.05	0.22	0.36	0.09	0.09		0.14	0.14	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1394	2017		83	778	571	162	159		237	243	922
v/s Ratio Prot	0.29	0.32		0.02	c0.21	0.02	0.05	c0.05		0.14	0.14	c0.42
v/s Ratio Perm						0.03						0.18
v/c Ratio	0.73	0.56		0.52	0.95	0.12	0.54	0.58		1.02	1.02	1.04
Uniform Delay, d1	28.3	14.8		52.8	43.6	24.2	49.2	49.4		48.6	48.6	25.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	0.2		2.3	20.5	0.0	1.7	3.5		64.0	62.0	41.8
Delay (s)	29.9	15.0		55.0	64.1	24.2	50.9	52.8		112.7	110.7	67.4
Level of Service	C	B		E	E	C	D	D		F	F	E
Approach Delay (s)		22.1			56.0			52.0			81.4	
Approach LOS		C			E			D			F	

Intersection Summary

HCM Average Control Delay	49.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	113.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	10	230	2130	50	2230
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	23.0	23.0	99.0	8.0	107.0
Total Split (%)	17.7%	17.7%	76.2%	6.2%	82.3%
Maximum Green (s)	19.0	19.0	95.0	4.0	103.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	230	2130	1160	50	2230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1181		1114			966
Travel Time (s)	26.8		21.7			18.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	250	3576	0	54	2424
v/c Ratio	0.04	0.93	1.00		0.82	0.60
Control Delay	69.7	70.0	11.4		129.5	3.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	69.7	70.0	11.4		129.5	3.3
Queue Length 50th (ft)	9	179	~459		~45	106
Queue Length 95th (ft)	m9	m163	m53		m#84	m100
Internal Link Dist (ft)	1101		1034			886
Turn Bay Length (ft)					300	
Base Capacity (vph)	259	281	3563		66	4028
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.04	0.89	1.00		0.82	0.60

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	230	2130	1160	50	2230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4770		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4770		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	250	2315	1261	54	2424
RTOR Reduction (vph)	0	50	75	0	0	0
Lane Group Flow (vph)	11	200	3501	0	54	2424
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	18.0	18.0	95.1		4.9	104.0
Effective Green, g (s)	18.0	18.0	95.1		4.9	104.0
Actuated g/C Ratio	0.14	0.14	0.73		0.04	0.80
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	245	219	3489		66	4029
v/s Ratio Prot	0.01		c0.73		c0.03	0.48
v/s Ratio Perm		c0.13				
v/c Ratio	0.04	0.91	1.00		0.82	0.60
Uniform Delay, d1	48.5	55.2	17.5		62.1	5.0
Progression Factor	1.45	1.56	0.27		1.26	0.54
Incremental Delay, d2	0.0	5.7	5.4		41.3	0.5
Delay (s)	70.4	91.6	10.1		119.5	3.2
Level of Service	E	F	B		F	A
Approach Delay (s)	90.8		10.1			5.8
Approach LOS	F		B			A

Intersection Summary				
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	190	10	20	5	270	410	20	350
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	19.0	31.0	8.0	20.0	25.0	71.0	10.0	56.0
Total Split (%)	15.8%	25.8%	6.7%	16.7%	20.8%	59.2%	8.3%	46.7%
Maximum Green (s)	15.0	27.0	4.0	16.0	21.0	67.0	6.0	52.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 94.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	10	440	20	5	10	270	410	40	20	350	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	489	0	22	16	0	293	489	0	22	684	0
v/c Ratio	0.75	0.73		0.29	0.14		0.77	0.40		0.22	0.89	
Control Delay	59.5	11.6		60.4	32.0		53.1	9.8		54.7	38.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.5	11.6		60.4	32.0		53.1	9.8		54.7	38.3	
Queue Length 50th (ft)	117	6		13	3		161	78		13	316	
Queue Length 95th (ft)	#293	112		45	26		#381	276		44	#675	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	288	804		77	299		396	1324		110	954	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.72	0.61		0.29	0.05		0.74	0.37		0.20	0.72	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	10	440	20	5	10	270	410	40	20	350	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.90		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1590		1770	1671		1736	1803		1687	1657	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1590		1770	1671		1736	1803		1687	1657	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	11	478	22	5	11	293	446	43	22	380	304
RTOR Reduction (vph)	0	400	0	0	11	0	0	3	0	0	23	0
Lane Group Flow (vph)	207	89	0	22	5	0	293	486	0	22	661	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	7%	7%	7%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.8	16.3		1.4	2.9		20.8	64.2		2.0	45.4	
Effective Green, g (s)	14.8	16.3		1.4	2.9		20.8	64.2		2.0	45.4	
Actuated g/C Ratio	0.15	0.16		0.01	0.03		0.21	0.64		0.02	0.45	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	262	259		25	49		361	1159		34	753	
v/s Ratio Prot	c0.12	c0.06		0.01	0.00		c0.17	0.27		0.01	c0.40	
v/s Ratio Perm												
v/c Ratio	0.79	0.34		0.88	0.11		0.81	0.42		0.65	0.88	
Uniform Delay, d1	41.1	37.1		49.2	47.2		37.7	8.7		48.6	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.0	0.3		124.9	0.4		12.3	0.1		27.5	11.0	
Delay (s)	55.0	37.3		174.1	47.6		50.0	8.8		76.1	35.7	
Level of Service	E	D		F	D		D	A		E	D	
Approach Delay (s)		42.6			120.8			24.3			37.0	
Approach LOS		D			F			C			D	

Intersection Summary				
HCM Average Control Delay	35.7	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	99.9	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	88.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	180	10	690	800
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	8.0	70.0	62.0
Total Split (%)	22.2%	22.2%	8.9%	77.8%	68.9%
Maximum Green (s)	16.0	16.0	4.0	66.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 47.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	180	10	690	800	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	196	11	750	892	0
v/c Ratio	0.14	0.51	0.07	0.60	0.73	
Control Delay	23.5	10.1	27.9	6.4	10.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.5	10.1	27.9	6.4	10.2	
Queue Length 50th (ft)	6	0	2	65	88	
Queue Length 95th (ft)	40	57	21	181	395	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	654	709	160	1758	1750	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.28	0.07	0.43	0.51	

Intersection Summary

Area Type: Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	180	10	690	800	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1736	1827	1857	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1736	1827	1857	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	196	11	750	870	22
RTOR Reduction (vph)	0	171	0	0	1	0
Lane Group Flow (vph)	33	25	11	750	891	0
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.5	6.5	0.5	35.7	31.2	
Effective Green, g (s)	6.5	6.5	0.5	35.7	31.2	
Actuated g/C Ratio	0.13	0.13	0.01	0.71	0.62	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	229	205	17	1299	1154	
v/s Ratio Prot	c0.02		0.01	c0.41	c0.48	
v/s Ratio Perm		0.02				
v/c Ratio	0.14	0.12	0.65	0.58	0.77	
Uniform Delay, d1	19.4	19.3	24.8	3.6	6.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.1	49.2	0.4	3.0	
Delay (s)	19.5	19.4	74.0	3.9	9.9	
Level of Service	B	B	E	A	A	
Approach Delay (s)	19.4			5.0	9.9	
Approach LOS	B			A	A	

Intersection Summary				
HCM Average Control Delay	9.1	HCM Level of Service	A	
HCM Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	50.2	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	61.1%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	360	390	5	5	180
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	391	424	5	5	196
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	429				829	427
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	429				829	427
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	69
cM capacity (veh/h)	1130				339	628

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	5	391	429	201
Volume Left	5	0	0	5
Volume Right	0	0	5	196
cSH	1130	1700	1700	645
Volume to Capacity	0.00	0.23	0.25	0.31
Queue Length 95th (ft)	0	0	0	33
Control Delay (s)	8.2	0.0	0.0	13.4
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	13.4
Approach LOS				B

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	38.6%	ICU Level of Service	A	
Analysis Period (min)	15			

INTERSECTION ANALYSIS

Synchro Output

Year 2030 Andersen Air Force Base Cantonment/Housing (Alternative C) Conditions

Weekday a.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	40	390	590	10	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	50	488	738	12	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	750				1331	744
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	750				1331	744
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				92	97
cM capacity (veh/h)	859				160	415

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	50	488	750	25
Volume Left	50	0	0	12
Volume Right	0	0	12	12
cSH	859	1700	1700	231
Volume to Capacity	0.06	0.29	0.44	0.11
Queue Length 95th (ft)	5	0	0	9
Control Delay (s)	9.4	0.0	0.0	22.4
Lane LOS	A			C
Approach Delay (s)	0.9		0.0	22.4
Approach LOS				C

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		43.2%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	380	40	20	400	190	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	475	50	25	500	238	100
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			525		1050	500
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			525		1050	500
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		3	82
cM capacity (veh/h)			1037		246	571

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	525	525	338
Volume Left	0	25	238
Volume Right	50	0	100
cSH	1700	1037	295
Volume to Capacity	0.31	0.02	1.14
Queue Length 95th (ft)	0	2	355
Control Delay (s)	0.0	0.7	134.6
Lane LOS		A	F
Approach Delay (s)	0.0	0.7	134.6
Approach LOS			F

Intersection Summary			
Average Delay	33.0		
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	450	420	40	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	12	562	525	50	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	575				1138	550
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	575				1138	550
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	98
cM capacity (veh/h)	998				220	535

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	575	575	25
Volume Left	12	0	12
Volume Right	0	50	12
cSH	998	1700	312
Volume to Capacity	0.01	0.34	0.08
Queue Length 95th (ft)	1	0	6
Control Delay (s)	0.3	0.0	17.5
Lane LOS	A		C
Approach Delay (s)	0.3	0.0	17.5
Approach LOS			C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	160	410	830	40	20	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	180	461	933	45	22	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	978				1775	955
vC1, stage 1 conf vol					955	
vC2, stage 2 conf vol					820	
vCu, unblocked vol	978				1775	955
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	75				91	75
cM capacity (veh/h)	706				247	313

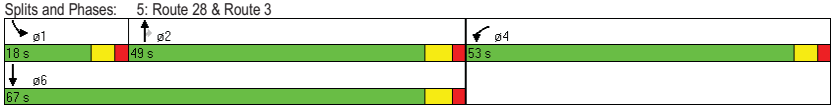
Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	180	461	978	101
Volume Left	180	0	0	22
Volume Right	0	0	45	79
cSH	706	1700	1700	403
Volume to Capacity	0.25	0.27	0.58	0.25
Queue Length 95th (ft)	25	0	0	24
Control Delay (s)	11.8	0.0	0.0	20.5
Lane LOS	B			C
Approach Delay (s)	3.3		0.0	20.5
Approach LOS				C

Intersection Summary				
Average Delay			2.4	
Intersection Capacity Utilization			68.3%	ICU Level of Service C
Analysis Period (min)			15	

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	940	460	280	110	930
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	53.0	49.0	49.0	18.0	67.0
Total Split (%)	44.2%	40.8%	40.8%	15.0%	55.8%
Maximum Green (s)	47.5	43.0	43.0	12.5	61.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 118.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	940	130	460	280	110	930
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1229	0	529	322	126	1069
v/c Ratio	0.93		0.77	0.41	0.70	0.59
Control Delay	47.0		42.7	5.1	73.2	21.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	47.0		42.7	5.1	73.2	21.8
Queue Length 50th (ft)	452		364	4	96	296
Queue Length 95th (ft)	522		481	57	#169	345
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1374		686	780	187	1825
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.89		0.77	0.41	0.67	0.59

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	940	130	460	280	110	930
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3399		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3399		1863	1583	1770	3539
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1080	149	529	322	126	1069
RTOR Reduction (vph)	9	0	0	198	0	0
Lane Group Flow (vph)	1220	0	529	124	126	1069
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	45.8		43.6	43.6	12.0	61.1
Effective Green, g (s)	45.8		43.6	43.6	12.0	61.1
Actuated g/C Ratio	0.39		0.37	0.37	0.10	0.52
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1315		686	583	179	1826
v/s Ratio Prot	c0.36		c0.28		0.07	c0.30
v/s Ratio Perm				0.08		
v/c Ratio	0.93		0.77	0.21	0.70	0.59
Uniform Delay, d1	34.7		33.0	25.6	51.5	19.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	11.5		8.2	0.8	12.3	1.4
Delay (s)	46.2		41.2	26.5	63.7	21.2
Level of Service	D		D	C	E	C
Approach Delay (s)	46.2		35.6			25.7
Approach LOS	D		D			C

Intersection Summary			
HCM Average Control Delay	36.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	118.4	Sum of lost time (s)	17.5
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	20	10	690	1950	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	23	12	802	2267	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2703	1145	2291			
vC1, stage 1 conf vol	2279					
vC2, stage 2 conf vol	424					
vCu, unblocked vol	2703	1145	2291			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	88	95			
cM capacity (veh/h)	62	193	217			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	35	12	401	401	1512	779
Volume Left	12	12	0	0	0	0
Volume Right	23	0	0	0	0	23
cSH	113	217	1700	1700	1700	1700
Volume to Capacity	0.31	0.05	0.24	0.24	0.89	0.46
Queue Length 95th (ft)	30	4	0	0	0	0
Control Delay (s)	50.6	22.5	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	50.6	0.3			0.0	
Approach LOS	F					

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization		64.5%	ICU Level of Service C
Analysis Period (min)		15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	190	80	380	550	160	260
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	15.0	0.0	50.0	0.0	25.0	75.0
Total Split (%)	16.7%	0.0%	55.6%	0.0%	27.8%	83.3%
Maximum Green (s)	11.0		44.0		19.5	69.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 88.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	190	80	380	550	160	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	211	89	422	611	178	289
v/c Ratio	0.58	0.06	0.40	0.39	0.67	0.20
Control Delay	44.5	0.1	13.3	0.7	48.0	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	0.1	13.3	0.7	48.0	3.0
Queue Length 50th (ft)	58	0	124	0	96	33
Queue Length 95th (ft)	94	0	226	0	154	56
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	423	1568	1050	1568	391	1454
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.06	0.40	0.39	0.46	0.20

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	190	80	380	550	160	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	1845	1568	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	1845	1568	1770	1863
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	211	89	422	611	178	289
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	211	89	422	611	178	289
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	9.4	88.4	50.3	88.4	13.2	69.0
Effective Green, g (s)	9.4	88.4	50.3	88.4	13.2	69.0
Actuated g/C Ratio	0.11	1.00	0.57	1.00	0.15	0.78
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	362	1568	1050	1568	264	1454
v/s Ratio Prot	c0.06		0.23		c0.10	0.16
v/s Ratio Perm		0.06		c0.39		
v/c Ratio	0.58	0.06	0.40	0.39	0.67	0.20
Uniform Delay, d1	37.6	0.0	10.6	0.0	35.6	2.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.1	1.1	0.7	5.3	0.3
Delay (s)	39.2	0.1	11.8	0.7	40.8	2.8
Level of Service	D	A	B	A	D	A
Approach Delay (s)	27.6		5.2			17.3
Approach LOS	C		A			B

Intersection Summary				
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	9.5
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

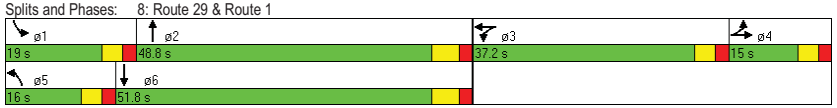
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	790	150	910
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	90	70	790	280	150	910	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				38%								
Lane Group Flow (vph)	0	87	0	366	354	0	75	1150	0	161	1043	0
v/c Ratio		0.58		0.89	0.86		0.57	0.83		0.79	0.65	
Control Delay		39.4		67.7	61.3		88.7	20.3		78.6	29.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		67.7	61.3		88.7	20.3		78.6	29.1	
Queue Length 50th (ft)		25		280	257		62	391		120	343	
Queue Length 95th (ft)		77		#438	#408		m90	#557		#235	454	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	452		162	1393		214	1614	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.81	0.78		0.46	0.83		0.75	0.65	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	90	70	790	280	150	910	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.96		1.00	0.96		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1645		1752	3367		1752	3472	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1645		1752	3367		1752	3472	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	97	75	849	301	161	978	65
RTOR Reduction (vph)	0	51	0	0	11	0	0	27	0	0	4	0
Lane Group Flow (vph)	0	36	0	366	343	0	75	1123	0	161	1039	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		29.3	29.3		7.9	48.7		13.9	54.7	
Effective Green, g (s)		7.1		29.3	29.3		7.9	48.7		13.9	54.7	
Actuated g/C Ratio		0.06		0.24	0.24		0.07	0.41		0.12	0.46	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		410	402		115	1366		203	1583	
v/s Ratio Prot		c0.02		c0.22	0.21		0.04	c0.33		c0.09	0.30	
v/s Ratio Perm												
v/c Ratio		0.36		0.89	0.85		0.65	0.82		0.79	0.66	
Uniform Delay, d1		54.3		43.8	43.3		54.7	31.8		51.7	25.4	
Progression Factor		1.00		1.00	1.00		1.43	0.47		1.00	1.00	
Incremental Delay, d2		0.8		20.5	15.3		7.2	4.2		17.7	2.1	
Delay (s)		55.1		64.4	58.6		85.4	19.1		69.4	27.5	
Level of Service		E		E	E		F	B		E	C	
Approach Delay (s)		55.1			61.5			23.1			33.1	
Approach LOS		E			E			C			C	

Intersection Summary				
HCM Average Control Delay	36.3	HCM Level of Service		D
HCM Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	77.9%	ICU Level of Service		D
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	20	40	50	40	10	30	330	20	10	300	200
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	176	22	44	55	44	11	33	363	22	11	330	220
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	934	912	440	956	1011	374	549			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934	912	440	956	1011	374	549			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	12	92	93	73	81	98	97			99		
cM capacity (veh/h)	200	262	617	200	230	673	1015			1168		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	110	418	560
Volume Left	176	55	33	11
Volume Right	44	11	22	220
cSH	234	228	1015	1168
Volume to Capacity	1.03	0.48	0.03	0.01
Queue Length 95th (ft)	251	60	3	1
Control Delay (s)	113.0	34.7	1.0	0.3
Lane LOS	F	D	A	A
Approach Delay (s)	113.0	34.7	1.0	0.3
Approach LOS	F	D		

Intersection Summary				
Average Delay	23.9			
Intersection Capacity Utilization	59.7%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	310	150	1030	170	1570
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	150	1030	150	170	1570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	337	163	1283	0	185	1707
v/c Ratio	0.87	0.38	0.72		0.82	0.71
Control Delay	66.9	18.1	12.9		77.3	12.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	66.9	18.1	12.9		77.3	12.8
Queue Length 50th (ft)	251	40	145		150	303
Queue Length 95th (ft)	347	97	m540		m#241	344
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	467	491	1785		242	2408
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.72	0.33	0.72		0.76	0.71

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	150	1030	150	170	1570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3438		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3438		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	163	1120	163	185	1707
RTOR Reduction (vph)	0	77	9	0	0	0
Lane Group Flow (vph)	337	86	1274	0	185	1707
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	26.6	26.6	61.9		15.5	82.4
Effective Green, g (s)	26.6	26.6	61.9		15.5	82.4
Actuated g/C Ratio	0.22	0.22	0.52		0.13	0.69
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	388	348	1773		226	2407
v/s Ratio Prot	c0.19		0.37		0.11	c0.49
v/s Ratio Perm		0.05				
v/c Ratio	0.87	0.25	0.72		0.82	0.71
Uniform Delay, d1	45.0	38.5	22.4		50.9	11.5
Progression Factor	1.00	1.00	0.45		1.07	0.90
Incremental Delay, d2	17.7	0.1	2.3		15.9	1.5
Delay (s)	62.7	38.6	12.3		70.5	11.8
Level of Service	E	D	B		E	B
Approach Delay (s)	54.8		12.3			17.6
Approach LOS	D		B			B

Intersection Summary				
HCM Average Control Delay	20.8	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	73.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	170	120	150	300	180
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	137	233	164	205	411	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1068	534	658			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1068	534	658			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	31	57	82			
cM capacity (veh/h)	200	542	925			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	370	370	658
Volume Left	137	164	0
Volume Right	233	0	247
cSH	332	925	1700
Volume to Capacity	1.11	0.18	0.39
Queue Length 95th (ft)	360	16	0
Control Delay (s)	119.9	5.4	0.0
Lane LOS	F	A	
Approach Delay (s)	119.9	5.4	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	33.2		
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	600	370	1730	270	1850	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	600	370	0	1730	290	270	1850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	652	402	0	2195	0	293	2011
v/c Ratio	1.72	0.13		1.29		0.55	1.57
Control Delay	352.3	10.2		161.2		40.0	283.0
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	352.3	10.2		161.2		40.0	283.0
Queue Length 50th (ft)	~767	70		~791		190	~1051
Queue Length 95th (ft)	#1003	m56		#861		282	#1202
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	380	3022		1702		531	1280
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.72	0.13		1.29		0.55	1.57

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	600	370	0	1730	290	270	1850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4928		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4928		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	402	0	1880	315	293	2011
RTOR Reduction (vph)	0	0	0	19	0	0	456
Lane Group Flow (vph)	652	402	0	2176	0	293	1555
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	380	3022		1684		531	825
v/s Ratio Prot	c0.37	0.08		c0.44		0.17	
v/s Ratio Perm							c0.57
v/c Ratio	1.72	0.13		1.29		0.55	1.89
Uniform Delay, d1	47.0	10.4		39.5		35.2	42.0
Progression Factor	0.49	0.97		0.71		1.00	1.00
Incremental Delay, d2	329.8	0.1		135.4		0.7	402.9
Delay (s)	352.9	10.2		163.3		35.9	444.9
Level of Service	F	B		F		D	F
Approach Delay (s)		222.2		163.3		392.9	
Approach LOS		F		F		F	

Intersection Summary				
HCM Average Control Delay	269.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	114.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	770	710	2460	410	280
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	710	2460	410	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1085	0	755	2617	436	298
v/c Ratio	0.15	0.77		1.06	0.73	0.75	0.58
Control Delay	59.2	37.7		58.1	9.4	36.4	5.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	59.2	37.7		58.1	9.4	36.4	5.5
Queue Length 50th (ft)	8	137		~654	291	74	1
Queue Length 95th (ft)	m25	m#224		m249	m218	105	16
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1404		715	3593	765	584
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	0.77		1.06	0.73	0.57	0.51

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	710	2460	410	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4851		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4851		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	819	266	755	2617	436	298
RTOR Reduction (vph)	0	47	0	0	0	0	247
Lane Group Flow (vph)	11	1038	0	755	2617	436	51
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	29.6		53.0	81.6	20.4	20.4
Effective Green, g (s)	1.0	29.6		53.0	81.6	20.4	20.4
Actuated g/C Ratio	0.01	0.25		0.44	0.68	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1197		774	3424	578	267
v/s Ratio Prot	0.01	c0.21		c0.43	0.52	c0.13	
v/s Ratio Perm							0.03
v/c Ratio	0.73	0.87		0.98	0.76	0.75	0.19
Uniform Delay, d1	59.4	43.3		32.9	12.8	47.4	42.7
Progression Factor	0.99	0.88		0.80	0.78	0.61	0.31
Incremental Delay, d2	88.3	8.0		5.3	0.2	4.2	0.1
Delay (s)	147.2	46.1		31.5	10.1	33.3	13.4
Level of Service	F	D		C	B	C	B
Approach Delay (s)		47.1			14.9	25.2	
Approach LOS		D			B	C	

Intersection Summary

HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	290	120	240	790	10	1980
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	790	10	1980	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	322	133	267	878	11	3056	0
v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.02	
Control Delay	89.2	14.5	96.4	3.5	60.5	33.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.2	14.5	96.4	3.5	60.5	33.9	
Queue Length 50th (ft)	129	0	217	43	9	~452	
Queue Length 95th (ft)	#219	60	#384	83	m13	#207	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	278	277	3995	60	2993	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.02	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	790	10	1980	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4824	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4824	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	322	133	267	878	11	2200	856
RTOR Reduction (vph)	0	120	0	0	0	58	0
Lane Group Flow (vph)	322	13	267	878	11	2998	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Effective Green, g (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Actuated g/C Ratio	0.10	0.10	0.16	0.76	0.01	0.61	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	277	3827	12	2935	
v/s Ratio Prot	c0.09		c0.15	0.17	0.01	c0.62	
v/s Ratio Perm		0.01					
v/c Ratio	0.94	0.08	0.96	0.23	0.92	1.02	
Uniform Delay, d1	53.6	49.0	50.2	4.2	59.6	23.5	
Progression Factor	1.00	1.00	1.09	1.00	0.98	0.58	
Incremental Delay, d2	32.3	0.1	40.2	0.1	172.5	19.6	
Delay (s)	86.0	49.1	94.6	4.3	231.0	33.3	
Level of Service	F	D	F	A	F	C	
Approach Delay (s)	75.2			25.4		34.0	
Approach LOS	E			C		C	

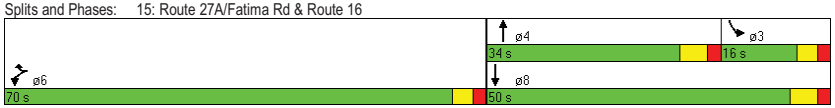
Intersection Summary				
HCM Average Control Delay	35.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	650	260	570	80	1080
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	260	570	200	80	1080
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	774	310	917	0	95	1286
v/c Ratio	0.88	0.33	0.65		0.59	0.62
Control Delay	36.2	1.8	29.5		47.7	17.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.2	1.8	29.5		47.7	17.0
Queue Length 50th (ft)	570	12	223		67	190
Queue Length 95th (ft)	611	6	m259		m81	m217
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	989	1405		161	2082
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.81	0.31	0.65		0.59	0.62

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	260	570	200	80	1080
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4840		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4840		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	774	310	679	238	95	1286
RTOR Reduction (vph)	0	145	50	0	0	0
Lane Group Flow (vph)	774	165	867	0	95	1286
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	59.4	59.4	33.6		11.0	49.6
Effective Green, g (s)	59.4	59.4	33.6		11.0	49.6
Actuated g/C Ratio	0.49	0.49	0.28		0.09	0.41
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	876	784	1355		161	2082
v/s Ratio Prot	c0.44	0.10	0.18		0.05	c0.26
v/s Ratio Perm						
v/c Ratio	0.88	0.21	0.64		0.59	0.62
Uniform Delay, d1	27.2	17.1	37.9		52.3	27.7
Progression Factor	0.88	0.40	0.76		0.71	0.56
Incremental Delay, d2	10.1	0.0	2.0		2.6	0.9
Delay (s)	34.0	6.9	30.6		39.5	16.4
Level of Service	C	A	C		D	B
Approach Delay (s)	26.3		30.6			17.9
Approach LOS	C		C			B

Intersection Summary				
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

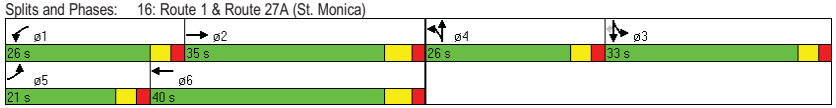
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	140	470	150	1070	120	120	30	230	460
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	470	90	150	1070	10	120	120	100	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	615	0	165	1187	0	132	242	0	33	253	505
v/c Ratio	0.77	0.33		0.73	0.61		0.50	0.85		0.11	0.78	0.84
Control Delay	83.9	9.0		85.4	22.7		68.4	82.0		39.8	63.5	23.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	83.9	9.0		85.4	22.7		68.4	82.0		39.8	63.5	23.6
Queue Length 50th (ft)	99	72		131	134		107	179		22	190	79
Queue Length 95th (ft)	#184	109		m207	m247		m169	#277		48	263	211
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	234	1850		307	1947		310	329		413	435	674
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.33		0.54	0.61		0.43	0.74		0.08	0.58	0.75

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

16: Route 1 & Route 27A (St. Monica)

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	470	90	150	1070	10	120	120	100	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4914		1752	5029		1770	1736		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4914		1752	5029		1770	1736		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	154	516	99	165	1176	11	132	132	110	33	253	505
RTOR Reduction (vph)	0	19	0	0	1	0	0	26	0	0	0	328
Lane Group Flow (vph)	154	596	0	165	1186	0	132	217	0	33	253	177
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	44.6		15.5	46.4		18.0	18.0		20.9	20.9	20.9
Effective Green, g (s)	13.7	44.6		15.5	46.4		18.0	18.0		20.9	20.9	20.9
Actuated g/C Ratio	0.11	0.37		0.13	0.39		0.15	0.15		0.17	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	200	1826		226	1945		266	260		308	324	276
v/s Ratio Prot	0.09	0.12		c0.09	c0.24		0.07	c0.12		0.02	c0.14	
v/s Ratio Perm												0.11
v/c Ratio	0.77	0.33		0.73	0.61		0.50	0.83		0.11	0.78	0.64
Uniform Delay, d1	51.6	27.0		50.2	29.5		46.8	49.5		41.7	47.4	46.1
Progression Factor	1.17	0.30		1.40	0.67		1.36	1.40		1.00	1.00	1.00
Incremental Delay, d2	14.9	0.5		8.4	1.2		0.4	16.3		0.1	10.7	3.8
Delay (s)	75.5	8.6		78.8	21.1		64.2	85.7		41.8	58.1	49.9
Level of Service	E	A		E	C		E	F		D	E	D
Approach Delay (s)		22.0			28.2			78.1			52.1	
Approach LOS		C			C			E			D	

Intersection Summary				
HCM Average Control Delay	38.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	69.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

17: Route 27A & Route 28

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	40	150	20	30	10	60	190	20	20	240	130
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	45	170	23	34	11	68	216	23	23	273	148

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	80	216	68	68	239	295	148
Volume Left (vph)	80	0	23	68	0	23	0
Volume Right (vph)	0	170	11	0	23	0	148
Hadj (s)	0.53	-0.52	0.00	0.53	-0.03	0.07	-0.67
Departure Headway (s)	7.1	6.1	6.9	6.8	6.2	6.2	5.4
Degree Utilization, x	0.16	0.36	0.13	0.13	0.41	0.51	0.22
Capacity (veh/h)	472	556	465	502	551	561	630
Control Delay (s)	10.2	11.3	11.0	9.6	12.3	14.2	8.8
Approach Delay (s)	11.0		11.0	11.7		12.4	
Approach LOS	B		B	B		B	

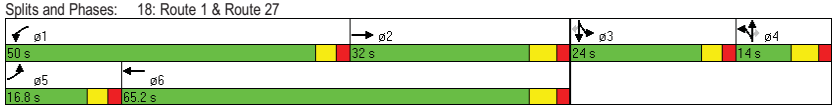
Intersection Summary					
Delay	11.7				
HCM Level of Service	B				
Intersection Capacity Utilization	53.0%	ICU Level of Service		A	
Analysis Period (min)	15				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	70	590	900	1310	100	150	690	300	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	900	1310	30	100	150	690	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	728	0	978	1457	0	109	163	750	0	369	43
v/c Ratio	0.57	0.67		1.49	0.54		0.92	1.31	0.85		1.26	0.17
Control Delay	87.2	33.4		256.3	12.8		65.1	188.1	14.4		183.0	35.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.2	33.4		256.3	12.8		65.1	188.1	14.4		183.0	35.8
Queue Length 50th (ft)	62	183		~1046	181		87	~164	102		~358	21
Queue Length 95th (ft)	m110	235		m#1251	m232		m#120	m#203	m81		#550	56
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	172	1085		657	2675		118	124	883		293	257
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.44	0.67		1.49	0.54		0.92	1.31	0.85		1.26	0.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	900	1310	30	100	150	690	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	641	87	978	1424	33	109	163	750	43	326	43
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	700	0	0	10
Lane Group Flow (vph)	76	713	0	978	1455	0	109	163	50	0	369	33
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.07	0.22		0.38	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	118	1070		657	2631		118	124	183		293	247
v/s Ratio Prot	0.04	c0.14		c0.56	0.29		0.06	c0.09			c0.20	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.64	0.67		1.49	0.55		0.92	1.31	0.27		1.26	0.13
Uniform Delay, d1	54.5	43.0		37.5	19.1		55.7	56.0	53.2		50.5	43.4
Progression Factor	1.35	0.72		1.00	0.63		0.93	0.93	3.97		1.00	1.00
Incremental Delay, d2	8.4	3.2		226.1	0.6		10.8	146.8	0.0		141.4	0.1
Delay (s)	82.2	34.0		263.6	12.7		62.5	199.0	211.5		191.9	43.5
Level of Service	F	C		F	B		E	F	F		F	D
Approach Delay (s)		38.5			113.5			193.6			176.4	
Approach LOS		D			F			F			F	

Intersection Summary				
HCM Average Control Delay	123.6	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.21			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	115.9%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	900	640	1810	550	370
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	900	370	640	1810	550	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1351	0	681	1926	585	394
v/c Ratio	0.18	0.95		0.99	0.54	0.97	0.65
Control Delay	78.4	34.3		33.1	2.3	80.2	10.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	78.4	34.3		33.1	2.3	80.2	10.0
Queue Length 50th (ft)	9	177		551	55	235	0
Queue Length 95th (ft)	m11	m#419		m537	m58	#351	93
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1426		686	3575	601	602
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.18	0.95		0.99	0.54	0.97	0.65

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	900	370	640	1810	550	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4816		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4816		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	957	394	681	1926	585	394
RTOR Reduction (vph)	0	65	0	0	0	0	325
Lane Group Flow (vph)	11	1287	0	681	1926	585	69
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	30.0		51.0	81.2	21.0	21.0
Effective Green, g (s)	0.8	30.0		51.0	81.2	21.0	21.0
Actuated g/C Ratio	0.01	0.25		0.42	0.68	0.18	0.18
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1204		745	3408	601	277
v/s Ratio Prot	0.01	c0.27		c0.39	0.38	c0.17	
v/s Ratio Perm							0.04
v/c Ratio	0.92	1.07		0.91	0.57	0.97	0.25
Uniform Delay, d1	59.6	45.0		32.4	10.2	49.2	42.7
Progression Factor	1.31	0.60		0.61	0.27	1.00	1.00
Incremental Delay, d2	158.4	41.3		1.9	0.1	29.7	0.2
Delay (s)	236.3	68.4		21.7	2.8	79.0	42.9
Level of Service	F	E		C	A	E	D
Approach Delay (s)		69.8			7.7	64.4	
Approach LOS		E			A	E	

Intersection Summary

HCM Average Control Delay	36.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	200	960	20	2010	50	10	30	390
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	960	0	20	2010	110	50	50	10	170	30	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	1011	0	21	2232	0	0	106	11	0	211	411
v/c Ratio	1.07	0.36		0.24	1.02			0.81	0.09		0.99	1.12
Control Delay	122.0	4.4		65.8	46.4			95.0	26.6		110.4	109.1
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	122.0	4.4		65.8	46.4			95.0	26.6		110.4	109.1
Queue Length 50th (ft)	~187	37		17	~679			82	0		165	~222
Queue Length 95th (ft)	m#247	m49		m24	#763			#179	19		#324	#425
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2780		92	2193			136	129		214	366
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.07	0.36		0.23	1.02			0.78	0.09		0.99	1.12

Intersection Summary

Area Type: CBD
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	960	0	20	2010	110	50	50	10	170	30	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4497			1636	1425		1608	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4497			1636	1425		1608	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	1011	0	21	2116	116	53	53	11	179	32	411
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	176
Lane Group Flow (vph)	211	1011	0	21	2227	0	0	106	1	0	211	235
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	197	2666		37	2189			131	114		214	190
v/s Ratio Prot	c0.13	0.22		0.01	c0.50			c0.06			0.13	
v/s Ratio Perm									0.00			c0.16
v/c Ratio	1.07	0.38		0.57	1.02			0.81	0.01		0.99	1.24
Uniform Delay, d1	52.5	13.1		58.0	30.8			54.3	50.8		51.9	52.0
Progression Factor	1.19	0.34		1.12	0.79			1.00	1.00		1.00	1.00
Incremental Delay, d2	64.6	0.2		8.7	21.3			28.1	0.0		56.9	143.5
Delay (s)	127.1	4.7		73.4	45.5			82.4	50.8		108.8	195.5
Level of Service	F	A		E	D			F	D		F	F
Approach Delay (s)		25.8			45.7			79.4			166.1	
Approach LOS		C			D			E			F	

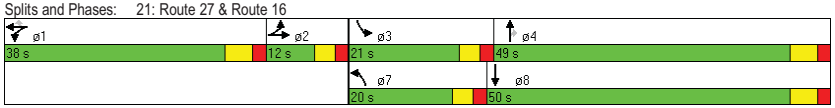
Intersection Summary				
HCM Average Control Delay	58.7	HCM Level of Service		E
HCM Volume to Capacity ratio	1.04			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	92.7%	ICU Level of Service		F
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	310	730	780	210	590	530	480	160	1240
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	730	780	210	590	530	480	160	1240	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		3085			2934			862			2992	
Travel Time (s)		70.1			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	724	0	839	897	241	678	609	552	184	1597	0
v/c Ratio	1.12	2.09		0.92	1.80	0.47	3.10	0.47	0.60	0.85	0.87	
Control Delay	164.9	520.4		42.2	390.8	13.6	973.7	30.8	5.2	78.3	35.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	164.9	520.4		42.2	390.8	13.6	973.7	30.8	5.2	78.3	35.5	
Queue Length 50th (ft)	~101	~401		342	~1066	73	~916	191	0	142	285	
Queue Length 95th (ft)	#211	#500		m290	m#844	m62	#1103	236	60	m#221	359	
Internal Link Dist (ft)		3005			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	346		915	497	511	219	1290	926	234	1830	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.12	2.09		0.92	1.80	0.47	3.10	0.47	0.60	0.79	0.87	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	730	780	210	590	530	480	160	1240	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4955	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4955	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	115	356	368	839	897	241	678	609	552	184	1425	172
RTOR Reduction (vph)	0	155	0	0	0	89	0	0	349	0	13	0
Lane Group Flow (vph)	115	569	0	839	897	152	678	609	203	184	1584	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	44.2	44.2	14.8	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	44.2	44.2	14.8	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.37	0.37	0.12	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	191		915	497	422	219	1291	578	216	1817	
v/s Ratio Prot	0.06	c0.17		0.24	c0.48		c0.39	0.17		0.10	c0.32	
v/s Ratio Perm						0.10			0.13			
v/c Ratio	1.12	2.98		0.92	1.80	0.36	3.10	0.47	0.35	0.85	0.87	
Uniform Delay, d1	56.5	56.5		42.7	44.0	35.7	52.5	29.0	27.5	51.5	35.4	
Progression Factor	0.81	0.68		0.85	0.86	0.70	1.00	1.00	1.00	1.05	0.88	
Incremental Delay, d2	121.0	902.9		4.5	364.4	0.1	955.1	1.2	1.7	19.4	4.5	
Delay (s)	166.7	941.0		40.8	402.2	25.0	1007.6	30.2	29.2	73.4	35.6	
Level of Service	F	F		D	F	C	F	C	C	E	D	
Approach Delay (s)		834.9			202.8			390.3			39.5	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	293.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	124.9%	ICU Level of Service	H
Analysis Period (min)	15		

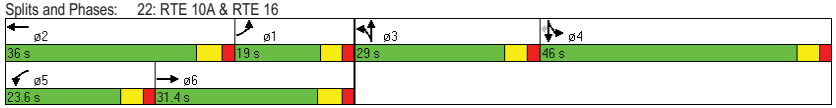
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	370	190	260	100	1010	740	10	10	960
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	15.5	15.5	15.5	15.5
Total Split (s)	19.0	31.4	0.0	23.6	36.0	29.0	29.0	46.0	46.0
Total Split (%)	14.6%	24.2%	0.0%	18.2%	27.7%	22.3%	22.3%	35.4%	35.4%
Maximum Green (s)	13.5	25.4		18.1	30.0	23.5	23.5	40.5	40.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Minimum Gap (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		5			5	5	5	5	5

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 131
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	190	260	100	1010	20	740	10	20	10	10	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1270			779			868			1242	
Travel Time (s)		24.7			15.2			16.9			24.2	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	457	235	321	123	1272	0	475	476	0	0	24	1185
v/c Ratio	1.26	0.30	0.20	0.63	1.57		1.55	1.55			0.04	1.83
Control Delay	184.6	44.4	0.3	70.0	298.0		297.0	296.1			32.7	405.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	184.6	44.4	0.3	70.0	298.0		297.0	296.1			32.7	405.2
Queue Length 50th (ft)	~251	87	0	100	~802		~597	~602			14	~1376
Queue Length 95th (ft)	#306	120	0	151	#854		#706	#710			34	#1464
Internal Link Dist (ft)		1190			699			788			1162	
Turn Bay Length (ft)	350		450	350								
Base Capacity (vph)	362	793	1583	244	809		307	308			557	646
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.26	0.30	0.20	0.50	1.57		1.55	1.55			0.04	1.83

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	190	260	100	1010	20	740	10	20	10	10	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.98	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3529		1665	1662			1800	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.98	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3529		1665	1662			1800	1568
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	457	235	321	123	1247	25	914	12	25	12	12	1185
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	0	161
Lane Group Flow (vph)	457	235	321	123	1271	0	475	474	0	0	24	1024
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Effective Green, g (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Actuated g/C Ratio	0.11	0.22	1.00	0.11	0.23		0.18	0.18			0.31	0.31
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	3.5	4.0		3.5	4.0		3.5	3.5			3.5	3.5
Lane Grp Cap (vph)	364	794	1583	196	808		307	307			556	484
v/s Ratio Prot	c0.13	0.07		0.07	c0.36		0.29	c0.29			0.01	
v/s Ratio Perm			0.20									c0.65
v/c Ratio	1.26	0.30	0.20	0.63	1.57		1.55	1.55			0.04	2.12
Uniform Delay, d1	58.6	42.3	0.0	55.7	50.5		53.4	53.4			31.7	45.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	135.6	0.3	0.3	6.4	264.0		261.8	261.0			0.0	509.0
Delay (s)	194.2	42.5	0.3	62.2	314.5		315.3	314.4			31.8	554.3
Level of Service	F	D	A	E	F		F	F			C	F
Approach Delay (s)		97.6			292.3			314.8			543.9	
Approach LOS		F			F			F			F	

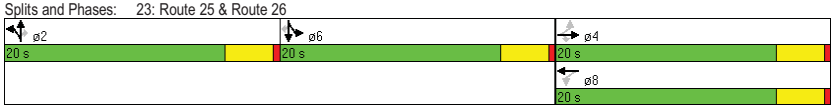
Intersection Summary					
HCM Average Control Delay	320.4	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.73				
Actuated Cycle Length (s)	131.1	Sum of lost time (s)		22.5	
Intersection Capacity Utilization	123.5%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	90	10	150	10	10	440	450	10	20	380	510
Turn Type	Perm		Perm	Perm		Split		Perm	Split		Perm
Protected Phases		4			8	2	2		6	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 51.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	10	150	10	10	60	440	450	10	20	380	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		636			405			396			486	
Travel Time (s)		12.4			7.9			7.7			9.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	170	0	90	0	500	511	11	23	432	580
v/c Ratio		0.43	0.41		0.28		0.89	0.86	0.02	0.04	0.73	0.65
Control Delay		24.9	7.3		10.2		41.6	37.6	9.9	14.8	27.5	6.3
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.9	7.3		10.2		41.6	37.6	9.9	14.8	27.5	6.3
Queue Length 50th (ft)		32	0		6		149	151	1	5	121	4
Queue Length 95th (ft)		68	37		34		#335	#335	10	19	#268	64
Internal Link Dist (ft)		556			325			316			406	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		487	619		552		562	592	509	562	592	887
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.23	0.27		0.16		0.89	0.86	0.02	0.04	0.73	0.65

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	10	150	10	10	60	440	450	10	20	380	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1782	1583		1663		1770	1863	1583	1770	1863	1583
Flt Permitted		0.82	1.00		0.95		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1533	1583		1591		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	11	170	11	11	68	500	511	11	23	432	580
RTOR Reduction (vph)	0	0	146	0	58	0	0	0	6	0	0	387
Lane Group Flow (vph)	0	113	24	0	32	0	500	511	5	23	432	193
Turn Type	Perm		Perm	Perm			Split		Perm	Split		Perm
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)		7.5	7.5		7.5		16.3	16.3	16.3	16.3	16.3	16.3
Effective Green, g (s)		7.5	7.5		7.5		16.3	16.3	16.3	16.3	16.3	16.3
Actuated g/C Ratio		0.14	0.14		0.14		0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		221	228		229		554	583	495	554	583	495
v/s Ratio Prot							c0.28	0.27		0.01	c0.23	
v/s Ratio Perm		c0.07	0.02		0.02				0.00			0.12
v/c Ratio		0.51	0.11		0.14		0.90	0.88	0.01	0.04	0.74	0.39
Uniform Delay, d1		20.6	19.4		19.5		17.1	16.9	12.3	12.5	16.0	14.0
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.8	0.1		0.1		20.5	16.8	0.0	0.1	8.2	2.3
Delay (s)		21.4	19.5		19.6		37.6	33.8	12.4	12.6	24.3	16.3
Level of Service		C	B		B		D	C	B	B	C	B
Approach Delay (s)		20.3			19.6			35.4			19.6	
Approach LOS		C			B			D			B	

Intersection Summary			
HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	52.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	10	340	10	10	10	250	300	10	20	420	270
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	151	12	395	12	12	12	291	349	12	23	488	314
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1483	1477	488	1471	1465	349	488			360		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1483	1477	488	1471	1465	349	488			360		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	87	32	51	87	98	73			98		
cM capacity (veh/h)	72	90	579	24	91	694	1070			1187		

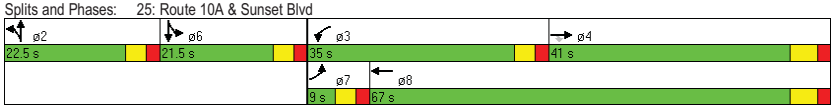
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	151	407	35	291	349	12	23	488	314
Volume Left	151	0	12	291	0	0	23	0	0
Volume Right	0	395	12	0	0	12	0	0	314
cSH	72	597	55	1070	1700	1700	1187	1700	1700
Volume to Capacity	2.11	0.68	0.64	0.27	0.21	0.01	0.02	0.29	0.18
Queue Length 95th (ft)	350	132	65	28	0	0	1	0	0
Control Delay (s)	635.4	24.3	148.8	9.6	0.0	0.0	8.1	0.0	0.0
Lane LOS	F	C	F	A			A		
Approach Delay (s)	189.8		148.8	4.3			0.2		
Approach LOS	F		F						

Intersection Summary					
Average Delay		55.1			
Intersection Capacity Utilization		59.8%	ICU Level of Service		B
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	650	10	310	2150	20	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	41.0	41.0	35.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	34.2%	34.2%	29.2%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	35.0	35.0	30.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 102.4
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	650	10	310	2150	50	20	10	100	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			892			650			525	
Travel Time (s)		26.3			20.3			14.8			11.9	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	783	12	373	2650	0	24	132	0	0	48	0
v/c Ratio	0.17	0.67	0.02	0.86	0.86		0.08	0.35			0.38	
Control Delay	57.1	34.4	13.4	57.5	21.3		39.8	12.4			46.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	57.1	34.4	13.4	57.5	21.3		39.8	12.4			46.8	
Queue Length 50th (ft)	8	242	0	223	481		13	7			23	
Queue Length 95th (ft)	27	303	13	332	626		37	51			58	
Internal Link Dist (ft)		1075			812			570			445	
Turn Bay Length (ft)	180		180	420								
Base Capacity (vph)	69	1249	567	522	3096		304	376			295	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	0.63	0.02	0.71	0.86		0.08	0.35			0.16	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	650	10	310	2150	50	20	10	100	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3539	1583	1770	5068		1770	1609			1756	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	1770	3539	1583	1770	5068		1770	1609			1756	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	12	783	12	373	2590	60	24	12	120	24	12	12
RTOR Reduction (vph)	0	0	8	0	2	0	0	100	0	0	11	0
Lane Group Flow (vph)	12	783	4	373	2648	0	24	32	0	0	37	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.7	38.2	38.2	25.0	62.5		17.6	17.6			5.7	
Effective Green, g (s)	0.7	38.2	38.2	25.0	62.5		17.6	17.6			5.7	
Actuated g/C Ratio	0.01	0.36	0.36	0.23	0.58		0.16	0.16			0.05	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1258	563	412	2947		290	263			93	
v/s Ratio Prot	0.01	0.22		c0.21	c0.52		0.01	c0.02			c0.02	
v/s Ratio Perm			0.00									
v/c Ratio	1.00	0.62	0.01	0.91	0.90		0.08	0.12			0.39	
Uniform Delay, d1	53.4	28.7	22.4	40.1	19.7		38.1	38.3			49.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	259.8	0.7	0.0	22.4	4.0		0.6	0.9			1.0	
Delay (s)	313.2	29.4	22.4	62.5	23.7		38.7	39.3			50.2	
Level of Service	F	C	C	E	C		D	D			D	
Approach Delay (s)		33.5			28.5			39.2			50.2	
Approach LOS		C			C			D			D	

Intersection Summary					
HCM Average Control Delay	30.2	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.69				
Actuated Cycle Length (s)	107.5	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	68.2%	ICU Level of Service		C	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	250	1000	130	1640	120	40	90	360	30	150
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	39.0	12.0	33.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	24.0	63.0	22.0	61.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (%)	20.0%	52.5%	18.3%	50.8%	12.5%	12.5%	12.5%	16.7%	16.7%	16.7%
Maximum Green (s)	19.0	57.0	17.0	55.0	10.0	10.0	10.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1000	270	130	1640	420	120	40	90	360	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	150		150	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3056			1501			676			669	
Travel Time (s)		59.5			29.2			18.4			18.2	
Confl. Peds. (#/hr)						1			160			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							34%			46%		
Lane Group Flow (vph)	272	1380	0	141	2240	0	86	87	98	211	213	163
v/c Ratio	0.98	0.54		0.72	0.97		0.68	0.67	0.53	1.00	1.00	0.48
Control Delay	62.6	16.4		70.7	25.1		80.5	78.7	20.9	116.0	115.7	12.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.6	16.4		70.7	25.1		80.5	78.7	20.9	116.0	115.7	12.3
Queue Length 50th (ft)	222	177		113	324		69	69	0	~175	~176	0
Queue Length 95th (ft)	m211	m172		m132	#722		#141	#138	54	#344	#346	63
Internal Link Dist (ft)		2976			1421			596			589	
Turn Bay Length (ft)	630			350			150		150	360		250
Base Capacity (vph)	277	2538		248	2310		140	144	196	210	212	341
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.54		0.57	0.97		0.61	0.60	0.50	1.00	1.00	0.48

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

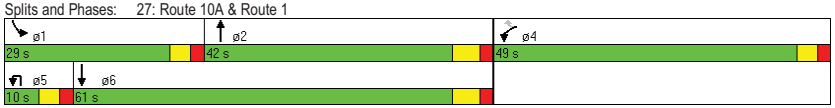
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1000	270	130	1640	420	120	40	90	360	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.81	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4876		1752	4869		1681	1726	1276	1681	1698	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4876		1752	4869		1681	1726	1276	1681	1698	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	1087	293	141	1783	457	130	43	98	391	33	163
RTOR Reduction (vph)	0	38	0	0	37	0	0	0	91	0	0	143
Lane Group Flow (vph)	272	1342	0	141	2203	0	86	87	7	211	213	20
Confl. Peds. (#/hr)						1			160			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Effective Green, g (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Actuated g/C Ratio	0.16	0.51		0.11	0.47		0.08	0.08	0.08	0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	277	2499		197	2272		126	129	96	210	212	198
v/s Ratio Prot	c0.16	0.28		0.08	c0.45		c0.05	0.05		c0.13	0.13	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.98	0.54		0.72	0.97		0.68	0.67	0.08	1.00	1.00	0.10
Uniform Delay, d1	50.3	19.7		51.4	31.2		54.1	54.1	51.6	52.5	52.5	46.5
Progression Factor	0.98	0.85		1.17	0.52		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	0.1		5.2	8.1		11.5	10.4	0.1	63.3	63.0	0.1
Delay (s)	61.7	16.8		65.5	24.4		65.6	64.5	51.8	115.8	115.5	46.6
Level of Service	E	B		E	C		E	E	D	F	F	D
Approach Delay (s)		24.2			26.9			60.2			96.5	
Approach LOS		C			C			E			F	

Intersection Summary				
HCM Average Control Delay	36.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	94.0%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1160	710	20	1010	330	1490
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	35.0	35.0	9.0	33.0	12.0	22.0
Total Split (s)	49.0	49.0	10.0	42.0	29.0	61.0
Total Split (%)	40.8%	40.8%	8.3%	35.0%	24.2%	50.8%
Maximum Green (s)	44.0	44.0	5.0	36.0	24.0	55.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		5		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 76 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1160	710	20	1010	450	330	1490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1896			1896			3056
Travel Time (s)	36.9			36.9			59.5
Confl. Peds. (#/hr)					11		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1303	798	22	1641	0	371	1674
v/c Ratio	1.03	0.97	0.30	1.10		1.06	0.68
Control Delay	72.4	45.5	73.7	71.5		96.9	8.1
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	72.4	45.5	73.7	71.5		96.9	8.1
Queue Length 50th (ft)	~559	378	16	~476		~306	199
Queue Length 95th (ft)	#680	#651	m40	m#549		m#349	m224
Internal Link Dist (ft)	1816			1816			2976
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	1259	821	75	1496		350	2476
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.97	0.29	1.10		1.06	0.68

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1160	710	20	1010	450	330	1490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	0.95		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4763		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4763		1752	5036
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1303	798	22	1135	506	371	1674
RTOR Reduction (vph)	0	241	0	67	0	0	0
Lane Group Flow (vph)	1303	557	22	1574	0	371	1674
Confl. Peds. (#/hr)					11		
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	44.0	44.0	3.0	36.0		24.0	57.0
Effective Green, g (s)	44.0	44.0	3.0	36.0		24.0	57.0
Actuated g/C Ratio	0.37	0.37	0.02	0.30		0.20	0.48
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1259	580	45	1429		350	2392
v/s Ratio Prot	c0.38		0.01	c0.33		c0.21	0.33
v/s Ratio Perm		0.35					
v/c Ratio	1.03	0.96	0.49	1.10		1.06	0.70
Uniform Delay, d1	38.0	37.2	57.7	42.0		48.0	24.8
Progression Factor	1.00	1.00	1.15	0.40		1.08	0.31
Incremental Delay, d2	34.8	27.6	2.6	55.3		47.6	0.7
Delay (s)	72.8	64.7	69.2	71.9		99.5	8.4
Level of Service	E	E	E	E		F	A
Approach Delay (s)	69.8			71.9			24.9
Approach LOS	E			E			C

Intersection Summary

HCM Average Control Delay	54.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	260	1260	10	1990	340	210
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	20.0	20.0
Total Split (s)	24.0	81.0	9.0	66.0	30.0	30.0
Total Split (%)	20.0%	67.5%	7.5%	55.0%	25.0%	25.0%
Maximum Green (s)	19.0	75.0	4.0	60.0	25.0	25.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 90 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1260	10	1990	320	340	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2658		1896		2759	
Travel Time (s)		51.8		36.9		75.2	
Confl. Peds. (#/hr)					4		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	286	1385	11	2539	0	374	231
v/c Ratio	1.03	0.40	0.18	1.03		1.01	0.55
Control Delay	80.7	13.2	51.8	43.9		97.8	25.9
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	80.7	13.2	51.8	43.9		97.8	25.9
Queue Length 50th (ft)	~208	255	8	~761		~299	77
Queue Length 95th (ft)	m#328	m386	m10	m#783		#498	161
Internal Link Dist (ft)		2578		1816		2679	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	277	3450	60	2473		369	422
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.40	0.18	1.03		1.01	0.55

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

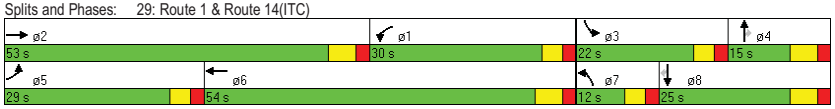
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1260	10	1990	320	340	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4909		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4909		1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	286	1385	11	2187	352	374	231
RTOR Reduction (vph)	0	0	0	19	0	0	93
Lane Group Flow (vph)	286	1385	11	2521	0	374	138
Confl. Peds. (#/hr)					4		
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	19.0	78.2	0.8	60.0		25.0	25.0
Effective Green, g (s)	19.0	78.2	0.8	60.0		25.0	25.0
Actuated g/C Ratio	0.16	0.65	0.01	0.50		0.21	0.21
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	277	3282	12	2455		369	330
v/s Ratio Prot	c0.16	0.28	c0.01	c0.51		c0.21	0.09
v/s Ratio Perm							
v/c Ratio	1.03	0.42	0.92	1.03		1.01	0.42
Uniform Delay, d1	50.5	10.0	59.6	30.0		47.5	41.2
Progression Factor	0.59	1.51	0.85	0.76		1.00	1.00
Incremental Delay, d2	48.3	0.2	148.6	20.7		50.3	0.3
Delay (s)	78.1	15.4	199.1	43.4		97.8	41.5
Level of Service	E	B	F	D		F	D
Approach Delay (s)		26.1		44.1		76.3	
Approach LOS		C		D		E	

Intersection Summary				
HCM Average Control Delay	41.9	HCM Level of Service		D
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	92.2%	ICU Level of Service		F
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	380	970	190	1340	60	140	70	470	110	420
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	15.0	15.0	12.0	18.0	18.0
Total Split (s)	29.0	53.0	30.0	54.0	12.0	15.0	15.0	22.0	25.0	25.0
Total Split (%)	24.2%	44.2%	25.0%	45.0%	10.0%	12.5%	12.5%	18.3%	20.8%	20.8%
Maximum Green (s)	24.0	47.0	25.0	48.0	7.0	9.0	9.0	17.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	970	140	190	1340	560	60	140	70	470	110	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		2690			2658			634			1131	
Travel Time (s)		52.4			51.8			14.4			25.7	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	458	1338	0	229	2289	0	72	169	84	566	133	506
v/c Ratio	1.31	0.74		0.55	1.14		0.40	0.67	0.44	1.16	0.40	0.85
Control Delay	186.4	20.4		22.0	81.4		61.2	67.6	18.7	139.9	49.3	27.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	186.4	20.4		22.0	81.4		61.2	67.6	18.7	139.9	49.3	27.4
Queue Length 50th (ft)	~447	347		133	~731		28	67	0	~268	94	97
Queue Length 95th (ft)	#573	104		m142	m#698		48	97	42	#335	145	#219
Internal Link Dist (ft)		2610			2578			554			1051	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1951		418	2005		200	265	195	486	329	594
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.69		0.55	1.14		0.36	0.64	0.43	1.16	0.40	0.85

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	970	140	190	1340	560	60	140	70	470	110	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4941		1752	4813		3433	3539	1562	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4941		1752	4813		3433	3539	1562	3433	1863	1583
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	458	1169	169	229	1614	675	72	169	84	566	133	506
RTOR Reduction (vph)	0	17	0	0	64	0	0	0	77	0	0	315
Lane Group Flow (vph)	458	1321	0	229	2225	0	72	169	7	566	133	191
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	24.0	42.8		28.6	47.4		5.4	9.6	9.6	17.0	21.2	21.2
Effective Green, g (s)	24.0	42.8		28.6	47.4		5.4	9.6	9.6	17.0	21.2	21.2
Actuated g/C Ratio	0.20	0.36		0.24	0.39		0.05	0.08	0.08	0.14	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1762		418	1901		154	283	125	486	329	280
v/s Ratio Prot	c0.26	0.27		0.13	c0.46		0.02	0.05		c0.16	0.07	
v/s Ratio Perm									0.00			c0.12
v/c Ratio	1.31	0.75		0.55	1.17		0.47	0.60	0.05	1.16	0.40	0.68
Uniform Delay, d1	48.0	33.9		40.0	36.3		55.9	53.3	51.0	51.5	43.8	46.3
Progression Factor	0.71	0.56		0.48	0.32		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	155.4	2.5		0.3	78.9		0.8	2.3	0.1	94.6	0.3	5.4
Delay (s)	189.5	21.6		19.6	90.6		56.7	55.6	51.1	146.1	44.1	51.7
Level of Service	F	C		B	F		E	E	D	F	D	D
Approach Delay (s)		64.4			84.1			54.7			95.2	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM Average Control Delay	78.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	470	1390	50	1640	50	130	10	510
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	20.0	12.0	12.0	12.0
Total Split (s)	36.0	70.0	14.0	48.0	20.0	16.0	16.0	16.0
Total Split (%)	30.0%	58.3%	11.7%	40.0%	16.7%	13.3%	13.3%	13.3%
Maximum Green (s)	31.0	64.0	9.0	42.0	15.0	11.0	11.0	11.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	10	10	10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1390	10	50	1640	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2690			238			2279	
Travel Time (s)		25.0			52.4			6.5			62.2	
Confl. Peds. (#/hr)												24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	553	1647	0	59	2047	0	0	95	0	83	82	600
v/c Ratio	1.22	0.55		0.53	1.05			0.59		0.54	0.53	1.02
Control Delay	146.7	14.3		60.8	43.1			64.2		65.7	64.9	53.3
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	146.7	14.3		60.8	43.1			64.2		65.7	64.9	53.3
Queue Length 50th (ft)	~518	342		48	~614			68		66	65	~118
Queue Length 95th (ft)	#679	395		m48	m#565			114		114	113	#279
Internal Link Dist (ft)		1204			2610			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	453	3018		131	1946			231		154	156	588
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.22	0.55		0.45	1.05			0.41		0.54	0.53	1.02

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1390	10	50	1640	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5030		1752	4992			1808		1681	1697	1503
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5030		1752	4992			1808		1681	1697	1503
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	553	1635	12	59	1929	118	24	59	12	153	12	600
RTOR Reduction (vph)	0	0	0	0	6	0	0	5	0	0	0	451
Lane Group Flow (vph)	553	1647	0	59	2041	0	0	90	0	83	82	149
Confl. Peds. (#/hr)												24
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Effective Green, g (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Actuated g/C Ratio	0.26	0.59		0.06	0.39			0.09		0.09	0.09	0.09
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	453	2972		98	1939			157		154	156	138
v/s Ratio Prot	c0.32	0.33		0.03	c0.41			c0.05		0.05	0.05	
v/s Ratio Perm												c0.10
v/c Ratio	1.22	0.55		0.60	1.05			0.58		0.54	0.53	1.08
Uniform Delay, d1	44.5	14.9		55.3	36.7			52.7		52.1	52.0	54.5
Progression Factor	0.83	0.89		1.09	0.41			1.00		1.00	1.00	1.00
Incremental Delay, d2	112.9	0.5		0.6	25.3			3.2		1.8	1.5	100.6
Delay (s)	149.6	13.7		61.0	40.4			55.8		53.9	53.5	155.1
Level of Service	F	B		E	D			E		D	D	F
Approach Delay (s)		47.9			40.9			55.8			133.2	
Approach LOS		D			D			E			F	

Intersection Summary				
HCM Average Control Delay	57.8	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	88.1%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1060	140	1360	40	240	10	160	10	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	10.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	12.0	62.0	22.0	72.0	72.0	21.0	21.0	21.0	15.0	15.0
Total Split (%)	10.0%	51.7%	18.3%	60.0%	60.0%	17.5%	17.5%	17.5%	12.5%	12.5%
Maximum Green (s)	7.0	56.0	17.0	66.0	66.0	16.0	16.0	16.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		17.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 6 (Easterly Adelup) &

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1060	340	140	1360	40	240	10	160	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		722			5590			835			321	
Travel Time (s)		14.1			108.9			19.0			10.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	11	1506	0	151	1462	43	134	135	172	0	22	11
v/c Ratio	0.14	0.53		0.74	0.58	0.04	0.73	0.73	0.53		0.24	0.12
Control Delay	58.5	16.7		89.0	1.2	0.1	73.5	73.3	13.2		60.2	28.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	58.5	16.7		89.0	1.2	0.1	73.5	73.3	13.2		60.2	28.9
Queue Length 50th (ft)	8	256		101	0	0	106	107	0		17	0
Queue Length 95th (ft)	28	341		m158	0	m0	175	177	64		44	20
Internal Link Dist (ft)		642			5510			755			241	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	102	2862		248	2524	1140	224	226	360		152	142
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.11	0.53		0.61	0.58	0.04	0.60	0.60	0.48		0.14	0.08

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1060	340	140	1360	40	240	10	160	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)	1752	4852		1752	3505	1568	1681	1692	1583		1817	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (perm)	1752	4852		1752	3505	1568	1681	1692	1583		1817	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	1140	366	151	1462	43	258	11	172	11	11	11
RTOR Reduction (vph)	0	39	0	0	0	13	0	0	153	0	0	11
Lane Group Flow (vph)	11	1467	0	151	1462	30	134	135	19	0	22	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Effective Green, g (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Actuated g/C Ratio	0.01	0.57		0.12	0.67	0.67	0.11	0.11	0.11		0.03	0.03
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	19	2745		203	2351	1052	184	185	173		62	54
v/s Ratio Prot	0.01	0.30		c0.09	c0.42		0.08	c0.08			c0.01	
v/s Ratio Perm						0.02			0.01			0.00
v/c Ratio	0.58	0.53		0.74	0.62	0.03	0.73	0.73	0.11		0.35	0.01
Uniform Delay, d1	59.1	16.2		51.3	11.2	6.6	51.7	51.7	48.2		56.7	56.0
Progression Factor	1.00	1.00		1.44	0.05	0.01	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	23.8	0.7		8.8	0.9	0.0	11.5	11.5	0.1		1.3	0.0
Delay (s)	82.9	17.0		82.5	1.4	0.1	63.2	63.3	48.3		57.9	56.0
Level of Service	F	B		F	A	A	E	E	D		E	E
Approach Delay (s)		17.4			8.8			57.4			57.3	
Approach LOS		B			A			E			E	

Intersection Summary			
HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

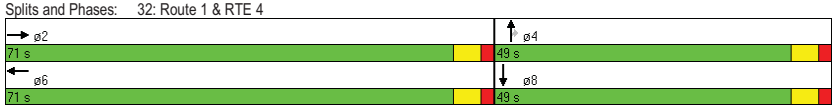
c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1150	1990	360	660	420
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	71.0	71.0	49.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%	40.8%
Maximum Green (s)	65.0	65.0	43.0	43.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	14.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 32: Route 1 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1150	60	0	1990	10	0	360	660	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			489			921			385	
Travel Time (s)		7.7			9.5			17.9			7.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1302	0	0	2151	0	0	742	355	0	452	0
v/c Ratio		0.42			0.69			0.80	0.80		0.45	
Control Delay		2.9			7.6			16.1	19.0		35.9	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		2.9			7.6			16.1	19.0		35.9	
Queue Length 50th (ft)		26			226			70	50		151	
Queue Length 95th (ft)		46			363			78	m73		180	
Internal Link Dist (ft)		313			409			841			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3087			3102			1160	549		1268	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.42			0.69			0.64	0.65		0.36	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1150	60	0	1990	10	0	360	660	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		4998			5032			3147	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		4998			5032			3147	1441		3539	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1237	65	0	2140	11	0	387	710	0	452	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	37	37	0	0	0
Lane Group Flow (vph)	0	1298	0	0	2151	0	0	705	318	0	452	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		74.0			74.0			34.0	34.0		34.0	
Effective Green, g (s)		74.0			74.0			34.0	34.0		34.0	
Actuated g/C Ratio		0.62			0.62			0.28	0.28		0.28	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3082			3103			892	408		1003	
v/s Ratio Prot		0.26			c0.43			c0.22			0.13	
v/s Ratio Perm									0.22			
v/c Ratio		0.42			0.69			0.79	0.78		0.45	
Uniform Delay, d1		11.9			15.4			39.7	39.6		35.3	
Progression Factor		0.20			0.40			0.28	0.22		1.00	
Incremental Delay, d2		0.4			1.0			3.8	7.3		0.1	
Delay (s)		2.7			7.1			14.8	16.0		35.4	
Level of Service		A			A			B	B		D	
Approach Delay (s)		2.7			7.1			15.2			35.4	
Approach LOS		A			A			B			D	

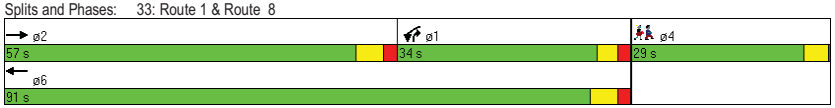
Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1440	440	1900	830	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	28.0	33.0	28.0	29.0
Total Split (s)	57.0	34.0	91.0	34.0	29.0
Total Split (%)	47.5%	28.3%	75.8%	28.3%	24%
Maximum Green (s)	51.0	29.0	85.0	29.0	25.0
Yellow Time (s)	4.0	3.0	4.0	3.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	5.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	C-Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 33: Route 1 & Route 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1440	290	440	1900	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	490			1938	458	
Travel Time (s)	9.5			37.8	8.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2035	0	518	2235	0	976
v/c Ratio	0.62		0.63	0.64		0.84
Control Delay	14.5		19.0	7.9		22.4
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	14.5		19.0	7.9		22.4
Queue Length 50th (ft)	417		131	242		151
Queue Length 95th (ft)	286		m114	m266		210
Internal Link Dist (ft)	410			1858	378	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3288		822	3505		1157
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.62		0.63	0.64		0.84

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1440	290	440	1900	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0		5.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4909		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4909		3400	3505		2787
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1694	341	518	2235	0	976
RTOR Reduction (vph)	15	0	0	0	0	483
Lane Group Flow (vph)	2020	0	518	2235	0	493
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	80.0		29.0	120.0		29.0
Effective Green, g (s)	80.0		29.0	120.0		29.0
Actuated g/C Ratio	0.67		0.24	1.00		0.24
Clearance Time (s)	6.0		5.0	6.0		5.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3273		822	3505		674
v/s Ratio Prot	0.41		0.15	c0.64		0.18
v/s Ratio Perm						
v/c Ratio	0.62		0.63	0.64		0.73
Uniform Delay, d1	11.3		40.7	0.0		41.9
Progression Factor	1.23		0.43	1.00		1.00
Incremental Delay, d2	0.8		0.4	0.3		3.5
Delay (s)	14.7		18.0	0.3		45.4
Level of Service	B		B	A		D
Approach Delay (s)	14.7			3.6	45.4	
Approach LOS	B			A	D	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	210	540	880	600	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	12	250	643	1048	714	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1210	458	
pX, platoon unblocked						
vC, conflicting volume	2524	357	714			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2524	357	714			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	61	27			
cM capacity (veh/h)	6	639	882			

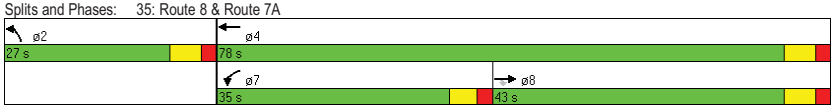
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	250	643	524	524	357	357	119
Volume Left	12	0	643	0	0	0	0	0
Volume Right	0	250	0	0	0	0	0	119
cSH	6	639	882	1700	1700	1700	1700	1700
Volume to Capacity	1.93	0.39	0.73	0.31	0.31	0.21	0.21	0.07
Queue Length 95th (ft)	63	46	165	0	0	0	0	0
Control Delay (s)	1537.0	14.2	19.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	C					
Approach Delay (s)	83.4		7.3			0.0		
Approach LOS	F							

Intersection Summary			
Average Delay		12.3	
Intersection Capacity Utilization		59.8%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	780	60	670	1270	200	640
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	20.5	31.0	16.0	
Total Split (s)	43.0	43.0	35.0	78.0	27.0	0.0
Total Split (%)	41.0%	41.0%	33.3%	74.3%	25.7%	0.0%
Maximum Green (s)	37.0	37.0	29.5	72.0	21.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	5	5			5	

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 97.6
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	780	60	670	1270	200	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1210			1375	661	
Travel Time (s)	23.6			26.8	12.9	
Confl. Peds. (#/hr)		5				5
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	940	72	807	1530	241	771
v/c Ratio	0.77	0.12	0.85	0.64	0.70	0.49
Control Delay	34.5	6.7	43.9	10.8	49.1	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	6.7	43.9	10.8	49.1	1.1
Queue Length 50th (ft)	286	0	259	258	151	0
Queue Length 95th (ft)	355	26	325	342	212	0
Internal Link Dist (ft)	1130			1295	581	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1368	646	1058	2663	408	1562
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.11	0.76	0.57	0.59	0.49

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	780	60	670	1270	200	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1556	3433	3539	1770	1562
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1556	3433	3539	1770	1562
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	940	72	807	1530	241	771
RTOR Reduction (vph)	0	47	0	0	0	0
Lane Group Flow (vph)	940	25	807	1530	241	771
Confl. Peds. (#/hr)		5				5
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	33.6	33.6	27.2	66.3	19.0	97.3
Effective Green, g (s)	33.6	33.6	27.2	66.3	19.0	97.3
Actuated g/C Ratio	0.35	0.35	0.28	0.68	0.20	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1222	537	960	2411	346	1562
v/s Ratio Prot	c0.27		c0.24	0.43	c0.14	
v/s Ratio Perm		0.02				0.49
v/c Ratio	0.77	0.05	0.84	0.63	0.70	0.49
Uniform Delay, d1	28.4	21.2	33.0	8.7	36.5	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	0.0	7.0	0.6	6.5	1.1
Delay (s)	31.6	21.2	40.0	9.3	42.9	1.1
Level of Service	C	C	D	A	D	A
Approach Delay (s)	30.8			19.9	11.1	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	97.3	Sum of lost time (s)	17.5
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

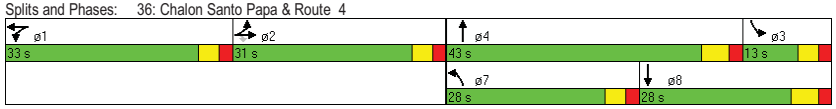
c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	130	90	260	170	830	40	420
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	26.0	12.0	28.0	12.0	28.0
Total Split (s)	31.0	31.0	33.0	28.0	43.0	13.0	28.0
Total Split (%)	25.8%	25.8%	27.5%	23.3%	35.8%	10.8%	23.3%
Maximum Green (s)	26.0	26.0	28.0	23.0	37.0	8.0	22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 70 (58%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	260	160	170	830	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			780			850	
Travel Time (s)		28.3			11.8			15.2			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	102	0	625	0	193	1057	0	45	591	0
v/c Ratio		0.81	0.29		0.87		0.76	0.52		0.42	0.38	
Control Delay		67.3	9.7		55.5		42.9	17.0		43.8	15.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.3	9.7		55.5		42.9	17.0		43.8	15.0	
Queue Length 50th (ft)		188	0		228		107	180		34	39	
Queue Length 95th (ft)		260	43		282		m127	m324		71	160	
Internal Link Dist (ft)		1164			439			700			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		395	423		817		339	2042		118	1548	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.63	0.24		0.76		0.57	0.52		0.38	0.38	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

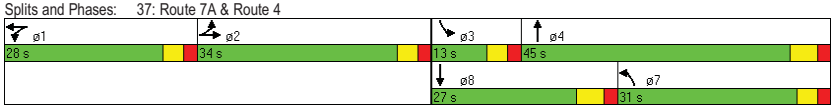
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	260	160	170	830	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.98		1.00	0.97	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1826	1583		3345		1770	5003		1770	4938	
Flt Permitted		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1826	1583		3345		1770	5003		1770	4938	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	148	102	148	295	182	193	943	114	45	477	114
RTOR Reduction (vph)	0	0	85	0	38	0	0	11	0	0	28	0
Lane Group Flow (vph)	0	250	17	0	587	0	193	1046	0	45	563	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		20.3	20.3		24.5		17.2	47.8		6.4	37.0	
Effective Green, g (s)		20.3	20.3		24.5		17.2	47.8		6.4	37.0	
Actuated g/C Ratio		0.17	0.17		0.20		0.14	0.40		0.05	0.31	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		309	268		683		254	1993		94	1523	
v/s Ratio Prot		c0.14			c0.18		c0.11	c0.21		c0.03	0.11	
v/s Ratio Perm			0.01									
v/c Ratio		0.81	0.06		0.86		0.76	0.52		0.48	0.37	
Uniform Delay, d1		48.0	41.9		46.1		49.4	27.5		55.2	32.4	
Progression Factor		1.00	1.00		1.00		0.62	0.57		0.60	0.43	
Incremental Delay, d2		13.6	0.0		10.1		7.1	0.6		1.4	0.7	
Delay (s)		61.6	41.9		56.2		37.8	16.3		34.4	14.7	
Level of Service		E	D		E		D	B		C	B	
Approach Delay (s)		55.9			56.2			19.6			16.1	
Approach LOS		E			E			B			B	

Intersection Summary				
HCM Average Control Delay	31.3	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	180	340	260	490	330	940	50	360
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.5	29.5	28.0	28.0	13.0	28.0	13.0	21.0
Total Split (s)	34.0	34.0	28.0	28.0	31.0	45.0	13.0	27.0
Total Split (%)	28.3%	28.3%	23.3%	23.3%	25.8%	37.5%	10.8%	22.5%
Maximum Green (s)	29.0	29.0	23.0	23.0	26.0	39.0	8.0	21.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	340	20	260	490	40	330	940	360	50	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	215		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		609			967			740			780	
Travel Time (s)		13.8			22.0			14.4			15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	200	400	0	260	617	0	367	1444	0	56	644	0
v/c Ratio	0.49	0.93		0.84	0.96		0.96	0.81		0.47	0.66	
Control Delay	44.1	74.0		70.8	73.8		83.0	38.1		52.8	29.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	44.1	74.0		70.8	73.8		83.0	38.1		52.8	29.1	
Queue Length 50th (ft)	133	300		215	260		283	367		42	145	
Queue Length 95th (ft)	208	#481		#373	#383		#474	431		m82	168	
Internal Link Dist (ft)		529			887			660			700	
Turn Bay Length (ft)				215			250			200		
Base Capacity (vph)	428	448		309	646		384	1790		118	975	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.89		0.84	0.96		0.96	0.81		0.47	0.66	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	340	20	260	490	40	330	940	360	50	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1847		1610	3346		1770	4874		1770	4796	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1847		1610	3346		1770	4874		1770	4796	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	200	378	22	289	544	44	367	1044	400	56	400	244
RTOR Reduction (vph)	0	2	0	0	5	0	0	55	0	0	91	0
Lane Group Flow (vph)	200	398	0	260	612	0	367	1389	0	56	553	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	27.9	27.9		23.0	23.0		27.0	41.7		6.4	21.1	
Effective Green, g (s)	27.9	27.9		23.0	23.0		27.0	41.7		6.4	21.1	
Actuated g/C Ratio	0.23	0.23		0.19	0.19		0.22	0.35		0.05	0.18	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	412	429		309	641		398	1694		94	843	
v/s Ratio Prot	0.11	c0.22		0.16	c0.18		c0.21	c0.28		0.03	c0.12	
v/s Ratio Perm												
v/c Ratio	0.49	0.93		0.84	0.95		0.92	0.82		0.60	0.66	
Uniform Delay, d1	39.8	45.1		46.7	48.0		45.5	35.7		55.5	46.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.75	0.68	
Incremental Delay, d2	0.3	25.9		17.6	24.5		26.2	4.6		6.0	3.6	
Delay (s)	40.2	71.0		64.4	72.5		71.7	40.3		47.5	35.1	
Level of Service	D	E		E	E		E	D		D	D	
Approach Delay (s)		60.7			70.1			46.7			36.1	
Approach LOS		E			E			D			D	

Intersection Summary

HCM Average Control Delay	52.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	80	170	150	1690	590	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	91	193	170	1920	670	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1031	
pX, platoon unblocked	0.91	0.91	0.91			
vC, conflicting volume	1994	358	716			
vC1, stage 1 conf vol	693					
vC2, stage 2 conf vol	1301					
vCu, unblocked vol	1890	85	480			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	46	78	83			
cM capacity (veh/h)	170	868	978			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	284	170	960	960	447	269
Volume Left	91	170	0	0	0	0
Volume Right	193	0	0	0	0	45
cSH	374	978	1700	1700	1700	1700
Volume to Capacity	0.76	0.17	0.56	0.56	0.26	0.16
Queue Length 95th (ft)	153	16	0	0	0	0
Control Delay (s)	39.3	9.5	0.0	0.0	0.0	0.0
Lane LOS	E	A				
Approach Delay (s)	39.3	0.8			0.0	
Approach LOS	E					

Intersection Summary				
Average Delay		4.1		
Intersection Capacity Utilization		68.3%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	70	280	220	70
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	20.0	20.0
Total Split (s)	21.0	35.0	34.0	34.0
Total Split (%)	23.3%	38.9%	37.8%	37.8%
Maximum Green (s)	16.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	2.0	2.0	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 75.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route - 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	510	280	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		345			618			271			199	
Travel Time (s)		7.8			14.0			6.2			3.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	364	0	0	1188	0	259	764	0	0	0	0
v/c Ratio		0.67			0.86		0.48	0.91				
Control Delay		19.3			31.0		24.6	25.7				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		19.3			31.0		24.6	25.7				
Queue Length 50th (ft)		32			285		97	122				
Queue Length 95th (ft)		66			#433		162	#288				
Internal Link Dist (ft)		265			538			191			119	
Turn Bay Length (ft)												
Base Capacity (vph)		869			1374		715	949				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.42			0.86		0.36	0.81				

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	510	280	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.90			0.97		1.00	0.87				
Flt Protected		0.99			0.98		0.95	1.00				
Satd. Flow (prot)		3176			3339		1770	1613				
Flt Permitted		0.99			0.98		0.95	1.00				
Satd. Flow (perm)		3176			3339		1770	1613				
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	82	235	600	329	259	259	82	682	0	0	0
RTOR Reduction (vph)	0	210	0	0	25	0	0	348	0	0	0	0
Lane Group Flow (vph)	0	154	0	0	1163	0	259	416	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		8.0			30.6		22.9	22.9				
Effective Green, g (s)		8.0			30.6		22.9	22.9				
Actuated g/C Ratio		0.11			0.41		0.30	0.30				
Clearance Time (s)		5.0			5.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		337			1353		537	489				
v/s Ratio Prot		c0.05			c0.35		0.15	c0.26				
v/s Ratio Perm												
v/c Ratio		0.46			0.86		0.48	0.85				
Uniform Delay, d1		31.7			20.5		21.5	24.7				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		0.4			5.5		0.2	12.9				
Delay (s)		32.1			26.0		21.7	37.6				
Level of Service		C			C		C	D				
Approach Delay (s)		32.1			26.0			33.6			0.0	
Approach LOS		C			C			C			A	

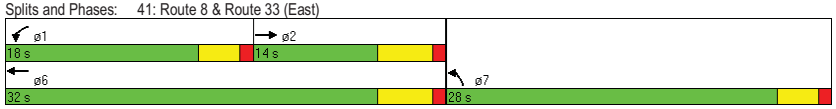
Intersection Summary					
HCM Average Control Delay	29.9	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.80				
Actuated Cycle Length (s)	75.5	Sum of lost time (s)		14.0	
Intersection Capacity Utilization	90.3%	ICU Level of Service		E	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	350	340	1040	330
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	7.0	4.0	7.0	4.0
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	14.0	18.0	32.0	28.0
Total Split (%)	23.3%	30.0%	53.3%	46.7%
Maximum Green (s)	9.0	14.0	27.0	24.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	4.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	4.0	2.0	4.0	2.0
Minimum Gap (s)	2.0	0.5	2.0	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 62.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	350	180	340	1040	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2965			2384	2961	
Travel Time (s)	57.8			46.4	57.7	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	616	0	395	1209	756	0
v/c Ratio	0.87		0.99	0.73	1.06	
Control Delay	33.9		72.3	16.2	70.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	33.9		72.3	16.2	70.9	
Queue Length 50th (ft)	~95		141	181	~256	
Queue Length 95th (ft)	135		#353	225	#563	
Internal Link Dist (ft)	2885			2304	2881	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	711		398	1662	714	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.87		0.99	0.73	1.06	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	350	180	340	1040	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	5.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.95		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3359		1770	3539	1696	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	3359		1770	3539	1696	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	407	209	395	1209	384	372
RTOR Reduction (vph)	105	0	0	0	60	0
Lane Group Flow (vph)	511	0	395	1209	696	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	11.3		14.1	29.4	24.1	
Effective Green, g (s)	11.3		14.1	29.4	24.1	
Actuated g/C Ratio	0.18		0.23	0.47	0.39	
Clearance Time (s)	5.0		4.0	5.0	4.0	
Vehicle Extension (s)	4.0		2.0	4.0	2.0	
Lane Grp Cap (vph)	607		399	1665	654	
v/s Ratio Prot	0.15		c0.22	c0.34	c0.41	
v/s Ratio Perm						
v/c Ratio	0.84		0.99	0.73	1.06	
Uniform Delay, d1	24.7		24.1	13.3	19.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	10.7		41.8	1.7	53.7	
Delay (s)	35.4		65.9	15.0	72.9	
Level of Service	D		E	B	E	
Approach Delay (s)	35.4			27.6	72.9	
Approach LOS	D			C	E	

Intersection Summary				
HCM Average Control Delay	40.7	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	83.0%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	410	290	730	630	770	1150
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	36.0	36.0	64.0	36.0	36.0
Total Split (%)	28.0%	36.0%	36.0%	64.0%	36.0%	36.0%
Maximum Green (s)	22.0	30.0	30.0	58.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	410	290	730	630	770	1150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			454	789	
Travel Time (s)	14.8			8.8	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	451	319	802	692	846	1264
v/c Ratio	0.53	0.35	0.79	0.33	0.88	0.69
Control Delay	36.4	11.2	34.0	9.0	46.4	12.5
Queue Delay	0.0	0.0	0.1	0.0	0.0	0.3
Total Delay	36.4	11.2	34.1	9.0	46.4	12.8
Queue Length 50th (ft)	135	90	246	94	258	227
Queue Length 95th (ft)	188	144	318	116	332	301
Internal Link Dist (ft)	682			374	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	847	896	1020	2109	1030	1824
Starvation Cap Reductn	0	0	7	0	0	0
Spillback Cap Reductn	0	0	0	0	0	153
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.36	0.79	0.33	0.82	0.76

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	410	290	730	630	770	1150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	451	319	802	692	846	1264
RTOR Reduction (vph)	0	14	0	0	0	53
Lane Group Flow (vph)	451	305	802	692	846	1211
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	24.2	52.0	30.0	60.2	27.8	57.8
Effective Green, g (s)	24.2	52.0	30.0	60.2	27.8	57.8
Actuated g/C Ratio	0.24	0.52	0.30	0.60	0.28	0.58
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	848	909	1020	2110	954	1778
v/s Ratio Prot	c0.13	0.09	c0.24	0.20	c0.25	0.20
v/s Ratio Perm		0.10				0.23
v/c Ratio	0.53	0.34	0.79	0.33	0.89	0.68
Uniform Delay, d1	33.0	14.0	32.1	9.9	34.6	14.7
Progression Factor	1.00	1.00	0.87	0.84	1.00	1.00
Incremental Delay, d2	2.4	0.1	3.5	0.4	9.7	0.9
Delay (s)	35.4	14.0	31.4	8.6	44.3	15.6
Level of Service	D	B	C	A	D	B
Approach Delay (s)	26.5			20.9	27.1	
Approach LOS	C			C	C	

Intersection Summary				
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1290	130	1010	150	110
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	8.0	8.0
Minimum Split (s)	26.0	16.0	26.0	14.0	14.0
Total Split (s)	63.0	17.0	80.0	20.0	20.0
Total Split (%)	63.0%	17.0%	80.0%	20.0%	20.0%
Maximum Green (s)	57.0	11.0	74.0	14.0	14.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	Min	Max	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 52 (52%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1290	180	130	1010	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	454			482	431	
Travel Time (s)	8.8			9.4	8.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1709	0	151	1174	174	128
v/c Ratio	0.85		0.78	0.44	0.78	0.41
Control Delay	16.6		71.1	5.3	65.7	11.4
Queue Delay	2.3		0.0	0.0	0.0	0.0
Total Delay	18.9		71.1	5.3	65.7	11.4
Queue Length 50th (ft)	306		95	128	107	0
Queue Length 95th (ft)	347		#184	151	#183	46
Internal Link Dist (ft)	374			402	351	
Turn Bay Length (ft)			200			200
Base Capacity (vph)	2020		193	2642	248	332
Starvation Cap Reductn	190		0	0	0	0
Spillback Cap Reductn	0		0	11	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.93		0.78	0.45	0.70	0.39

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1290	180	130	1010	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3441		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3441		1752	3505	1770	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1500	209	151	1174	174	128
RTOR Reduction (vph)	10	0	0	0	0	112
Lane Group Flow (vph)	1699	0	151	1174	174	16
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	58.4		11.0	75.4	12.6	12.6
Effective Green, g (s)	58.4		11.0	75.4	12.6	12.6
Actuated g/C Ratio	0.58		0.11	0.75	0.13	0.13
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2010		193	2643	223	199
v/s Ratio Prot	c0.49		c0.09	0.33	c0.10	
v/s Ratio Perm						0.01
v/c Ratio	0.85		0.78	0.44	0.78	0.08
Uniform Delay, d1	17.1		43.3	4.5	42.4	38.6
Progression Factor	0.73		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5		17.1	0.5	14.9	0.1
Delay (s)	16.0		60.5	5.1	57.3	38.7
Level of Service	B		E	A	E	D
Approach Delay (s)	16.0			11.4	49.4	
Approach LOS	B			B	D	

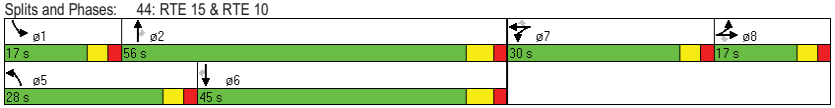
Intersection Summary				
HCM Average Control Delay	17.2	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	73.0%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	310	80	330	240	1230	270	140	790	130
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	8.0	21.0	21.0	8.0	36.0	36.0
Total Split (s)	17.0	17.0	17.0	30.0	30.0	30.0	28.0	56.0	56.0	17.0	45.0	45.0
Total Split (%)	14.2%	14.2%	14.2%	25.0%	25.0%	25.0%	23.3%	46.7%	46.7%	14.2%	37.5%	37.5%
Maximum Green (s)	12.0	12.0	12.0	25.0	25.0	25.0	23.0	50.0	50.0	12.0	39.0	39.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	310	80	330	240	1230	270	140	790	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		549			1964			2453			773	
Travel Time (s)		10.7			38.3			47.8			15.1	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	41%											
Lane Group Flow (vph)	146	146	135	348	90	371	270	1382	303	157	888	146
v/c Ratio	0.89	0.87	0.49	0.96	0.24	0.76	0.87	0.93	0.38	0.90	0.72	0.23
Control Delay	100.5	97.0	14.8	86.6	41.6	31.2	77.5	27.4	1.8	99.8	39.0	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	100.5	97.0	14.8	86.6	41.6	31.2	77.5	27.4	1.8	99.8	39.0	5.5
Queue Length 50th (ft)	118	118	0	268	58	124	197	411	3	122	325	0
Queue Length 95th (ft)	#244	#241	59	#446	105	239	m243	#656	m9	#244	397	45
Internal Link Dist (ft)		469			1884			2373			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	167	170	278	365	384	488	339	1494	799	177	1225	644
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.86	0.49	0.95	0.23	0.76	0.80	0.93	0.38	0.89	0.72	0.23

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	40	120	310	80	330	240	1230	270	140	790	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1694	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1694	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	247	45	135	348	90	371	270	1382	303	157	888	146
RTOR Reduction (vph)	0	0	122	0	0	162	0	0	131	0	0	96
Lane Group Flow (vph)	146	146	13	348	90	209	270	1382	172	157	888	50
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	11.8	11.8	11.8	24.7	24.7	24.7	21.0	50.7	50.7	11.8	41.5	41.5
Effective Green, g (s)	11.8	11.8	11.8	24.7	24.7	24.7	21.0	50.7	50.7	11.8	41.5	41.5
Actuated g/C Ratio	0.10	0.10	0.10	0.21	0.21	0.21	0.18	0.42	0.42	0.10	0.35	0.35
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	164	167	154	361	380	323	310	1495	669	174	1224	547
v/s Ratio Prot	c0.09	0.09		c0.20	0.05		c0.15	c0.39		0.09	0.25	
v/s Ratio Perm			0.01			0.13			0.11			0.03
v/c Ratio	0.89	0.87	0.09	0.96	0.24	0.65	0.87	0.92	0.26	0.90	0.73	0.09
Uniform Delay, d1	53.5	53.4	49.2	47.2	39.8	43.7	48.2	32.8	22.4	53.5	34.3	26.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.25	0.59	0.15	1.00	1.00	1.00
Incremental Delay, d2	39.6	35.3	0.1	37.4	0.1	3.3	14.0	7.1	0.5	40.7	3.8	0.3
Delay (s)	93.1	88.7	49.3	84.6	39.9	47.0	74.2	26.3	3.9	94.2	38.0	26.9
Level of Service	F	F	D	F	D	D	E	C	A	F	D	C
Approach Delay (s)		77.7			62.4			29.5			44.1	
Approach LOS		E			E			C			D	

Intersection Summary

HCM Average Control Delay	44.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

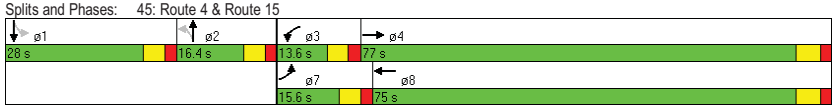
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	110	650	10	1690	40	10	50	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	15.6	77.0	13.6	75.0	16.4	16.4	28.0	28.0
Total Split (%)	11.6%	57.0%	10.1%	55.6%	12.1%	12.1%	20.7%	20.7%
Maximum Green (s)	10.1	71.0	8.1	69.0	10.9	10.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0	3.5	4.0	3.5	3.5	0.5	0.5
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.7
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	650	10	10	1690	40	40	10	40	50	10	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			548			338			351	
Travel Time (s)		12.5			10.7			6.6			6.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	750	0	11	1965	0	0	101	0	0	375	0
v/c Ratio	0.95	0.40		0.10	1.09			0.87			1.07	
Control Delay	126.0	19.9		62.5	81.1			101.7			98.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	126.0	19.9		62.5	81.1			101.7			98.5	
Queue Length 50th (ft)	111	201		9	~1020			69			~250	
Queue Length 95th (ft)	#233	242		29	#1113			#173			#433	
Internal Link Dist (ft)		561			468			258			271	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	132	1864		106	1808			118			352	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.95	0.40		0.10	1.09			0.86			1.07	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

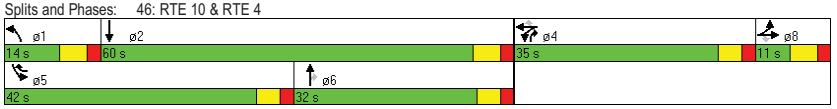
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	650	10	10	1690	40	40	10	40	50	10	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3531		1770	3527			1713			1644	
Flt Permitted	0.95	1.00		0.95	1.00			0.69			0.84	
Satd. Flow (perm)	1770	3531		1770	3527			1200			1395	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	125	739	11	11	1920	45	45	11	45	57	11	307
RTOR Reduction (vph)	0	1	0	0	1	0	0	21	0	0	120	0
Lane Group Flow (vph)	125	749	0	11	1964	0	0	80	0	0	255	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	10.1	71.1		8.0	69.0			10.6			22.5	
Effective Green, g (s)	10.1	71.1		8.0	69.0			10.6			22.5	
Actuated g/C Ratio	0.07	0.53		0.06	0.51			0.08			0.17	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	3.5	4.0		3.5	4.0			3.5			0.5	
Lane Grp Cap (vph)	133	1864		105	1807			94			233	
v/s Ratio Prot	c0.07	0.21		0.01	c0.56							
v/s Ratio Perm								c0.07			c0.18	
v/c Ratio	0.94	0.40		0.10	1.09			0.85			1.09	
Uniform Delay, d1	62.0	19.1		60.0	32.8			61.3			56.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	59.6	0.2		0.5	49.0			48.2			86.6	
Delay (s)	121.6	19.3		60.5	81.9			109.4			142.7	
Level of Service	F	B		E	F			F			F	
Approach Delay (s)		33.9			81.8			109.4			142.7	
Approach LOS		C			F			F			F	

Intersection Summary				
HCM Average Control Delay	76.9	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.05			
Actuated Cycle Length (s)	134.7	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	89.6%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	30	10	10	820	10	660	780	630	220
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	10.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.5	9.5	13.5	16.0
Total Split (s)	11.0	11.0	35.0	42.0	14.0	32.0	35.0	42.0	60.0
Total Split (%)	9.2%	9.2%	29.2%	35.0%	11.7%	26.7%	29.2%	35.0%	50.0%
Maximum Green (s)	5.0	5.0	29.5	36.5	8.0	26.5	29.5	36.5	54.0
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		20.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 119.3
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	340	10	820	10	660	780	630	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			759			914	
Travel Time (s)		7.3			12.6			14.8			17.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	11	0	381	891	11	717	848	685	261	0
v/c Ratio		0.87	0.14		0.87	0.98	0.09	0.94	0.99	0.65	0.26	
Control Delay		127.5	31.3		63.9	43.8	54.5	66.5	54.7	39.6	16.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		127.5	31.3		63.9	43.8	54.5	66.5	54.7	39.6	16.2	
Queue Length 50th (ft)		52	0		285	402	8	287	578	237	95	
Queue Length 95th (ft)		#140	20		#455	#939	28	#400	#880	303	187	
Internal Link Dist (ft)		295			565			679			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		76	77		440	909	119	786	857	1050	997	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.87	0.14		0.87	0.98	0.09	0.91	0.99	0.65	0.26	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	340	10	820	10	660	780	630	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	33	11	370	11	891	11	717	848	685	239	22
RTOR Reduction (vph)	0	0	11	0	0	35	0	0	52	0	2	0
Lane Group Flow (vph)	0	66	0	0	381	856	11	717	796	685	259	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		5.0	5.0		29.5	66.0	1.6	30.6	60.1	36.5	64.5	
Effective Green, g (s)		5.0	5.0		29.5	66.0	1.6	30.6	60.1	36.5	64.5	
Actuated g/C Ratio		0.04	0.04		0.24	0.53	0.01	0.25	0.48	0.29	0.52	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		73	64		422	842	23	873	837	1010	956	
v/s Ratio Prot		c0.04			0.21	c0.30	0.01	0.20	c0.23	0.20	0.14	
v/s Ratio Perm			0.00			0.24			0.28			
v/c Ratio		0.90	0.01		0.90	1.02	0.48	0.82	0.95	0.68	0.27	
Uniform Delay, d1		59.3	57.2		45.9	29.0	60.8	44.2	30.6	38.6	16.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		71.7	0.0		21.7	35.3	5.6	6.0	19.9	1.4	0.1	
Delay (s)		131.0	57.2		67.6	64.4	66.4	50.1	50.5	40.1	16.7	
Level of Service		F	E		E	E	E	D	D	D	B	
Approach Delay (s)		120.4			65.4			50.5			33.6	
Approach LOS		F			E			D			C	

Intersection Summary			
HCM Average Control Delay	52.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	124.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1110	1200	280
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	24.0	24.0	13.0	22.0	33.0	33.0
Total Split (s)	24.0	24.0	21.0	96.0	75.0	75.0
Total Split (%)	20.0%	20.0%	17.5%	80.0%	62.5%	62.5%
Maximum Green (s)	19.0	19.0	16.0	90.0	69.0	69.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1110	1200	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	438			286	526	
Travel Time (s)	11.9			5.6	10.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	45	125	1261	1364	318
v/c Ratio	0.45	0.40	0.68	0.42	0.55	0.29
Control Delay	63.7	62.4	57.4	5.8	11.0	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	62.4	57.4	5.8	11.0	8.8
Queue Length 50th (ft)	43	34	95	141	257	88
Queue Length 95th (ft)	83	69	153	382	367	155
Internal Link Dist (ft)	358			206	446	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	251	224	234	3016	2469	1105
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.53	0.42	0.55	0.29

Intersection Summary

Area Type: Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1110	1200	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	57	45	125	1261	1364	318
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	57	45	125	1261	1364	318
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	8.0	8.0	12.5	101.0	83.5	83.5
Effective Green, g (s)	8.0	8.0	12.5	101.0	83.5	83.5
Actuated g/C Ratio	0.07	0.07	0.10	0.84	0.70	0.70
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	106	94	183	2950	2439	1091
v/s Ratio Prot	c0.04		c0.07	0.36	c0.39	
v/s Ratio Perm		0.03				0.20
v/c Ratio	0.54	0.48	0.68	0.43	0.56	0.29
Uniform Delay, d1	54.2	54.0	51.8	2.3	9.1	7.0
Progression Factor	1.00	1.00	0.79	2.09	1.00	1.00
Incremental Delay, d2	2.6	1.4	7.3	0.4	0.9	0.7
Delay (s)	56.8	55.4	48.1	5.3	10.0	7.6
Level of Service	E	E	D	A	B	A
Approach Delay (s)	56.2			9.2	9.6	
Approach LOS	E			A	A	

Intersection Summary				
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	90	100	1110	80	1140
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	23.0	23.0	28.0	13.0	22.0
Total Split (s)	26.0	26.0	74.0	20.0	94.0
Total Split (%)	21.7%	21.7%	61.7%	16.7%	78.3%
Maximum Green (s)	21.0	21.0	68.0	15.0	88.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6(V.Cementary) & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1110	90	80	1140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		550			1355
Travel Time (s)	16.0		10.7			26.4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	108	1291	0	86	1226
v/c Ratio	0.55	0.43	0.53		0.55	0.43
Control Delay	63.3	14.3	7.3		76.3	1.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	63.3	14.3	7.3		76.3	1.9
Queue Length 50th (ft)	74	0	120		72	61
Queue Length 95th (ft)	126	53	127		127	31
Internal Link Dist (ft)	506		470			1275
Turn Bay Length (ft)					200	
Base Capacity (vph)	310	366	2431		219	2837
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.31	0.30	0.53		0.39	0.43

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1110	90	80	1140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3465		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3465		1752	3505
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	108	1194	97	86	1226
RTOR Reduction (vph)	0	97	4	0	0	0
Lane Group Flow (vph)	97	11	1287	0	86	1226
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	11.9	11.9	83.0		9.1	97.1
Effective Green, g (s)	11.9	11.9	83.0		9.1	97.1
Actuated g/C Ratio	0.10	0.10	0.69		0.08	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	176	157	2397		133	2836
v/s Ratio Prot	c0.05		c0.37		c0.05	0.35
v/s Ratio Perm		0.01				
v/c Ratio	0.55	0.07	0.54		0.65	0.43
Uniform Delay, d1	51.5	49.0	9.1		53.9	3.4
Progression Factor	1.00	1.00	0.66		1.25	0.41
Incremental Delay, d2	2.1	0.1	0.8		6.7	0.4
Delay (s)	53.6	49.1	6.8		74.1	1.8
Level of Service	D	D	A		E	A
Approach Delay (s)	51.2		6.8			6.5
Approach LOS	D		A			A

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	20	220	1180	1180
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	20.0	13.0	22.0	30.0
Total Split (s)	20.0	31.0	100.0	69.0
Total Split (%)	16.7%	25.8%	83.3%	57.5%
Maximum Green (s)	15.0	26.0	94.0	63.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1180	1180	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2159			1944	7258	
Travel Time (s)	42.1			37.9	141.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	237	1269	1366	0
v/c Ratio	0.37		0.79	0.42	0.61	
Control Delay	34.5		58.6	2.2	11.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	34.5		58.6	2.2	11.3	
Queue Length 50th (ft)	16		156	67	193	
Queue Length 95th (ft)	58		m228	91	261	
Internal Link Dist (ft)	2079			1864	7178	
Turn Bay Length (ft)			125			
Base Capacity (vph)	238		385	3050	2249	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.23		0.62	0.42	0.61	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1180	1180	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1680		1752	3505	3468	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1680		1752	3505	3468	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	32	237	1269	1269	97
RTOR Reduction (vph)	30	0	0	0	4	0
Lane Group Flow (vph)	24	0	237	1269	1362	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.8		20.5	102.2	76.7	
Effective Green, g (s)	6.8		20.5	102.2	76.7	
Actuated g/C Ratio	0.06		0.17	0.85	0.64	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	95		299	2985	2217	
v/s Ratio Prot	c0.01		c0.14	0.36	c0.39	
v/s Ratio Perm						
v/c Ratio	0.25		0.79	0.43	0.61	
Uniform Delay, d1	54.2		47.7	2.1	12.9	
Progression Factor	1.00		0.93	0.88	0.72	
Incremental Delay, d2	0.5		9.7	0.3	1.2	
Delay (s)	54.7		54.2	2.2	10.5	
Level of Service	D		D	A	B	
Approach Delay (s)	54.7			10.4	10.5	
Approach LOS	D			B	B	

Intersection Summary				
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1040	270	70	540	780
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	25.0		33.0	33.0	22.0	21.0
Total Split (s)	36.0	0.0	40.0	40.0	44.0	84.0
Total Split (%)	30.0%	0.0%	33.3%	33.3%	36.7%	70.0%
Maximum Green (s)	31.0		34.0	34.0	39.0	78.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1040	270	70	540	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	531		795			527
Travel Time (s)	10.3		15.5			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	1224	318	82	635	918
v/c Ratio	0.68	0.77	0.18	0.10	0.73	0.33
Control Delay	67.0	3.7	18.9	5.0	33.5	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	3.7	18.9	5.0	33.5	5.3
Queue Length 50th (ft)	106	0	70	0	229	64
Queue Length 95th (ft)	157	0	112	28	188	165
Internal Link Dist (ft)	451		715			447
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	457	1583	1736	818	1105	2775
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.77	0.18	0.10	0.57	0.33

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1040	270	70	540	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3505	1568	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3505	1568	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	141	1224	318	82	635	918
RTOR Reduction (vph)	0	0	0	41	0	0
Lane Group Flow (vph)	141	1224	318	41	635	918
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	14.0	120.0	59.4	59.4	30.6	95.0
Effective Green, g (s)	14.0	120.0	59.4	59.4	30.6	95.0
Actuated g/C Ratio	0.12	1.00	0.49	0.49	0.26	0.79
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	207	1583	1735	776	867	2775
v/s Ratio Prot	0.08		0.09		0.19	0.26
v/s Ratio Perm		c0.77		0.03		
v/c Ratio	0.68	0.77	0.18	0.05	0.73	0.33
Uniform Delay, d1	50.9	0.0	16.8	15.7	40.9	3.5
Progression Factor	1.00	1.00	1.00	1.00	0.71	1.31
Incremental Delay, d2	7.1	3.7	0.2	0.1	3.4	0.3
Delay (s)	58.0	3.7	17.1	15.8	32.5	4.9
Level of Service	E	A	B	B	C	A
Approach Delay (s)	9.3		16.8			16.2
Approach LOS	A		B			B

Intersection Summary				
HCM Average Control Delay	13.4	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0	
Intersection Capacity Utilization	47.9%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	660	40	220	190
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	36.0	36.0	37.0	37.0	27.0	64.0
Total Split (%)	36.0%	36.0%	37.0%	37.0%	27.0%	64.0%
Maximum Green (s)	30.5	30.5	31.0	31.0	21.5	58.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 73.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	660	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1169		1253			870
Travel Time (s)	22.8		24.4			16.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	448	688	42	229	198
v/c Ratio	0.57	0.72	0.46	0.06	0.69	0.08
Control Delay	38.5	10.6	17.6	8.5	39.6	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	10.6	17.6	8.5	39.6	4.2
Queue Length 50th (ft)	66	0	111	3	97	12
Queue Length 95th (ft)	133	82	203	25	179	27
Internal Link Dist (ft)	1089		1173			790
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	741	923	1506	691	522	2817
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.49	0.46	0.06	0.44	0.07

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	660	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	156	448	688	42	229	198
RTOR Reduction (vph)	0	379	0	17	0	0
Lane Group Flow (vph)	156	69	688	25	229	198
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.3	11.3	31.3	31.3	13.8	50.6
Effective Green, g (s)	11.3	11.3	31.3	31.3	13.8	50.6
Actuated g/C Ratio	0.15	0.15	0.43	0.43	0.19	0.69
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	272	244	1509	675	333	2440
v/s Ratio Prot	c0.09		c0.19		c0.13	0.06
v/s Ratio Perm		0.04		0.02		
v/c Ratio	0.57	0.28	0.46	0.04	0.69	0.08
Uniform Delay, d1	28.8	27.5	15.0	12.3	27.8	3.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.2	1.0	0.1	4.7	0.0
Delay (s)	30.6	27.7	16.0	12.4	32.4	3.8
Level of Service	C	C	B	B	C	A
Approach Delay (s)	28.5		15.8			19.1
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	36.0	36.0	66.0	66.0	18.0	84.0
Total Split (%)	30.0%	30.0%	55.0%	55.0%	15.0%	70.0%
Maximum Green (s)	30.5	30.5	60.0	60.0	12.5	78.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 111.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	665		412			515
Travel Time (s)	13.0		8.0			10.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	281	337	685	315	101	270
v/c Ratio	0.81	0.58	0.66	0.32	0.61	0.21
Control Delay	61.4	8.3	22.7	4.7	65.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	8.3	22.7	4.7	65.7	7.0
Queue Length 50th (ft)	194	0	327	21	70	60
Queue Length 95th (ft)	284	70	549	76	133	116
Internal Link Dist (ft)	585		332			435
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	485	679	1041	994	199	1307
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.50	0.66	0.32	0.51	0.21

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	281	337	685	315	101	270
RTOR Reduction (vph)	0	271	0	109	0	0
Lane Group Flow (vph)	281	66	685	206	101	270
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	21.8	21.8	62.3	62.3	10.4	78.2
Effective Green, g (s)	21.8	21.8	62.3	62.3	10.4	78.2
Actuated g/C Ratio	0.20	0.20	0.56	0.56	0.09	0.70
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	346	310	1041	884	165	1307
v/s Ratio Prot	c0.16		c0.37		c0.06	0.14
v/s Ratio Perm		0.04		0.13		
v/c Ratio	0.81	0.21	0.66	0.23	0.61	0.21
Uniform Delay, d1	42.9	37.6	17.2	12.5	48.6	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.8	0.1	1.2	0.0	4.7	0.4
Delay (s)	55.7	37.8	18.3	12.5	53.3	6.2
Level of Service	E	D	B	B	D	A
Approach Delay (s)	45.9		16.5			19.0
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	111.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	140	70	130	30	30	530
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	171	85	159	37	37	646
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	159				585	159
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159				585	159
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				91	27
cM capacity (veh/h)	1421				416	887

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	256	159	37	37	646
Volume Left	171	0	0	37	0
Volume Right	0	0	37	0	646
cSH	1421	1700	1700	416	887
Volume to Capacity	0.12	0.09	0.02	0.09	0.73
Queue Length 95th (ft)	10	0	0	7	165
Control Delay (s)	5.6	0.0	0.0	14.5	19.1
Lane LOS	A			B	C
Approach Delay (s)	5.6	0.0		18.9	
Approach LOS				C	

Intersection Summary				
Average Delay	12.6			
Intersection Capacity Utilization	46.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	40	40	20	100	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	15	60	60	30	149	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418	75			90	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418	75			90	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			90	
cM capacity (veh/h)	533	987			1506	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	75	90	194
Volume Left	15	0	149
Volume Right	60	30	0
cSH	843	1700	1506
Volume to Capacity	0.09	0.05	0.10
Queue Length 95th (ft)	7	0	8
Control Delay (s)	9.7	0.0	6.1
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	6.1
Approach LOS	A		

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	23.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	100	50	70	190	240	140
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	110	55	77	209	264	154
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			165		500	137
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			165		500	137
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		47	83
cM capacity (veh/h)			1413		501	911

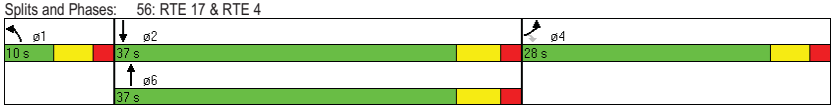
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	165	286	418
Volume Left	0	77	264
Volume Right	55	0	154
cSH	1700	1413	601
Volume to Capacity	0.10	0.05	0.69
Queue Length 95th (ft)	0	4	138
Control Delay (s)	0.0	2.4	23.5
Lane LOS		A	C
Approach Delay (s)	0.0	2.4	23.5
Approach LOS			C

Intersection Summary				
Average Delay		12.1		
Intersection Capacity Utilization		54.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	490	20	40	660	260
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	28.0	28.0	10.0	37.0	37.0
Total Split (%)	37.3%	37.3%	13.3%	49.3%	49.3%
Maximum Green (s)	22.5	22.5	4.5	31.0	31.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 71
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	490	20	40	660	260	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	456	
Travel Time (s)	16.3			14.6	8.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	628	26	51	846	628	0
v/c Ratio	1.11	0.05	0.45	1.03	0.78	
Control Delay	100.6	8.3	47.5	64.8	24.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	100.6	8.3	47.5	64.8	24.6	
Queue Length 50th (ft)	~358	0	24	~455	225	
Queue Length 95th (ft)	#442	13	49	#526	281	
Internal Link Dist (ft)	758			671	376	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	564	522	113	818	806	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.11	0.05	0.45	1.03	0.78	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	490	20	40	660	260	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1745	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1745	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	628	26	51	846	333	295
RTOR Reduction (vph)	0	18	0	0	41	0
Lane Group Flow (vph)	628	8	51	846	587	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	22.6	22.6	2.6	31.2	31.2	
Effective Green, g (s)	22.6	22.6	2.6	31.2	31.2	
Actuated g/C Ratio	0.31	0.31	0.04	0.43	0.43	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	545	487	63	792	742	
v/s Ratio Prot	c0.35		c0.03	c0.45	0.34	
v/s Ratio Perm		0.01				
v/c Ratio	1.15	0.02	0.81	1.07	0.79	
Uniform Delay, d1	25.4	17.7	35.2	21.1	18.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	88.0	0.0	49.3	51.8	5.4	
Delay (s)	113.4	17.7	84.5	72.9	23.6	
Level of Service	F	B	F	E	C	
Approach Delay (s)	109.6			73.5	23.6	
Approach LOS	F			E	C	

Intersection Summary			
HCM Average Control Delay	70.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

57: Route 4 & Route 4A

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	100	290	90	80	140	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	119	345	107	95	167	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	202				738	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202				738	155
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				53	95
cM capacity (veh/h)	1369				352	891

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	464	202	214
Volume Left	119	0	167
Volume Right	0	95	48
cSH	1369	1700	406
Volume to Capacity	0.09	0.12	0.53
Queue Length 95th (ft)	7	0	74
Control Delay (s)	2.7	0.0	23.3
Lane LOS	A		C
Approach Delay (s)	2.7	0.0	23.3
Approach LOS			C

Intersection Summary				
Average Delay		7.1		
Intersection Capacity Utilization		50.6%	ICU Level of Service	A
Analysis Period (min)		15		

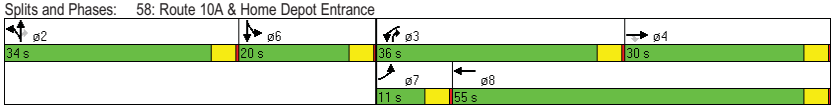
58: Route 10A & Home Depot Entrance

Phasings

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	340	250	750	1260	690	40	370	20	10
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	11.0	30.0	30.0	36.0	55.0	34.0	34.0	36.0	20.0	20.0
Total Split (%)	9.2%	25.0%	25.0%	30.0%	45.8%	28.3%	28.3%	30.0%	16.7%	16.7%
Maximum Green (s)	7.0	26.0	26.0	32.0	51.0	30.0	30.0	32.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 102.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	340	250	750	1260	70	690	40	370	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1896			1155			624			394	
Travel Time (s)		43.1			22.5			12.2			9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	370	272	815	1446	0	750	43	402	22	65	0
v/c Ratio	0.70	0.41	0.55	0.84	0.88		0.83	0.09	0.38	0.20	0.43	
Control Delay	80.2	35.3	24.9	44.9	32.8		45.9	31.4	1.8	53.6	26.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	80.2	35.3	24.9	44.9	32.8		45.9	31.4	1.8	53.6	26.9	
Queue Length 50th (ft)	61	116	94	273	466		253	23	0	15	8	
Queue Length 95th (ft)	#154	170	191	#367	#660		339	53	27	42	51	
Internal Link Dist (ft)		1816			1075			544			314	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	124	949	511	1100	1796		1031	559	1103	284	307	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.70	0.39	0.53	0.74	0.81		0.73	0.08	0.36	0.08	0.21	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	340	250	750	1260	70	690	40	370	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3511		3433	1863	1583	1770	1631	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3511		3433	1863	1583	1770	1631	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	370	272	815	1370	76	750	43	402	22	11	54
RTOR Reduction (vph)	0	0	88	0	3	0	0	0	185	0	51	0
Lane Group Flow (vph)	87	370	184	815	1443	0	750	43	217	22	14	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	7.2	26.5	26.5	28.8	48.1		26.9	26.9	55.7	5.0	5.0	
Effective Green, g (s)	7.2	26.5	26.5	28.8	48.1		26.9	26.9	55.7	5.0	5.0	
Actuated g/C Ratio	0.07	0.26	0.26	0.28	0.47		0.26	0.26	0.54	0.05	0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	123	909	406	958	1636		895	486	854	86	79	
v/s Ratio Prot	0.05	0.10		c0.24	c0.41		c0.22	0.02	0.07	c0.01	0.01	
v/s Ratio Perm			0.12						0.07			
v/c Ratio	0.71	0.41	0.45	0.85	0.88		0.84	0.09	0.25	0.26	0.17	
Uniform Delay, d1	47.0	31.8	32.3	35.2	25.0		36.1	28.9	12.7	47.3	47.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.1	0.1	0.3	7.1	5.8		6.6	0.0	0.1	0.6	0.4	
Delay (s)	61.0	31.9	32.6	42.2	30.8		42.7	28.9	12.7	47.9	47.5	
Level of Service	E	C	C	D	C		D	C	B	D	D	
Approach Delay (s)		35.6			34.9			32.1			47.6	
Approach LOS		D			C			C			D	

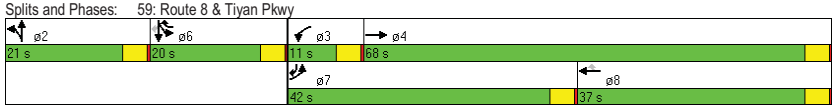
Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	103.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	740	530	40	1010	480	110	90	120	50	900
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	42.0	68.0	11.0	37.0	20.0	21.0	21.0	20.0	20.0	42.0
Total Split (%)	35.0%	56.7%	9.2%	30.8%	16.7%	17.5%	17.5%	16.7%	16.7%	35.0%
Maximum Green (s)	38.0	64.0	7.0	33.0	16.0	17.0	17.0	16.0	16.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 111
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	530	70	40	1010	480	110	90	40	120	50	900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2308			2965			532			1075	
Travel Time (s)		45.0			57.8			12.1			20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										30%		
Lane Group Flow (vph)	804	652	0	43	1098	522	120	141	0	91	93	978
v/c Ratio	0.68	0.30		0.43	1.04	0.70	0.62	0.68		0.52	0.51	1.18
Control Delay	35.8	11.8		66.3	77.3	16.1	62.5	60.0		58.4	57.9	116.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.8	11.8		66.3	77.3	16.1	62.5	60.0		58.4	57.9	116.5
Queue Length 50th (ft)	253	117		30	~450	134	83	88		65	67	~791
Queue Length 95th (ft)	359	183		72	#653	216	149	160		126	128	#1112
Internal Link Dist (ft)		2228			2885			452			995	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1180	2170		112	1057	798	272	286		243	251	832
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.68	0.30		0.38	1.04	0.65	0.44	0.49		0.37	0.37	1.18

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

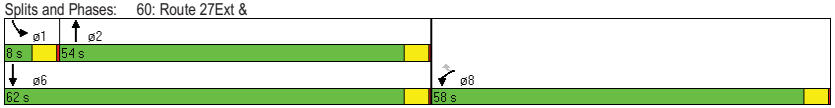
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	530	70	40	1010	480	110	90	40	120	50	900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	3433	3477		1770	3539	1583	1770	1778		1681	1733	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (perm)	3433	3477		1770	3539	1583	1770	1778		1681	1733	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	576	76	43	1098	522	120	98	43	130	54	978
RTOR Reduction (vph)	0	7	0	0	0	102	0	13	0	0	0	71
Lane Group Flow (vph)	804	645	0	43	1098	420	120	128	0	91	93	907
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	38.2	69.0		4.0	34.8	46.4	12.0	12.0		11.6	11.6	49.8
Effective Green, g (s)	38.2	69.0		4.0	34.8	46.4	12.0	12.0		11.6	11.6	49.8
Actuated g/C Ratio	0.34	0.61		0.04	0.31	0.41	0.11	0.11		0.10	0.10	0.44
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1165	2131		63	1094	652	189	189		173	179	756
v/s Ratio Prot	0.23	0.19		0.02	c0.31	0.07	0.07	c0.07		0.05	0.05	c0.41
v/s Ratio Perm						0.20						0.17
v/c Ratio	0.69	0.30		0.68	1.00	0.64	0.63	0.68		0.53	0.52	1.20
Uniform Delay, d1	32.1	10.4		53.7	38.9	26.5	48.2	48.4		47.9	47.9	31.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	0.0		21.6	28.1	1.6	5.0	7.3		1.3	1.1	102.5
Delay (s)	33.5	10.4		75.2	67.0	28.1	53.2	55.7		49.2	48.9	133.9
Level of Service	C	B		E	E	C	D	E		D	D	F
Approach Delay (s)		23.2			55.0			54.6			120.5	
Approach LOS		C			E			D			F	

Intersection Summary				
HCM Average Control Delay	61.5	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.07			
Actuated Cycle Length (s)	112.6	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	100.8%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	620	460	550	10	2020
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	58.0	58.0	54.0	8.0	62.0
Total Split (%)	48.3%	48.3%	45.0%	6.7%	51.7%
Maximum Green (s)	54.0	54.0	50.0	4.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext &



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	620	460	550	580	10	2020
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1271		1087			986
Travel Time (s)	28.9		21.2			19.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	674	500	1228	0	11	2196
v/c Ratio	0.92	0.63	0.49		0.17	0.84
Control Delay	30.3	15.0	17.5		63.4	13.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.3	15.0	17.5		63.4	13.5
Queue Length 50th (ft)	290	139	132		8	510
Queue Length 95th (ft)	m135	m57	m146		m8	m528
Internal Link Dist (ft)	1191		1007			906
Turn Bay Length (ft)					300	
Base Capacity (vph)	797	841	2483		65	2612
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.85	0.59	0.49		0.17	0.84

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	620	460	550	580	10	2020
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.92		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4648		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4648		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	674	500	598	630	11	2196
RTOR Reduction (vph)	0	137	142	0	0	0
Lane Group Flow (vph)	674	363	1086	0	11	2196
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	49.8	49.8	57.4		0.8	62.2
Effective Green, g (s)	49.8	49.8	57.4		0.8	62.2
Actuated g/C Ratio	0.41	0.41	0.48		0.01	0.52
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	735	657	2223		12	2610
v/s Ratio Prot	c0.38		0.23		0.01	c0.44
v/s Ratio Perm		0.23				
v/c Ratio	0.92	0.55	0.49		0.92	0.84
Uniform Delay, d1	33.1	26.6	21.3		59.6	24.7
Progression Factor	0.84	1.09	1.07		1.09	0.48
Incremental Delay, d2	1.9	0.1	0.6		95.2	0.9
Delay (s)	29.7	29.1	23.5		160.4	12.7
Level of Service	C	C	C		F	B
Approach Delay (s)	29.5		23.5			13.4
Approach LOS	C		C			B

Intersection Summary				
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	210	310	310	200	40	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	228	337	337	217	43	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	554				1239	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	554				1239	446
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	78				71	87
cM capacity (veh/h)	1016				148	606

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	228	337	554	120
Volume Left	228	0	0	43
Volume Right	0	0	217	76
cSH	1016	1700	1700	407
Volume to Capacity	0.22	0.20	0.33	0.29
Queue Length 95th (ft)	22	0	0	30
Control Delay (s)	9.6	0.0	0.0	21.7
Lane LOS	A			C
Approach Delay (s)	3.9		0.0	21.7
Approach LOS				C

Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	53.5%	ICU Level of Service	A	
Analysis Period (min)	15			

INTERSECTION ANALYSIS

Synchro Output

Year 2030 Andersen Air Force Base Cantonment/Housing (Alternative C) Conditions

Weekday p.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	450	500	10	10	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	500	556	11	11	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	567				1083	561
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	567				1083	561
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				95	92
cM capacity (veh/h)	1000				238	527

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	11	500	567	56
Volume Left	11	0	0	11
Volume Right	0	0	11	44
cSH	1000	1700	1700	424
Volume to Capacity	0.01	0.29	0.33	0.13
Queue Length 95th (ft)	1	0	0	11
Control Delay (s)	8.6	0.0	0.0	14.8
Lane LOS	A			B
Approach Delay (s)	0.2		0.0	14.8
Approach LOS				B

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	36.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	320	100	60	400	70	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	356	111	67	444	78	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			467		989	411
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			467		989	411
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		70	95
cM capacity (veh/h)			1095		257	641

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	467	511	111
Volume Left	0	67	78
Volume Right	111	0	33
cSH	1700	1095	313
Volume to Capacity	0.27	0.06	0.35
Queue Length 95th (ft)	0	5	39
Control Delay (s)	0.0	1.7	22.7
Lane LOS		A	C
Approach Delay (s)	0.0	1.7	22.7
Approach LOS			C

Intersection Summary				
Average Delay	3.1			
Intersection Capacity Utilization	63.0%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	340	440	10	60	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	378	489	11	67	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	500				894	494
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	500				894	494
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				78	98
cM capacity (veh/h)	1059				308	575

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	389	500	78
Volume Left	11	0	67
Volume Right	0	11	11
cSH	1059	1700	330
Volume to Capacity	0.01	0.29	0.24
Queue Length 95th (ft)	1	0	22
Control Delay (s)	0.4	0.0	19.2
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	19.2
Approach LOS			C

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	36.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	490	480	30	30	80
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	57	557	545	34	34	91
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	580				1233	562
vC1, stage 1 conf vol					562	
vC2, stage 2 conf vol					670	
vCu, unblocked vol	580				1233	562
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	94				91	83
cM capacity (veh/h)	989				396	526

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	57	557	580	125
Volume Left	57	0	0	34
Volume Right	0	0	34	91
cSH	989	1700	1700	723
Volume to Capacity	0.06	0.33	0.34	0.17
Queue Length 95th (ft)	5	0	0	16
Control Delay (s)	8.9	0.0	0.0	13.7
Lane LOS	A			B
Approach Delay (s)	0.8		0.0	13.7
Approach LOS				B

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	43.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	300	630	560	140	500
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	28.0	68.0	68.0	24.0	92.0
Total Split (%)	23.3%	56.7%	56.7%	20.0%	76.7%
Maximum Green (s)	22.5	62.0	62.0	18.5	86.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 116.9
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

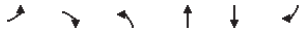
Splits and Phases: 5: Route 28 & Route 3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	110	630	560	140	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	446	0	685	609	152	543
v/c Ratio	0.76		0.66	0.53	0.66	0.21
Control Delay	51.3		23.0	3.1	62.9	5.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	51.3		23.0	3.1	62.9	5.2
Queue Length 50th (ft)	152		350	1	110	59
Queue Length 95th (ft)	209		540	56	181	85
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	677		1044	1154	280	2606
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.66		0.66	0.53	0.54	0.21

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	110	630	560	140	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3346		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3346		1863	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	120	685	609	152	543
RTOR Reduction (vph)	33	0	0	267	0	0
Lane Group Flow (vph)	413	0	685	342	152	543
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	19.3		65.5	65.5	15.1	86.1
Effective Green, g (s)	19.3		65.5	65.5	15.1	86.1
Actuated g/C Ratio	0.17		0.56	0.56	0.13	0.74
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	552		1044	887	229	2607
v/s Ratio Prot	c0.12		c0.37		c0.09	0.15
v/s Ratio Perm				0.22		
v/c Ratio	0.75		0.66	0.39	0.66	0.21
Uniform Delay, d1	46.5		17.9	14.4	48.5	4.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	5.7		3.2	1.3	7.3	0.2
Delay (s)	52.1		21.1	15.7	55.8	5.0
Level of Service	D		C	B	E	A
Approach Delay (s)	52.1		18.5			16.1
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	116.9	Sum of lost time (s)	17.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	10	10	1270	850	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	10	10	10	1323	885	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1573	448	896			
vC1, stage 1 conf vol	891					
vC2, stage 2 conf vol	682					
vCu, unblocked vol	1573	448	896			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	98	99			
cM capacity (veh/h)	292	558	753			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	21	10	661	661	590	306
Volume Left	10	10	0	0	0	0
Volume Right	10	0	0	0	0	10
cSH	384	753	1700	1700	1700	1700
Volume to Capacity	0.05	0.01	0.39	0.39	0.35	0.18
Queue Length 95th (ft)	4	1	0	0	0	0
Control Delay (s)	14.9	9.8	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	14.9	0.1			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	150	330	270	90	290
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		8.0	10.0
Minimum Split (s)	20.0		22.0		13.5	22.0
Total Split (s)	32.0	0.0	40.6	0.0	17.4	58.0
Total Split (%)	35.6%	0.0%	45.1%	0.0%	19.3%	64.4%
Maximum Green (s)	28.0		34.6		11.9	52.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 60.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	150	330	270	90	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	11%	11%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	765	176	388	318	106	341
v/c Ratio	0.73	0.11	0.69	0.22	0.36	0.36
Control Delay	25.3	0.1	27.4	0.3	33.1	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	0.1	27.4	0.3	33.1	10.1
Queue Length 50th (ft)	130	0	127	0	37	65
Queue Length 95th (ft)	231	0	247	0	98	134
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	1810	1583	1053	1455	397	1535
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.11	0.37	0.22	0.27	0.22

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	150	330	270	90	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1712	1455	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1712	1455	1770	1863
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	765	176	388	318	106	341
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	765	176	388	318	106	341
Heavy Vehicles (%)	2%	2%	11%	11%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	18.7	61.0	19.9	61.0	6.9	32.3
Effective Green, g (s)	18.7	61.0	19.9	61.0	6.9	32.3
Actuated g/C Ratio	0.31	1.00	0.33	1.00	0.11	0.53
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1052	1583	559	1455	200	986
v/s Ratio Prot	c0.22		c0.23		c0.06	0.18
v/s Ratio Perm		0.11		0.22		
v/c Ratio	0.73	0.11	0.69	0.22	0.53	0.35
Uniform Delay, d1	18.9	0.0	17.9	0.0	25.5	8.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	0.1	3.0	0.3	1.4	0.1
Delay (s)	21.0	0.1	20.9	0.3	26.9	8.3
Level of Service	C	A	C	A	C	A
Approach Delay (s)	17.1		11.7			12.7
Approach LOS	B		B			B

Intersection Summary				
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	310	10	10	1090	70	1120
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	1090	330	70	1120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	7%	7%	7%	3%	3%	3%
Shared Lane Traffic (%)				32%								
Lane Group Flow (vph)	0	66	0	232	219	0	11	1561	0	77	1242	0
v/c Ratio		0.54		0.84	0.76		0.15	0.82		0.63	0.56	
Control Delay		51.6		77.4	61.2		70.2	17.9		81.3	17.0	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		77.4	61.2		70.2	17.9		81.3	17.0	
Queue Length 50th (ft)		30		200	162		9	181		64	276	
Queue Length 95th (ft)		78		292	249		m14	#804		#124	481	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	345		91	1913		138	2234	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.69	0.63		0.12	0.82		0.56	0.56	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	1090	330	70	1120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.93		1.00	0.97		1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1610		1687	3256		1752	3500	
Flt Permitted		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1610		1687	3256		1752	3500	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	341	11	99	11	1198	363	77	1231	11
RTOR Reduction (vph)	0	29	0	0	24	0	0	19	0	0	0	0
Lane Group Flow (vph)	0	37	0	232	195	0	11	1542	0	77	1242	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	7%	7%	7%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		21.4	21.4		2.6	73.6		7.9	78.9	
Effective Green, g (s)		6.1		21.4	21.4		2.6	73.6		7.9	78.9	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.57		0.06	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		277	265		34	1843		106	2124	
v/s Ratio Prot		c0.02		c0.14	0.12		0.01	c0.47		c0.04	0.35	
v/s Ratio Perm												
v/c Ratio		0.46		0.84	0.73		0.32	0.84		0.73	0.58	
Uniform Delay, d1		60.4		52.6	51.6		62.8	23.3		60.0	15.6	
Progression Factor		1.00		1.00	1.00		1.13	0.57		1.00	1.00	
Incremental Delay, d2		1.5		18.5	8.8		1.5	3.5		18.8	1.2	
Delay (s)		61.9		71.2	60.4		72.2	16.8		78.8	16.8	
Level of Service		E		E	E		E	B		E	B	
Approach Delay (s)		61.9			65.9			17.2			20.4	
Approach LOS		E			E			B			C	

Intersection Summary

HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

9: RTE 29 & RTE 15

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	50	40	20	20	10	50	150	30	10	270	140
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	53	42	21	21	11	53	158	32	11	284	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	679	674	358	726	732	174	432			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	679	674	358	726	732	174	432			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	85	94	92	94	99	95			99		
cM capacity (veh/h)	329	356	686	271	330	870	1123			1378		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	53	242	442
Volume Left	147	21	53	11
Volume Right	42	11	32	147
cSH	369	343	1123	1378
Volume to Capacity	0.66	0.15	0.05	0.01
Queue Length 95th (ft)	112	13	4	1
Control Delay (s)	31.6	17.4	2.2	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	31.6	17.4	2.2	0.3
Approach LOS	D	C		

Intersection Summary				
Average Delay			9.4	
Intersection Capacity Utilization			63.7%	ICU Level of Service
Analysis Period (min)			15	

10: Chalan Lajuna & Route 1

Phasings

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	190	220	1250	160	1180
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	190	220	1250	170	160	1180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	7%	6%	6%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	229	1479	0	167	1229
v/c Ratio	0.80	0.58	0.73		0.78	0.46
Control Delay	75.4	16.0	8.0		83.6	4.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	75.4	16.0	8.0		83.6	4.5
Queue Length 50th (ft)	163	23	56		118	72
Queue Length 95th (ft)	239	100	m334		m#217	104
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	324	450	2038		247	2691
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.61	0.51	0.73		0.68	0.46

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	190	220	1250	170	160	1180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1687	1509	3345		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1687	1509	3345		1752	3505
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	198	229	1302	177	167	1229
RTOR Reduction (vph)	0	169	7	0	0	0
Lane Group Flow (vph)	198	60	1472	0	167	1229
Heavy Vehicles (%)	7%	7%	6%	6%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	19.2	19.2	79.0		15.8	99.8
Effective Green, g (s)	19.2	19.2	79.0		15.8	99.8
Actuated g/C Ratio	0.15	0.15	0.61		0.12	0.77
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	249	223	2033		213	2691
v/s Ratio Prot	c0.12		c0.44		c0.10	0.35
v/s Ratio Perm		0.04				
v/c Ratio	0.80	0.27	0.72		0.78	0.46
Uniform Delay, d1	53.5	49.2	17.9		55.4	5.4
Progression Factor	1.00	1.00	0.32		1.15	0.69
Incremental Delay, d2	15.0	0.2	1.8		13.3	0.5
Delay (s)	68.5	49.4	7.5		77.0	4.2
Level of Service	E	D	A		E	A
Approach Delay (s)	58.3		7.5			12.9
Approach LOS	E		A			B

Intersection Summary

HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	140	140	260	260	270	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	152	283	283	293	109
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1196	348	402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1196	348	402			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	1	78	75			
cM capacity (veh/h)	154	693	1135			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	304	565	402
Volume Left	152	283	0
Volume Right	152	0	109
cSH	252	1135	1700
Volume to Capacity	1.21	0.25	0.24
Queue Length 95th (ft)	362	25	0
Control Delay (s)	166.3	6.0	0.0
Lane LOS	F	A	
Approach Delay (s)	166.3	6.0	0.0
Approach LOS	F		

Intersection Summary				
Average Delay		42.5		
Intersection Capacity Utilization		74.7%	ICU Level of Service	D
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1160	1220	850	150	780	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1160	1220	0	850	160	150	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1221	1284	0	1063	0	158	821
v/c Ratio	1.41	0.33		0.87		0.68	0.76
Control Delay	208.6	3.5		31.5		67.4	8.2
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	208.6	3.5		31.5		67.4	8.2
Queue Length 50th (ft)	~1413	71		94		128	0
Queue Length 95th (ft)	m#1382	m111		#414		195	59
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	863	3905		1222		313	1169
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.41	0.33		0.87		0.50	0.70

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1160	1220	0	850	160	150	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4917		1770	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4917		1770	2787
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1221	1284	0	895	168	158	821
RTOR Reduction (vph)	0	0	0	20	0	0	712
Lane Group Flow (vph)	1221	1284	0	1043	0	158	109
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	100.8		31.8		17.2	17.2
Effective Green, g (s)	64.0	100.8		31.8		17.2	17.2
Actuated g/C Ratio	0.49	0.78		0.24		0.13	0.13
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	863	3905		1203		234	369
v/s Ratio Prot	c0.70	0.25		c0.21		c0.09	
v/s Ratio Perm							0.04
v/c Ratio	1.41	0.33		0.87		0.68	0.29
Uniform Delay, d1	33.0	4.4		47.1		53.7	50.9
Progression Factor	0.46	0.72		0.47		1.00	1.00
Incremental Delay, d2	188.5	0.1		7.9		5.9	0.2
Delay (s)	203.8	3.2		29.8		59.7	51.1
Level of Service	F	A		C		E	D
Approach Delay (s)		101.0		29.8		52.5	
Approach LOS		F		C		D	

Intersection Summary

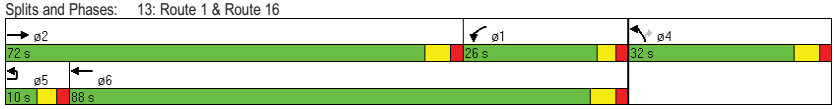
HCM Average Control Delay	73.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1800	280	1420	560	500
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1800	680	280	1420	560	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2583	0	292	1479	583	521
v/c Ratio	0.14	1.04		1.03	0.42	0.86	0.99
Control Delay	57.1	54.3		85.7	5.0	35.4	39.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	57.1	54.3		85.7	5.0	35.4	39.0
Queue Length 50th (ft)	8	~836		~266	71	205	116
Queue Length 95th (ft)	m11	m#878		m#386	139	m241	m#334
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2495		283	3487	680	528
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.04		1.03	0.42	0.86	0.99

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1800	680	280	1420	560	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4811		1752	5036	3400	1544
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4811		1752	5036	3400	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1875	708	292	1479	583	521
RTOR Reduction (vph)	0	55	0	0	0	0	219
Lane Group Flow (vph)	10	2528	0	292	1479	583	302
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	62.0		25.0	86.0	26.0	26.0
Effective Green, g (s)	1.0	62.0		25.0	86.0	26.0	26.0
Actuated g/C Ratio	0.01	0.48		0.19	0.66	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2294		337	3332	680	309
v/s Ratio Prot	0.01	c0.53		c0.17	0.29	0.17	
v/s Ratio Perm							c0.20
v/c Ratio	0.71	1.10		0.87	0.44	0.86	0.98
Uniform Delay, d1	64.4	34.0		50.9	10.5	50.2	51.7
Progression Factor	0.90	1.00		0.61	0.52	0.54	0.46
Incremental Delay, d2	57.7	50.2		13.2	0.3	5.5	30.5
Delay (s)	115.5	84.1		44.2	5.8	32.8	54.2
Level of Service	F	F		D	A	C	D
Approach Delay (s)		84.2			12.1	42.9	
Approach LOS		F			B	D	

Intersection Summary				
HCM Average Control Delay	52.5	HCM Level of Service		D
HCM Volume to Capacity ratio	1.02			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		17.0
Intersection Capacity Utilization	96.0%	ICU Level of Service		F
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	820	190	260	1980	30	1320
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	820	190	260	1980	30	1320	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	911	211	289	2200	33	2267	0
v/c Ratio	1.05	0.41	1.02	0.71	0.49	1.00	
Control Delay	89.9	15.2	88.5	18.3	93.9	45.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.9	15.2	88.5	18.3	93.9	45.1	
Queue Length 50th (ft)	~428	40	~264	363	26	705	
Queue Length 95th (ft)	#558	112	m#272	m372	m56	#769	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	514	283	3099	69	2276	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.05	0.41	1.02	0.71	0.48	1.00	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	820	190	260	1980	30	1320	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4769	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4769	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	911	211	289	2200	33	1467	800
RTOR Reduction (vph)	0	112	0	0	0	75	0
Lane Group Flow (vph)	911	99	289	2200	33	2192	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Effective Green, g (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Actuated g/C Ratio	0.25	0.25	0.16	0.60	0.02	0.46	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	283	3022	42	2201	
v/s Ratio Prot	c0.27		c0.16	0.44	0.02	c0.46	
v/s Ratio Perm		0.06					
v/c Ratio	1.05	0.25	1.02	0.73	0.79	1.00	
Uniform Delay, d1	48.5	38.6	54.5	18.5	63.2	34.9	
Progression Factor	1.00	1.00	1.06	1.00	1.19	0.85	
Incremental Delay, d2	43.2	0.1	32.7	0.4	53.6	17.1	
Delay (s)	91.7	38.7	90.2	18.9	128.7	46.8	
Level of Service	F	D	F	B	F	D	
Approach Delay (s)	81.7			27.2		48.0	
Approach LOS	F			C		D	

Intersection Summary

HCM Average Control Delay	45.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	380	180	1070	290	840
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1070	660	290	840
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	194	1861	0	312	903
v/c Ratio	0.88	0.35	0.96dr		0.86	0.27
Control Delay	47.1	2.7	15.9		52.3	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	47.1	2.7	15.9		52.3	2.9
Queue Length 50th (ft)	304	12	170		258	46
Queue Length 95th (ft)	m#478	m4	m168		m271	m46
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	557	2021		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.88	0.35	0.92		0.86	0.27

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1070	660	290	840
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.94		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4748		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4748		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	409	194	1151	710	312	903
RTOR Reduction (vph)	0	143	85	0	0	0
Lane Group Flow (vph)	409	51	1776	0	312	903
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1936		364	3293
v/s Ratio Prot	c0.23	0.03	c0.37		c0.18	0.18
v/s Ratio Perm						
v/c Ratio	0.88	0.12	0.96dr		0.86	0.27
Uniform Delay, d1	46.1	36.6	36.4		49.6	9.5
Progression Factor	0.61	0.26	0.35		0.78	0.30
Incremental Delay, d2	17.7	0.5	3.5		9.4	0.1
Delay (s)	45.8	9.8	16.2		48.3	2.9
Level of Service	D	A	B		D	A
Approach Delay (s)	34.2		16.2			14.6
Approach LOS	C		B			B

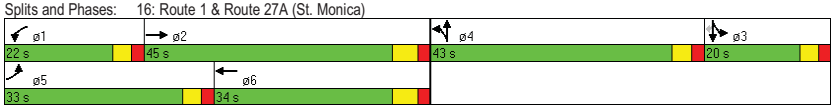
Intersection Summary				
HCM Average Control Delay	18.6	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	85.9%	ICU Level of Service	E	
Analysis Period (min)	15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	300	910	180	680	90	210	20	170	150
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	910	90	180	680	10	90	210	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	316	1053	0	189	727	0	95	421	0	21	179	158
v/c Ratio	0.91	0.60		0.87	0.53		0.21	0.91		0.11	0.87	0.50
Control Delay	94.8	25.5		90.3	30.9		43.5	60.0		53.0	92.7	13.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	94.8	25.5		90.3	30.9		43.5	60.0		53.0	92.7	13.7
Queue Length 50th (ft)	245	133		159	206		54	223		16	150	0
Queue Length 95th (ft)	#394	159		#282	268		m55	m228		43	#278	65
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1747		229	1384		517	530		204	215	322
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.84	0.60		0.83	0.53		0.18	0.79		0.10	0.83	0.49

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	910	90	180	680	10	90	210	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4968		1752	5024		1770	1730		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4968		1752	5024		1770	1730		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	958	95	189	716	11	95	221	200	21	179	158
RTOR Reduction (vph)	0	8	0	0	1	0	0	26	0	0	0	140
Lane Group Flow (vph)	316	1045	0	189	726	0	95	395	0	21	179	18
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	25.9	45.5		16.1	35.7		33.0	33.0		14.4	14.4	14.4
Effective Green, g (s)	25.9	45.5		16.1	35.7		33.0	33.0		14.4	14.4	14.4
Actuated g/C Ratio	0.20	0.35		0.12	0.27		0.25	0.25		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	349	1739		217	1380		449	439		196	206	175
v/s Ratio Prot	c0.18	c0.21		0.11	0.14		0.05	c0.23		0.01	c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.91	0.60		0.87	0.53		0.21	0.90		0.11	0.87	0.10
Uniform Delay, d1	50.9	34.8		55.9	40.0		38.2	46.9		52.0	56.9	52.0
Progression Factor	1.32	0.67		1.01	0.71		1.17	1.13		1.00	1.00	1.00
Incremental Delay, d2	24.5	1.5		27.5	1.4		0.0	9.9		0.1	29.0	0.1
Delay (s)	91.6	24.8		84.2	29.6		44.7	63.1		52.1	85.9	52.1
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		40.2			40.9			59.7			69.0	
Approach LOS		D			D			E			E	

Intersection Summary				
HCM Average Control Delay	46.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	74.3%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

17: Route 27A & Route 28

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	80	220	40	70	20	20	340	30	20	310	330
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	117	104	286	52	91	26	26	442	39	26	403	429

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	117	390	169	26	481	429	429
Volume Left (vph)	117	0	52	26	0	26	0
Volume Right (vph)	0	286	26	0	39	0	429
Hadj (s)	0.53	-0.48	0.00	0.53	-0.02	0.06	-0.67
Departure Headway (s)	9.1	8.1	9.4	9.3	8.7	8.4	7.6
Degree Utilization, x	0.29	0.87	0.44	0.07	1.16	0.99	0.91
Capacity (veh/h)	390	439	352	382	429	429	460
Control Delay (s)	14.6	44.4	19.6	11.7	123.2	70.0	48.2
Approach Delay (s)	37.6		19.6	117.4		59.1	
Approach LOS	E		C	F		F	

Intersection Summary				
Delay	65.0			
HCM Level of Service	F			
Intersection Capacity Utilization	67.6%	ICU Level of Service	C	
Analysis Period (min)	15			

18: Route 1 & Route 27

Phasings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	100	1070	480	760	140	350	1110	120	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1070	70	480	760	30	140	350	1110	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	1212	0	511	841	0	149	372	1181	0	181	43
v/c Ratio	0.67	0.98		1.00	0.37		0.44	1.04	0.90		0.98	0.24
Control Delay	87.6	49.3		101.7	20.2		39.6	69.9	9.9		120.4	35.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.6	49.3		101.7	20.2		39.6	69.9	9.9		120.4	35.4
Queue Length 50th (ft)	94	366		407	99		109	~338	160		155	16
Queue Length 95th (ft)	m152	#476		m#606	m118		m77	m210	m56		#307	55
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1233		512	2246		340	358	1316		184	178
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.52	0.98		1.00	0.37		0.44	1.04	0.90		0.98	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1070	70	480	760	30	140	350	1110	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4985		1752	5007		1770	1863	2745		1836	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4985		1752	5007		1770	1863	2745		1836	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1138	74	511	809	32	149	372	1181	53	128	43
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	788	0	0	20
Lane Group Flow (vph)	106	1207	0	511	838	0	149	372	393	0	181	23
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Effective Green, g (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Actuated g/C Ratio	0.09	0.25		0.29	0.45		0.19	0.19	0.19		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	159	1227		512	2242		340	358	528		184	158
v/s Ratio Prot	0.06	c0.24		c0.29	0.17		0.08	c0.20			c0.10	
v/s Ratio Perm									0.14			0.01
v/c Ratio	0.67	0.98		1.00	0.37		0.44	1.04	0.74		0.98	0.15
Uniform Delay, d1	57.2	48.7		46.0	23.8		46.3	52.5	49.5		58.4	53.4
Progression Factor	1.24	0.59		1.45	0.82		0.84	0.85	0.96		1.00	1.00
Incremental Delay, d2	6.7	19.9		37.0	0.4		0.0	25.8	0.5		61.0	0.2
Delay (s)	77.5	48.4		103.5	20.0		38.7	70.4	48.2		119.4	53.6
Level of Service	E	D		F	B		D	E	D		F	D
Approach Delay (s)		50.8			51.5			52.2			106.8	
Approach LOS		D			D			D			F	

Intersection Summary

HCM Average Control Delay	54.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

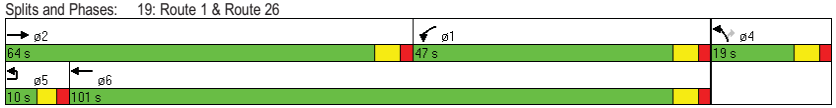
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1780	590	1080	320	620
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1780	530	590	1080	320	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2458	0	628	1149	340	660
v/c Ratio	0.31	1.11		1.14	0.30	0.99	1.12
Control Delay	76.4	74.6		90.5	1.8	104.6	90.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	76.4	74.6		90.5	1.8	104.6	90.2
Queue Length 50th (ft)	18	~829		~602	33	150	~256
Queue Length 95th (ft)	m20	m#885		m#720	m53	#251	#494
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2212		553	3835	343	588
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.11		1.14	0.30	0.99	1.12

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1780	530	590	1080	320	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4863		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4863		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1894	564	628	1149	340	660
RTOR Reduction (vph)	0	43	0	0	0	0	429
Lane Group Flow (vph)	21	2415	0	628	1149	340	231
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2095		580	3758	343	158
v/s Ratio Prot	0.01	c0.50		c0.36	0.23	0.10	
v/s Ratio Perm							c0.15
v/c Ratio	0.50	1.15		1.08	0.31	0.99	1.46
Uniform Delay, d1	62.8	37.0		43.5	5.4	58.4	58.5
Progression Factor	1.16	0.56		0.34	0.34	1.00	1.00
Incremental Delay, d2	1.4	71.4		50.5	0.1	46.0	238.4
Delay (s)	74.5	92.2		65.4	1.9	104.5	296.9
Level of Service	E	F		E	A	F	F
Approach Delay (s)		92.0			24.3	231.5	
Approach LOS		F			C	F	

Intersection Summary			
HCM Average Control Delay	95.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	103.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	490	1800	20	1320	100	50	20	280
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1800	0	20	1320	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	521	1915	0	21	1532	0	0	180	53	0	181	298
v/c Ratio	1.02	0.62		0.27	0.91			0.98	0.26		0.94	0.75
Control Delay	73.3	2.9		59.7	45.5			120.6	17.1		109.0	23.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	73.3	2.9		59.7	45.5			120.6	17.1		109.0	23.3
Queue Length 50th (ft)	~410	73		18	291			154	0		154	34
Queue Length 95th (ft)	m341	m67		m38	518			#306	41		#299	#141
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3100		94	1690			183	206		192	398
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.02	0.62		0.22	0.91			0.98	0.26		0.94	0.75

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1800	0	20	1320	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4973			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4973			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	521	1915	0	21	1404	128	74	106	53	160	21	298
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	48	0	0	228
Lane Group Flow (vph)	521	1915	0	21	1524	0	0	180	5	0	181	70
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Effective Green, g (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.29	0.60		0.03	0.34			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	512	3022		54	1683			183	158		192	170
v/s Ratio Prot	c0.30	0.38		0.01	c0.31			c0.10			c0.10	
v/s Ratio Perm									0.00			0.04
v/c Ratio	1.02	0.63		0.39	0.91			0.98	0.03		0.94	0.41
Uniform Delay, d1	46.0	16.8		61.8	41.0			58.4	52.8		57.6	54.2
Progression Factor	1.28	0.17		0.88	0.91			1.00	1.00		1.00	1.00
Incremental Delay, d2	16.6	0.1		1.5	7.9			61.2	0.0		48.0	0.6
Delay (s)	75.5	3.0		55.7	45.4			119.6	52.9		105.7	54.8
Level of Service	E	A		E	D			F	D		F	D
Approach Delay (s)		18.5			45.6			104.4			74.0	
Approach LOS		B			D			F			E	

Intersection Summary

HCM Average Control Delay	37.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

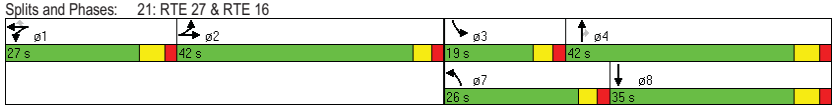
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	310	840	490	270	300	340	1070	830	250	810
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	840	540	490	270	300	340	1070	830	250	810	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		3150			1269			820			2979	
Travel Time (s)		71.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	1452	0	516	284	316	358	1126	874	263	895	0
v/c Ratio	0.65	1.41		0.93	0.94	0.62	1.27	1.16	1.29	1.39	0.80	
Control Delay	46.4	222.6		70.9	84.3	19.8	188.2	125.5	167.4	242.0	54.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.4	222.6		70.9	84.3	19.8	188.2	125.5	167.4	242.0	54.1	
Queue Length 50th (ft)	227	~827		212	228	83	~379	~590	~726	~298	271	
Queue Length 95th (ft)	m256	m#878		m#245	m#296	m106	#575	#726	#980	m#441	m314	
Internal Link Dist (ft)		3070			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1028		555	301	506	283	971	676	189	1119	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.65	1.41		0.93	0.94	0.62	1.27	1.16	1.29	1.39	0.80	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	840	540	490	270	300	340	1070	830	250	810	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3332		3433	1863	1583	1752	3505	1568	1752	5000	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3332		3433	1863	1583	1752	3505	1568	1752	5000	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	326	884	568	516	284	316	358	1126	874	263	853	42
RTOR Reduction (vph)	0	80	0	0	0	250	0	0	242	0	4	0
Lane Group Flow (vph)	326	1372	0	516	284	66	358	1126	632	263	891	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.22	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	948		555	301	256	283	971	434	189	1115	
v/s Ratio Prot	0.18	c0.41		0.15	c0.15		c0.20	0.32		0.15	0.18	
v/s Ratio Perm						0.04			c0.40			
v/c Ratio	0.65	1.45		0.93	0.94	0.26	1.27	1.16	1.46	1.39	0.80	
Uniform Delay, d1	40.8	46.5		53.8	53.9	47.7	54.5	47.0	47.0	58.0	47.7	
Progression Factor	1.02	1.01		0.93	0.94	2.18	1.00	1.00	1.00	0.91	1.02	
Incremental Delay, d2	4.3	205.2		18.0	30.9	0.2	144.3	83.4	218.3	202.7	5.5	
Delay (s)	45.7	252.1		68.3	81.4	103.9	198.8	130.4	265.3	255.3	54.1	
Level of Service	D	F		E	F	F	F	F	F	F	D	
Approach Delay (s)		214.2			81.7			190.8			99.8	
Approach LOS		F			F			F			F	

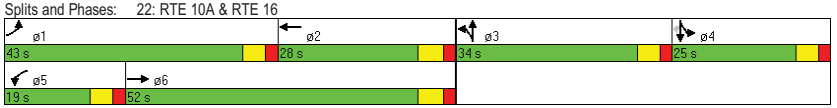
Intersection Summary				
HCM Average Control Delay	161.9	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.36			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	119.1%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	880	770	420	110	430	460	30	10	510
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	32.5	32.5	16.0	16.0
Total Split (s)	43.0	52.0	0.0	19.0	28.0	34.0	34.0	25.0	25.0
Total Split (%)	33.1%	40.0%	0.0%	14.6%	21.5%	26.2%	26.2%	19.2%	19.2%
Maximum Green (s)	37.5	46.0		13.5	22.0	28.5	28.5	19.5	19.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 123.6
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	880	770	420	110	430	20	460	30	110	30	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	400		0	0		400
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1065			746			868			1242	
Travel Time (s)		20.7			14.5			16.9			24.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							34%					
Lane Group Flow (vph)	978	856	467	122	500	0	337	329	0	0	44	567
v/c Ratio	0.95	0.67	0.30	0.69	0.87		0.92	0.89			0.18	0.95
Control Delay	62.1	36.8	0.5	76.3	66.8		79.6	70.9			50.5	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	62.1	36.8	0.5	76.3	66.8		79.6	70.9			50.5	39.1
Queue Length 50th (ft)	423	321	0	101	215		294	269			33	109
Queue Length 95th (ft)	#567	396	0	#182	#300		#485	#451			70	#341
Internal Link Dist (ft)		985			666			788			1162	
Turn Bay Length (ft)	350		450	350			400					400
Base Capacity (vph)	1049	1330	1583	195	632		387	391			283	624
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.93	0.64	0.30	0.63	0.79		0.87	0.84			0.16	0.91

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	880	770	420	110	430	20	460	30	110	30	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3516		1665	1612			1778	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3516		1665	1612			1778	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	978	856	467	122	478	22	511	33	122	33	11	567
RTOR Reduction (vph)	0	0	0	0	3	0	0	16	0	0	0	386
Lane Group Flow (vph)	978	856	467	122	497	0	337	313	0	0	44	181
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	37.0	45.0	123.5	12.3	20.3		27.1	27.1			16.6	16.6
Effective Green, g (s)	37.0	45.0	123.5	12.3	20.3		27.1	27.1			16.6	16.6
Actuated g/C Ratio	0.30	0.36	1.00	0.10	0.16		0.22	0.22			0.13	0.13
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	1029	1290	1583	176	578		365	354			239	211
v/s Ratio Prot	c0.28	0.24		0.07	c0.14		c0.20	0.19			0.02	
v/s Ratio Perm			0.29									c0.12
v/c Ratio	0.95	0.66	0.30	0.69	0.86		0.92	0.88			0.18	0.86
Uniform Delay, d1	42.4	32.9	0.0	53.8	50.2		47.2	46.7			47.4	52.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	17.2	1.0	0.5	9.1	12.1		28.0	21.4			0.1	26.5
Delay (s)	59.6	33.9	0.5	62.9	62.3		75.2	68.1			47.6	78.8
Level of Service	E	C	A	E	E		E	E			D	E
Approach Delay (s)		38.0			62.4			71.7			76.6	
Approach LOS		D			E			E			E	

Intersection Summary

HCM Average Control Delay	52.6	HCM Level of Service		D		
HCM Volume to Capacity ratio	0.91					
Actuated Cycle Length (s)	123.5	Sum of lost time (s)		22.5		
Intersection Capacity Utilization	78.5%	ICU Level of Service		D		
Analysis Period (min)	15					

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	260	10	330	10	10	220	490	10	30	500	390
Turn Type	Perm		Perm	Perm		Perm		Perm	Perm		Perm
Protected Phases		4			8		2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 41.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	10	330	10	10	20	220	490	10	30	500	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		870			640			642			991	
Travel Time (s)		16.9			12.5			12.5			19.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	281	344	0	41	0	229	510	10	31	521	406
v/c Ratio		0.67	0.47		0.08		0.75	0.59	0.01	0.10	0.61	0.43
Control Delay		24.6	4.9		9.4		26.2	11.3	3.6	7.1	11.5	2.4
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.6	4.9		9.4		26.2	11.3	3.6	7.1	11.5	2.4
Queue Length 50th (ft)		52	2		3		37	75	0	3	77	0
Queue Length 95th (ft)		#194	54		24		#127	162	5	15	167	30
Internal Link Dist (ft)		790			560			562			911	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		643	946		790		539	1515	1289	554	1515	1363
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.44	0.36		0.05		0.42	0.34	0.01	0.06	0.34	0.30

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	10	330	10	10	20	220	490	10	30	500	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1777	1583		1713		1770	1863	1583	1770	1863	1583
Flt Permitted		0.70	1.00		0.91		0.36	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)		1311	1583		1586		663	1863	1583	682	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	271	10	344	10	10	21	229	510	10	31	521	406
RTOR Reduction (vph)	0	0	223	0	14	0	0	0	5	0	0	214
Lane Group Flow (vph)	0	281	121	0	27	0	229	510	5	31	521	192
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)		13.2	13.2		13.2		19.0	19.0	19.0	19.0	19.0	19.0
Effective Green, g (s)		13.2	13.2		13.2		19.0	19.0	19.0	19.0	19.0	19.0
Actuated g/C Ratio		0.33	0.33		0.33		0.47	0.47	0.47	0.47	0.47	0.47
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		430	520		521		313	881	748	322	881	748
v/s Ratio Prot								0.27			0.28	
v/s Ratio Perm		c0.21	0.08		0.02		c0.35		0.00	0.05		0.12
v/c Ratio		0.65	0.23		0.05		0.73	0.58	0.01	0.10	0.59	0.26
Uniform Delay, d1		11.5	9.8		9.2		8.5	7.7	5.6	5.9	7.8	6.4
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.7	0.1		0.0		7.4	0.6	0.0	0.0	0.7	0.1
Delay (s)		14.3	9.9		9.2		15.9	8.3	5.6	5.9	8.5	6.4
Level of Service		B	A		A		B	A	A	A	A	A
Approach Delay (s)		11.9			9.2			10.6			7.5	
Approach LOS		B			A			B			A	

Intersection Summary				
HCM Average Control Delay	9.7	HCM Level of Service	A	
HCM Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	40.2	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	70.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	10	290	10	10	10	370	410	10	10	320	160
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	214	12	345	12	12	12	440	488	12	12	381	190
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1792	1786	381	1780	1774	488	381			500		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1792	1786	381	1780	1774	488	381			500		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	76	48	33	77	98	62			99		
cM capacity (veh/h)	36	50	666	18	51	580	1161			1059		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	214	357	36	440	488	12	12	381	190
Volume Left	214	0	12	440	0	0	12	0	0
Volume Right	0	345	12	0	0	12	0	0	190
cSH	36	689	39	1161	1700	1700	1059	1700	1700
Volume to Capacity	6.00	0.52	0.92	0.38	0.29	0.01	0.01	0.22	0.11
Queue Length 95th (ft)	Err	75	87	45	0	0	1	0	0
Control Delay (s)	Err	18.8	277.6	10.0	0.0	0.0	8.4	0.0	0.0
Lane LOS	F	C	F	A			A		
Approach Delay (s)	3761.4		277.6	4.7			0.2		
Approach LOS	F		F						

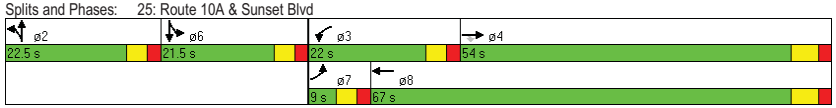
Intersection Summary				
Average Delay	1015.4			
Intersection Capacity Utilization	64.0%	ICU Level of Service	B	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	1600	10	310	1210	60	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	54.0	54.0	22.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	45.0%	45.0%	18.3%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	48.0	48.0	17.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 109
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1600	10	310	1210	40	60	10	170	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		165	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1228			925			632			353	
Travel Time (s)		27.9			21.0			14.4			8.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1702	11	330	1330	0	64	192	0	0	54	0
v/c Ratio	0.17	1.09	0.02	1.19	0.42		0.22	0.47			0.43	
Control Delay	58.8	81.8	12.9	157.9	11.7		43.9	11.7			53.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	58.8	81.8	12.9	157.9	11.7		43.9	11.7			53.3	
Queue Length 50th (ft)	8	~729	2	~288	158		40	7			31	
Queue Length 95th (ft)	28	#911	13	#484	254		84	73			73	
Internal Link Dist (ft)		1148			845			552			273	
Turn Bay Length (ft)	180		165	420								
Base Capacity (vph)	65	1563	703	277	3182		285	409			275	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	1.09	0.02	1.19	0.42		0.22	0.47			0.20	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

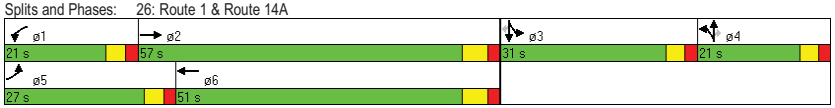
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1600	10	310	1210	40	60	10	170	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1770	3539	1583	1770	5061		1770	1599			1759	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (perm)	1770	3539	1583	1770	5061		1770	1599			1759	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1702	11	330	1287	43	64	11	181	32	11	11
RTOR Reduction (vph)	0	0	4	0	2	0	0	153	0	0	9	0
Lane Group Flow (vph)	11	1702	7	330	1328	0	64	39	0	0	45	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Effective Green, g (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Actuated g/C Ratio	0.01	0.46	0.46	0.15	0.60		0.15	0.15			0.06	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1622	726	264	3038		271	245			97	
v/s Ratio Prot	0.01	c0.48		c0.19	0.26		c0.04	0.02			c0.03	
v/s Ratio Perm			0.00									
v/c Ratio	0.92	1.05	0.01	1.25	0.44		0.24	0.16			0.47	
Uniform Delay, d1	56.6	30.9	16.8	48.5	12.4		42.4	41.9			52.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	209.7	36.5	0.0	139.9	0.0		2.0	1.4			1.3	
Delay (s)	266.3	67.4	16.8	188.5	12.4		44.5	43.3			53.6	
Level of Service	F	E	B	F	B		D	D			D	
Approach Delay (s)		68.4			47.4			43.6			53.6	
Approach LOS		E			D			D			D	

Intersection Summary				
HCM Average Control Delay	57.0	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	114.1	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	93.3%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	430	1730	290	1870	400	80	210	790	70	230
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	43.0	12.0	33.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (s)	27.0	57.0	21.0	51.0	21.0	21.0	21.0	31.0	31.0	31.0
Total Split (%)	20.8%	43.8%	16.2%	39.2%	16.2%	16.2%	16.2%	23.8%	23.8%	23.8%
Maximum Green (s)	22.0	51.0	16.0	45.0	16.0	16.0	16.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		5		0	0	0	0	10	10	10

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 22 (17%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1730	550	290	1870	340	400	80	210	790	70	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	200		200	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3050			1510			526			604	
Travel Time (s)		59.4			29.4			14.3			16.5	
Confl. Peds. (#/hr)			5									142
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							40%			46%		
Lane Group Flow (vph)	473	2505	0	319	2429	0	264	264	231	469	476	253
v/c Ratio	1.60	1.29		1.48	1.41		1.28	1.25	0.62	1.40	1.40	0.60
Control Delay	312.7	154.6		285.2	212.0		201.0	191.9	18.9	234.2	235.7	17.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	312.7	154.6		285.2	212.0		201.0	191.9	18.9	234.2	235.7	17.7
Queue Length 50th (ft)	~566	~961		~380	~991		~295	~292	24	~554	~564	36
Queue Length 95th (ft)	m#498	m#764		#574	#1078		#482	#477	110	#777	#790	129
Internal Link Dist (ft)		2970			1430			446			524	
Turn Bay Length (ft)	630			350			200		200	360		250
Base Capacity (vph)	296	1940		216	1723		207	211	370	336	340	421
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.60	1.29		1.48	1.41		1.28	1.25	0.62	1.40	1.40	0.60

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1730	550	290	1870	340	400	80	210	790	70	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4833		1752	4920		1681	1713	1583	1681	1698	1296
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4833		1752	4920		1681	1713	1583	1681	1698	1296
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	473	1901	604	319	2055	374	440	88	231	868	77	253
RTOR Reduction (vph)	0	44	0	0	20	0	0	0	175	0	0	162
Lane Group Flow (vph)	473	2461	0	319	2409	0	264	264	56	469	476	91
Confl. Peds. (#/hr)			5									142
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Effective Green, g (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Actuated g/C Ratio	0.17	0.39		0.12	0.35		0.12	0.12	0.12	0.20	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	296	1896		216	1703		207	211	195	336	340	259
v/s Ratio Prot	c0.27	0.51		0.18	c0.49		c0.16	0.15		0.28	c0.28	
v/s Ratio Perm									0.04			0.07
v/c Ratio	1.60	1.30		1.48	1.41		1.28	1.25	0.29	1.40	1.40	0.35
Uniform Delay, d1	54.0	39.5		57.0	42.5		57.0	57.0	51.8	52.0	52.0	44.8
Progression Factor	1.19	0.52		1.43	0.58		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	273.6	135.3		234.9	189.5		155.9	145.9	0.3	195.4	196.9	0.3
Delay (s)	337.7	156.0		316.5	214.2		212.9	202.9	52.1	247.4	248.9	45.1
Level of Service	F	F		F	F		F	F	D	F	F	D
Approach Delay (s)		184.8			226.1			160.5			205.3	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	200.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	111.3%	ICU Level of Service	H
Analysis Period (min)	15		

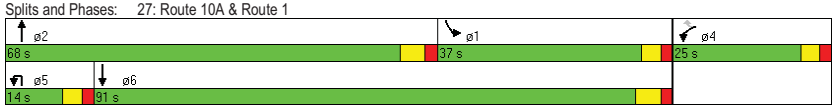
c Critical Lane Group

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	650	560	50	1710	600	1370
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	18.0	18.0	9.0	35.0	12.0	25.0
Total Split (s)	25.0	25.0	14.0	68.0	37.0	91.0
Total Split (%)	19.2%	19.2%	10.8%	52.3%	28.5%	70.0%
Maximum Green (s)	20.0	20.0	9.0	62.0	32.0	85.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lead	Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 93 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	650	560	50	1710	1120	600	1370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1852			1905			3050
Travel Time (s)	36.1			37.1			59.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	684	589	53	2979	0	632	1442
v/c Ratio	1.30	1.03	0.50	1.41dr		1.47	0.42
Control Delay	189.8	63.9	67.8	155.5		246.3	4.7
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	189.8	63.9	67.8	155.5		246.3	4.7
Queue Length 50th (ft)	~378	~235	46	~1142		~728	129
Queue Length 95th (ft)	#501	#466	m60	m#1217		m#468	m73
Internal Link Dist (ft)	1772			1825			2970
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	528	572	125	2351		431	3425
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.30	1.03	0.42	1.27		1.47	0.42

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	650	560	50	1710	1120	600	1370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	1.00	0.94		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4737		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4737		1752	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	684	589	53	1800	1179	632	1442
RTOR Reduction (vph)	0	328	0	92	0	0	0
Lane Group Flow (vph)	684	261	53	2887	0	632	1442
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	20.0	20.0	6.6	61.0		33.0	87.4
Effective Green, g (s)	20.0	20.0	6.6	61.0		33.0	87.4
Actuated g/C Ratio	0.15	0.15	0.05	0.47		0.25	0.67
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	528	244	92	2223		445	3386
v/s Ratio Prot	c0.20		0.03	c0.61		c0.36	0.29
v/s Ratio Perm		0.16					
v/c Ratio	1.30	1.07	0.58	1.41dr		1.42	0.43
Uniform Delay, d1	55.0	55.0	60.3	34.5		48.5	9.8
Progression Factor	1.00	1.00	0.95	1.16		0.98	0.48
Incremental Delay, d2	146.5	76.9	3.8	136.9		190.3	0.0
Delay (s)	201.5	131.9	60.9	177.0		237.6	4.7
Level of Service	F	F	E	F		F	A
Approach Delay (s)	169.3			175.0			75.7
Approach LOS	F			F			E

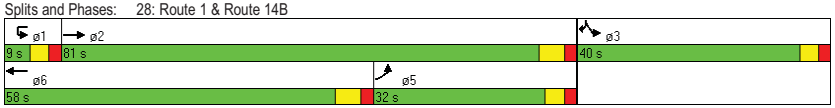
Intersection Summary				
HCM Average Control Delay	141.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.2%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	340	2210	10	1550	450	220
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	28.0	28.0
Total Split (s)	32.0	81.0	9.0	58.0	40.0	40.0
Total Split (%)	24.6%	62.3%	6.9%	44.6%	30.8%	30.8%
Maximum Green (s)	27.0	75.0	4.0	52.0	35.0	35.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 121 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2210	10	1550	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2667		1905		583	
Travel Time (s)		52.0		37.1		15.9	
Confl. Peds. (#/hr)							3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	354	2302	10	1896	0	469	229
v/c Ratio	0.97	0.72	0.18	0.95		0.98	0.46
Control Delay	67.5	6.3	70.8	28.2		84.6	26.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	67.5	6.3	70.8	28.2		84.6	26.4
Queue Length 50th (ft)	280	78	9	275		395	94
Queue Length 95th (ft)	m#410	m340	m17	m275		#616	175
Internal Link Dist (ft)		2587		1825		503	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	364	3184	56	1989		477	494
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.97	0.72	0.18	0.95		0.98	0.46

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2210	10	1550	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4924		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4924		1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	354	2302	10	1615	281	469	229
RTOR Reduction (vph)	0	0	0	20	0	0	68
Lane Group Flow (vph)	354	2302	10	1876	0	469	161
Confl. Peds. (#/hr)							3
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	31.0	78.2	0.8	48.0		35.0	35.0
Effective Green, g (s)	31.0	78.2	0.8	48.0		35.0	35.0
Actuated g/C Ratio	0.24	0.60	0.01	0.37		0.27	0.27
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	418	3029	11	1818		477	426
v/s Ratio Prot	c0.20	0.46	0.01	c0.38		c0.27	0.10
v/s Ratio Perm							
v/c Ratio	0.85	0.76	0.91	1.03		0.98	0.38
Uniform Delay, d1	47.2	19.0	64.6	41.0		47.2	38.6
Progression Factor	0.70	0.33	1.07	0.49		1.00	1.00
Incremental Delay, d2	8.7	1.1	177.5	26.7		36.5	0.2
Delay (s)	42.0	7.3	246.3	46.8		83.7	38.8
Level of Service	D	A	F	D		F	D
Approach Delay (s)		11.9		47.8		69.0	
Approach LOS		B		D		E	

Intersection Summary

HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	350	1280	190	990	180	250	270	740	190	450
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	18.0	18.0	12.0	25.0	25.0
Total Split (s)	31.0	56.0	24.0	49.0	15.0	18.0	18.0	32.0	35.0	35.0
Total Split (%)	23.8%	43.1%	18.5%	37.7%	11.5%	13.8%	13.8%	24.6%	26.9%	26.9%
Maximum Green (s)	26.0	50.0	19.0	43.0	10.0	12.0	12.0	27.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 39 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1280	180	190	990	630	180	250	270	740	190	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		2679			2667			634			1132	
Travel Time (s)		52.2			52.0			12.4			25.7	
Confl. Peds. (#/hr)			3						4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	368	1536	0	200	1705	0	189	263	284	779	200	474
v/c Ratio	1.05	0.77		0.85	1.09dr		0.74	0.83	0.77	1.09	0.48	0.72
Control Delay	95.7	24.3		73.7	34.1		76.7	79.4	25.4	109.4	48.5	16.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.7	24.3		73.7	34.1		76.7	79.4	25.4	109.4	48.5	16.4
Queue Length 50th (ft)	~334	443		137	~367		81	116	27	~381	148	61
Queue Length 95th (ft)	m#538	m517		m162	m#573		#130	#184	#149	#507	227	195
Internal Link Dist (ft)		2599			2587			554			1052	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1985		256	1669		264	327	370	713	416	654
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.77		0.78	1.02		0.72	0.80	0.77	1.09	0.48	0.72

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	1280	180	190	990	630	180	250	270	740	190	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4933		1752	4742		3433	3539	1554	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4933		1752	4742		3433	3539	1554	3433	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	368	1347	189	200	1042	663	189	263	284	779	200	474
RTOR Reduction (vph)	0	14	0	0	88	0	0	0	228	0	0	300
Lane Group Flow (vph)	368	1522	0	200	1617	0	189	263	57	779	200	174
Confl. Peds. (#/hr)			3						4			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	26.0	51.9		17.4	43.3		9.6	11.7	11.7	27.0	29.1	29.1
Effective Green, g (s)	26.0	51.9		17.4	43.3		9.6	11.7	11.7	27.0	29.1	29.1
Actuated g/C Ratio	0.20	0.40		0.13	0.33		0.07	0.09	0.09	0.21	0.22	0.22
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1969		234	1579		254	319	140	713	417	354
v/s Ratio Prot	c0.21	0.31		0.11	c0.34		0.06	c0.07		c0.23	0.11	
v/s Ratio Perm									0.04			0.11
v/c Ratio	1.05	0.77		0.85	1.09dr		0.74	0.82	0.40	1.09	0.48	0.49
Uniform Delay, d1	52.0	33.9		55.1	43.4		59.0	58.1	55.9	51.5	43.9	44.0
Progression Factor	0.76	0.65		1.03	0.26		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.0	2.3		13.1	22.1		9.9	15.0	0.7	61.8	0.3	0.4
Delay (s)	95.7	24.2		70.0	33.6		68.9	73.2	56.5	113.3	44.2	44.4
Level of Service	F	C		E	C		E	E	E	F	D	D
Approach Delay (s)		38.0			37.4			65.7			81.3	
Approach LOS		D			D			E			F	

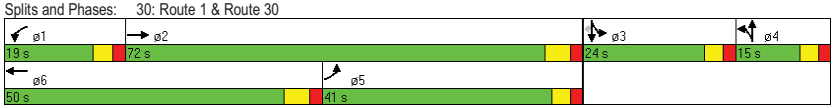
Intersection Summary				
HCM Average Control Delay	51.7	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	100.6%	ICU Level of Service	G	
Analysis Period (min)	15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	450	1680	90	1510	90	230	20	590
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	15.0	10.0	10.0	10.0
Total Split (s)	41.0	72.0	19.0	50.0	15.0	24.0	24.0	24.0
Total Split (%)	31.5%	55.4%	14.6%	38.5%	11.5%	18.5%	18.5%	18.5%
Maximum Green (s)	36.0	66.0	14.0	44.0	10.0	19.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 92 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1680	30	90	1510	180	20	90	20	230	20	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2679			238			2279	
Travel Time (s)		25.0			52.2			6.5			62.2	
Confl. Peds. (#/hr)			4									4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	484	1838	0	97	1818	0	0	141	0	133	136	634
v/c Ratio	1.00	0.66		0.65	1.00			0.97		0.65	0.66	0.95
Control Delay	76.3	19.9		77.6	41.3			124.8		69.0	69.5	33.9
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	76.3	19.9		77.6	41.3			124.8		69.0	69.5	33.9
Queue Length 50th (ft)	428	331		74	~611			116		110	113	71
Queue Length 95th (ft)	#633	358		m86	m#642			#256		184	187	#319
Internal Link Dist (ft)		1204			2599			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	485	2788		189	1812			145		246	248	692
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.00	0.66		0.51	1.00			0.97		0.54	0.55	0.92

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1680	30	90	1510	180	20	90	20	230	20	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5020		1752	4955			1809		1681	1698	1553
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5020		1752	4955			1809		1681	1698	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	484	1806	32	97	1624	194	22	97	22	247	22	634
RTOR Reduction (vph)	0	1	0	0	11	0	0	6	0	0	0	479
Lane Group Flow (vph)	484	1837	0	97	1807	0	0	135	0	133	136	155
Confl. Peds. (#/hr)			4									4
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	36.0	72.2		11.1	47.3			10.0		15.7	15.7	15.7
Effective Green, g (s)	36.0	72.2		11.1	47.3			10.0		15.7	15.7	15.7
Actuated g/C Ratio	0.28	0.56		0.09	0.36			0.08		0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	485	2788		150	1803			139		203	205	188
v/s Ratio Prot	c0.28	0.37		0.06	c0.36			c0.07		0.08	0.08	
v/s Ratio Perm												c0.10
v/c Ratio	1.00	0.66		0.65	1.00			0.97		0.66	0.66	0.82
Uniform Delay, d1	47.0	20.3		57.6	41.4			59.9		54.6	54.6	55.8
Progression Factor	0.88	0.89		1.15	0.54			1.00		1.00	1.00	1.00
Incremental Delay, d2	33.8	0.9		4.0	16.5			67.8		5.7	6.1	23.3
Delay (s)	75.4	18.9		70.3	38.9			127.7		60.3	60.7	79.1
Level of Service	E	B		E	D			F		E	E	E
Approach Delay (s)		30.7			40.5			127.7			73.6	
Approach LOS		C			D			F			E	

Intersection Summary

HCM Average Control Delay	44.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

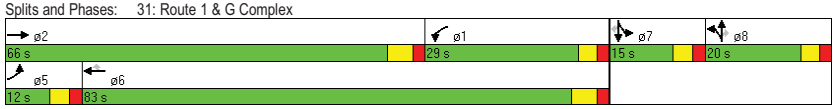
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1120	190	940	30	200	20	120	30	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	6.5	10.0	6.5	10.0	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	28.0	12.0	24.0	24.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	12.0	66.0	29.0	83.0	83.0	20.0	20.0	20.0	15.0	15.0
Total Split (%)	9.2%	50.8%	22.3%	63.8%	63.8%	15.4%	15.4%	15.4%	11.5%	11.5%
Maximum Green (s)	7.0	60.0	24.0	77.0	77.0	15.0	15.0	15.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		15.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 17 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 1 & G Complex



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1120	370	190	940	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		1343			5039			848			380	
Travel Time (s)		26.2			98.2			19.3			13.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	12	1753	0	224	1106	35	129	130	141	0	82	12
v/c Ratio	0.13	0.69		0.83	0.47	0.03	0.76	0.76	0.49		0.63	0.10
Control Delay	62.4	25.6		46.6	3.1	0.1	84.1	83.4	14.5		80.2	27.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	62.4	25.6		46.6	3.1	0.1	84.1	83.4	14.5		80.2	27.6
Queue Length 50th (ft)	10	399		197	36	0	111	112	0		68	0
Queue Length 95th (ft)	30	441		206	37	m0	173	175	52		116	19
Internal Link Dist (ft)		1263			4959			768			300	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	94	2524		323	2343	1060	194	196	307		139	133
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.13	0.69		0.69	0.47	0.03	0.66	0.66	0.46		0.59	0.09

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1120	370	190	940	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)	1752	4848		1752	3505	1568	1681	1700	1583		1811	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)	1752	4848		1752	3505	1568	1681	1700	1583		1811	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	1318	435	224	1106	35	235	24	141	47	35	12
RTOR Reduction (vph)	0	43	0	0	0	12	0	0	127	0	0	11
Lane Group Flow (vph)	12	1710	0	224	1106	23	129	130	14	0	82	1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Effective Green, g (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Actuated g/C Ratio	0.02	0.49		0.18	0.65	0.65	0.10	0.10	0.10		0.07	0.07
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	36	2368		311	2262	1012	169	171	160		130	113
v/s Ratio Prot	0.01	c0.35		c0.13	0.32		c0.08	0.08			c0.05	
v/s Ratio Perm						0.01			0.01			0.00
v/c Ratio	0.33	0.72		0.72	0.49	0.02	0.76	0.76	0.09		0.63	0.01
Uniform Delay, d1	62.8	26.3		50.4	11.9	8.3	56.9	56.9	53.0		58.7	56.1
Progression Factor	1.00	1.00		0.47	0.21	0.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0	1.9		5.8	0.6	0.0	16.6	16.2	0.1		7.1	0.0
Delay (s)	64.7	28.2		29.7	3.2	0.0	73.6	73.2	53.1		65.8	56.1
Level of Service	E	C		C	A	A	E	E	D		E	E
Approach Delay (s)		28.5			7.4			66.2			64.6	
Approach LOS		C			A			E			E	

Intersection Summary				
HCM Average Control Delay	25.7	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	66.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1500	1560	300	570	670
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	74.0	74.0	56.0	56.0	56.0
Total Split (%)	56.9%	56.9%	43.1%	43.1%	43.1%
Maximum Green (s)	68.0	68.0	50.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	15.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 32: RTE 1 & Route 4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1500	60	0	1560	30	0	300	570	0	670	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		115	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			979			889			385	
Travel Time (s)		7.7			19.1			17.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1695	0	0	1729	0	0	636	310	0	728	0
v/c Ratio		0.53			0.53			0.76	0.79		0.78	
Control Delay		10.9			9.3			20.2	25.5		49.9	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		10.9			9.3			20.2	25.5		49.9	
Queue Length 50th (ft)		131			150			184	61		302	
Queue Length 95th (ft)		239			457			66	69		332	
Internal Link Dist (ft)		313			899			809			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3223			3232			1218	563		1361	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.53			0.53			0.52	0.55		0.53	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1500	60	0	1560	30	0	300	570	0	670	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		5007			5022			3142	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		5007			5022			3142	1441		3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1630	65	0	1696	33	0	326	620	0	728	0
RTOR Reduction (vph)	0	2	0	0	1	0	0	11	11	0	0	0
Lane Group Flow (vph)	0	1693	0	0	1728	0	0	625	299	0	728	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		83.6			83.6			34.4	34.4		34.4	
Effective Green, g (s)		83.6			83.6			34.4	34.4		34.4	
Actuated g/C Ratio		0.64			0.64			0.26	0.26		0.26	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3220			3230			831	381		936	
v/s Ratio Prot		0.34			c0.34			0.20			0.21	
v/s Ratio Perm									c0.21			
v/c Ratio		0.53			0.53			0.75	0.78		0.78	
Uniform Delay, d1		12.5			12.6			43.9	44.4		44.3	
Progression Factor		0.77			0.64			0.36	0.32		1.00	
Incremental Delay, d2		0.5			0.6			2.7	7.5		3.8	
Delay (s)		10.1			8.7			18.6	21.9		48.0	
Level of Service		B			A			B	C		D	
Approach Delay (s)		10.1			8.7			19.7			48.0	
Approach LOS		B			A			B			D	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

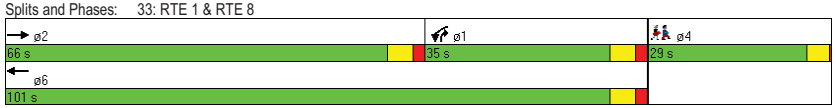
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1750	700	1520	610	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	35.0	22.0	35.0	29.0
Total Split (s)	66.0	35.0	101.0	35.0	29.0
Total Split (%)	50.8%	26.9%	77.7%	26.9%	22%
Maximum Green (s)	60.0	29.0	95.0	29.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 50 (38%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 33: RTE 1 & RTE 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1750	380	700	1520	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	979			927	469	
Travel Time (s)	19.1			18.1	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2366	0	778	1689	0	678
v/c Ratio	0.70		1.03	0.48		0.64
Control Delay	10.7		66.4	2.0		10.8
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	10.7		66.4	2.0		10.8
Queue Length 50th (ft)	371		~313	25		43
Queue Length 95th (ft)	227		m#371	m33		110
Internal Link Dist (ft)	899			847	389	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3370		758	3505		1063
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.70		1.03	0.48		0.64

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1750	380	700	1520	0	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0		6.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4901		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4901		3400	3505		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1944	422	778	1689	0	678
RTOR Reduction (vph)	15	0	0	0	0	441
Lane Group Flow (vph)	2351	0	778	1689	0	237
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	89.0		29.0	130.0		29.0
Effective Green, g (s)	89.0		29.0	130.0		29.0
Actuated g/C Ratio	0.68		0.22	1.00		0.22
Clearance Time (s)	6.0		6.0	6.0		6.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3355		758	3505		622
v/s Ratio Prot	c0.48		c0.23	0.48		0.08
v/s Ratio Perm						
v/c Ratio	0.70		1.03	0.48		0.38
Uniform Delay, d1	12.4		50.5	0.0		42.9
Progression Factor	0.78		0.75	1.00		1.00
Incremental Delay, d2	1.1		28.2	0.2		0.1
Delay (s)	10.7		66.0	0.2		43.0
Level of Service	B		E	A		D
Approach Delay (s)	10.7			21.0	43.0	
Approach LOS	B			C	D	

Intersection Summary				
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	30	590	310	610	950	90
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	32	634	333	656	1022	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1157	469	
pX, platoon unblocked						
vC, conflicting volume	2016	511	1022			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2016	511	1022			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	51			
cM capacity (veh/h)	26	508	675			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	32	634	333	328	328	511	511	97
Volume Left	32	0	333	0	0	0	0	0
Volume Right	0	634	0	0	0	0	0	97
cSH	26	508	675	1700	1700	1700	1700	1700
Volume to Capacity	1.25	1.25	0.49	0.19	0.19	0.30	0.30	0.06
Queue Length 95th (ft)	98	631	69	0	0	0	0	0
Control Delay (s)	488.7	152.5	15.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	F	C					
Approach Delay (s)	168.8		5.2			0.0		
Approach LOS	F							

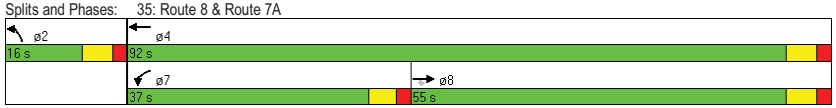
Intersection Summary			
Average Delay	42.4		
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1360	220	950	790	110	690
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	21.0	31.0	16.0	
Total Split (s)	55.0	55.0	37.0	92.0	16.0	0.0
Total Split (%)	50.9%	50.9%	34.3%	85.2%	14.8%	0.0%
Maximum Green (s)	49.0	49.0	31.5	86.0	10.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	0	0			0	

Intersection Summary

Cycle Length: 108
Actuated Cycle Length: 108
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1360	220	950	790	110	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1157			1264	644	
Travel Time (s)	22.5			24.6	12.5	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1722	278	1203	1000	139	873
v/c Ratio	1.07	0.33	1.20	0.35	0.85	0.55
Control Delay	74.3	6.4	135.4	3.5	88.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.3	6.4	135.4	3.5	88.4	1.4
Queue Length 50th (ft)	~698	28	~523	81	96	0
Queue Length 95th (ft)	#661	56	#528	84	#168	0
Internal Link Dist (ft)	1077			1184	564	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1606	831	1001	2818	164	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.33	1.20	0.35	0.85	0.55

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

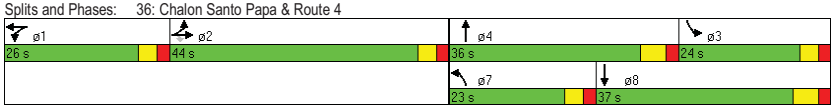
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1360	220	950	790	110	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	1770	1583
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	1722	278	1203	1000	139	873
RTOR Reduction (vph)	0	113	0	0	0	0
Lane Group Flow (vph)	1722	165	1203	1000	139	873
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	49.0	49.0	31.5	86.0	10.0	108.0
Effective Green, g (s)	49.0	49.0	31.5	86.0	10.0	108.0
Actuated g/C Ratio	0.45	0.45	0.29	0.80	0.09	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1606	718	1001	2818	164	1583
v/s Ratio Prot	c0.49		c0.35	0.28	0.08	
v/s Ratio Perm		0.10				c0.55
v/c Ratio	1.07	0.23	1.20	0.35	0.85	0.55
Uniform Delay, d1	29.5	18.0	38.2	3.1	48.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	44.6	0.1	100.5	0.0	30.2	1.4
Delay (s)	74.1	18.1	138.7	3.2	78.4	1.4
Level of Service	E	B	F	A	E	A
Approach Delay (s)	66.3			77.2	12.0	
Approach LOS	E			E	B	

Intersection Summary				
HCM Average Control Delay	60.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	280	190	150	120	680	130	730
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	25.0	25.0	26.0	8.0	22.0	8.0	22.0
Total Split (s)	44.0	44.0	26.0	23.0	36.0	24.0	37.0
Total Split (%)	33.8%	33.8%	20.0%	17.7%	27.7%	18.5%	28.5%
Maximum Green (s)	39.0	39.0	21.0	18.0	30.0	19.0	31.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	190	110	150	80	120	680	180	130	730	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			810			850	
Travel Time (s)		28.3			11.8			15.8			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	216	0	386	0	136	978	0	148	887	0
v/c Ratio		0.89	0.40		0.80		0.72	0.60		0.65	0.51	
Control Delay		67.8	9.5		63.1		62.3	37.3		38.0	15.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.8	9.5		63.1		62.3	37.3		38.0	15.4	
Queue Length 50th (ft)		331	18		155		115	279		85	70	
Queue Length 95th (ft)		421	73		203		m171	m335		168	187	
Internal Link Dist (ft)		1164			439			730			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		553	607		566		245	1621		259	1737	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.74	0.36		0.68		0.56	0.60		0.57	0.51	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	190	110	150	80	120	680	180	130	730	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.97		1.00	0.99	
Flt Protected		0.99	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1842	1583		3360		1770	4925		1770	5036	
Flt Permitted		0.99	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1842	1583		3360		1770	4925		1770	5036	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	91	318	216	125	170	91	136	773	205	148	830	57
RTOR Reduction (vph)	0	0	141	0	23	0	0	33	0	0	5	0
Lane Group Flow (vph)	0	409	75	0	363	0	136	945	0	148	882	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		32.6	32.6		17.8		13.9	41.9		16.7	44.7	
Effective Green, g (s)		32.6	32.6		17.8		13.9	41.9		16.7	44.7	
Actuated g/C Ratio		0.25	0.25		0.14		0.11	0.32		0.13	0.34	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		462	397		460		189	1587		227	1732	
v/s Ratio Prot		c0.22			c0.11		c0.08	c0.19		c0.08	0.18	
v/s Ratio Perm			0.05									
v/c Ratio		0.89	0.19		0.79		0.72	0.60		0.65	0.51	
Uniform Delay, d1		46.9	38.3		54.3		56.2	36.9		53.9	33.9	
Progression Factor		1.00	1.00		1.00		0.81	0.97		0.47	0.40	
Incremental Delay, d2		17.6	0.1		8.1		8.5	1.3		4.7	1.0	
Delay (s)		64.5	38.4		62.3		54.0	37.2		29.9	14.6	
Level of Service		E	D		E		D	D		C	B	
Approach Delay (s)		55.5			62.3			39.2			16.8	
Approach LOS		E			E			D			B	

Intersection Summary					
HCM Average Control Delay	37.9	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.72				
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		20.0	
Intersection Capacity Utilization	70.9%	ICU Level of Service		C	
Analysis Period (min)	15				

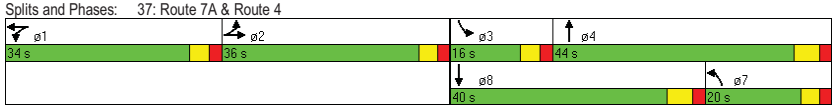
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	200	290	460	410	160	620	100	790
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.0	29.0	27.0	27.0	13.0	25.0	13.0	29.0
Total Split (s)	36.0	36.0	34.0	34.0	20.0	44.0	16.0	40.0
Total Split (%)	27.7%	27.7%	26.2%	26.2%	15.4%	33.8%	12.3%	30.8%
Maximum Green (s)	31.0	31.0	29.0	29.0	15.0	38.0	11.0	34.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 126 (97%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	290	90	460	410	90	160	620	330	100	790	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		827			967			716			810	
Travel Time (s)		18.8			22.0			13.9			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)				31%								
Lane Group Flow (vph)	217	413	0	345	699	0	174	1033	0	109	1055	0
v/c Ratio	0.52	0.96		0.96	0.94		0.89	0.68		0.77	0.78	
Control Delay	48.5	83.3		88.7	70.7		96.9	38.6		65.8	31.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.5	83.3		88.7	70.7		96.9	38.6		65.8	31.6	
Queue Length 50th (ft)	160	338		318	315		146	256		95	318	
Queue Length 95th (ft)	244	#545		#529	#443		#275	309		m#178	359	
Internal Link Dist (ft)		747			887			636			730	
Turn Bay Length (ft)				250			250			200		
Base Capacity (vph)	418	432		359	741		204	1517		150	1354	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.52	0.96		0.96	0.94		0.85	0.68		0.73	0.78	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

37: Route 7A & Route 4

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	290	90	460	410	90	160	620	330	100	790	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.96		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1779		1610	3283		1770	4820		1770	4944	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	1779		1610	3283		1770	4820		1770	4944	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	315	98	500	446	98	174	674	359	109	859	196
RTOR Reduction (vph)	0	8	0	0	9	0	0	74	0	0	29	0
Lane Group Flow (vph)	217	405	0	345	690	0	174	959	0	109	1026	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	30.7	30.7		29.0	29.0		14.5	38.9		10.4	34.8	
Effective Green, g (s)	30.7	30.7		29.0	29.0		14.5	38.9		10.4	34.8	
Actuated g/C Ratio	0.24	0.24		0.22	0.22		0.11	0.30		0.08	0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	414	420		359	732		197	1442		142	1323	
v/s Ratio Prot	0.12	c0.23		c0.21	0.21		c0.10	0.20		0.06	c0.21	
v/s Ratio Perm												
v/c Ratio	0.52	0.96		0.96	0.94		0.88	0.67		0.77	0.78	
Uniform Delay, d1	43.3	49.1		49.9	49.7		56.9	39.9		58.6	44.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.60	0.65	
Incremental Delay, d2	0.6	34.1		36.9	20.1		33.2	2.4		17.6	4.0	
Delay (s)	43.8	83.2		86.9	69.8		90.1	42.3		52.7	32.4	
Level of Service	D	F		F	E		F	D		D	C	
Approach Delay (s)		69.6			75.5			49.2			34.3	
Approach LOS		E			E			D			C	

Intersection Summary				
HCM Average Control Delay	54.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	84.8%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

38: Route 7B & Route 4

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	110	210	90	910	1400	110
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	124	236	101	1022	1573	124
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1030	
pX, platoon unblocked	0.79	0.79	0.79			
vC, conflicting volume	2348	848	1697			
vC1, stage 1 conf vol	1635					
vC2, stage 2 conf vol	713					
vCu, unblocked vol	2172	267	1345			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	20	59	75			
cM capacity (veh/h)	154	576	400			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	360	101	511	511	1049	648
Volume Left	124	101	0	0	0	0
Volume Right	236	0	0	0	0	124
cSH	296	400	1700	1700	1700	1700
Volume to Capacity	1.21	0.25	0.30	0.30	0.62	0.38
Queue Length 95th (ft)	406	25	0	0	0	0
Control Delay (s)	160.2	17.0	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	160.2	1.5			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay	18.7			
Intersection Capacity Utilization	76.2%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	220	190	150	40
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	32.0	36.0	36.0
Total Split (%)	24.4%	35.6%	40.0%	40.0%
Maximum Green (s)	18.0	28.0	32.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	510	190	20	150	40	390	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		350			827			400			205	
Travel Time (s)		8.0			18.8			9.1			4.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	596	0	0	766	0	160	458	0	0	0	0
v/c Ratio		0.77			1.09dl		0.22	0.50				
Control Delay		20.4			33.3		18.3	5.4				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		20.4			33.3		18.3	5.4				
Queue Length 50th (ft)		58			180		50	12				
Queue Length 95th (ft)		121			268		112	88				
Internal Link Dist (ft)		270			747			320			125	
Turn Bay Length (ft)												
Base Capacity (vph)		1025			1243		737	913				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.58			0.62		0.22	0.50				

Intersection Summary

Area Type: Other
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	510	190	20	150	40	390	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.91			1.00		1.00	0.86				
Flt Protected		1.00			0.97		0.95	1.00				
Satd. Flow (prot)		3224			3404		1770	1610				
Flt Permitted		1.00			0.97		0.95	1.00				
Satd. Flow (perm)		3224			3404		1770	1610				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	234	351	543	202	21	160	43	415	0	0	0
RTOR Reduction (vph)	0	300	0	0	2	0	0	242	0	0	0	0
Lane Group Flow (vph)	0	296	0	0	764	0	160	216	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		11.4			21.9		32.5	32.5				
Effective Green, g (s)		11.4			21.9		32.5	32.5				
Actuated g/C Ratio		0.15			0.28		0.42	0.42				
Clearance Time (s)		4.0			4.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		472			958		739	673				
v/s Ratio Prot		c0.09			c0.22		0.09	c0.13				
v/s Ratio Perm												
v/c Ratio		0.63			1.09dl		0.22	0.32				
Uniform Delay, d1		31.2			25.9		14.5	15.2				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		1.9			4.4		0.7	1.3				
Delay (s)		33.1			30.3		15.2	16.5				
Level of Service		C			C		B	B				
Approach Delay (s)		33.1			30.3			16.2			0.0	
Approach LOS		C			C			B			A	

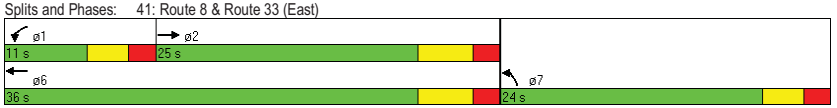
Intersection Summary				
HCM Average Control Delay	26.7	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	77.8	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	81.4%	ICU Level of Service	D	
Analysis Period (min)	15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	590	90	450	230
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	6.0	2.5	2.0	2.5
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	25.0	11.0	36.0	24.0
Total Split (%)	41.7%	18.3%	60.0%	40.0%
Maximum Green (s)	19.0	6.0	30.0	19.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.0	6.0	5.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 52.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	590	130	90	450	230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2670			2651	2228	
Travel Time (s)	52.0			51.6	43.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	847	0	106	529	447	0
v/c Ratio	0.75		0.51	0.32	0.80	
Control Delay	20.9		37.6	9.0	29.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	20.9		37.6	9.0	29.6	
Queue Length 50th (ft)	133		37	54	125	
Queue Length 95th (ft)	177		#94	75	#251	
Internal Link Dist (ft)	2590			2571	2148	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	1421		221	2197	711	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.60		0.48	0.24	0.63	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	590	130	90	450	230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	5.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.97		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3443		1770	3539	1712	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	3443		1770	3539	1712	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	694	153	106	529	271	176
RTOR Reduction (vph)	31	0	0	0	40	0
Lane Group Flow (vph)	816	0	106	529	407	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	16.7		4.3	26.0	15.9	
Effective Green, g (s)	16.7		4.3	26.0	15.9	
Actuated g/C Ratio	0.32		0.08	0.49	0.30	
Clearance Time (s)	6.0		5.0	6.0	5.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	1087		144	1739	515	
v/s Ratio Prot	c0.24		c0.06	0.15	c0.24	
v/s Ratio Perm						
v/c Ratio	0.75		0.74	0.30	0.79	
Uniform Delay, d1	16.2		23.7	8.0	17.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	2.6		15.4	0.0	7.6	
Delay (s)	18.9		39.2	8.1	24.5	
Level of Service	B		D	A	C	
Approach Delay (s)	18.9			13.3	24.5	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

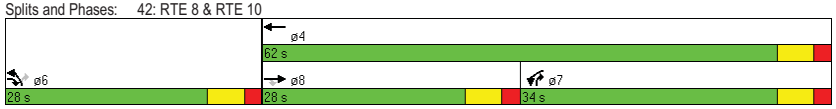
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	650	540	890	490	450	720
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	28.0	34.0	62.0	28.0	34.0
Total Split (%)	31.1%	31.1%	37.8%	68.9%	31.1%	37.8%
Maximum Green (s)	22.0	22.0	28.0	56.0	22.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	650	540	890	490	450	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			433	789	
Travel Time (s)	14.8			8.4	15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	691	574	947	521	479	766
v/c Ratio	0.77	0.65	0.90	0.23	0.60	0.45
Control Delay	38.3	17.9	38.8	6.3	34.1	9.6
Queue Delay	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	17.9	38.8	6.3	34.1	9.6
Queue Length 50th (ft)	195	207	265	48	123	109
Queue Length 95th (ft)	#266	323	#378	59	173	150
Internal Link Dist (ft)	682			353	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	898	877	1058	2222	839	1718
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	20	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.65	0.90	0.23	0.57	0.45

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	650	540	890	490	450	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	691	574	947	521	479	766
RTOR Reduction (vph)	0	9	0	0	0	19
Lane Group Flow (vph)	691	565	947	521	479	747
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	23.1	44.0	28.0	57.1	20.9	48.9
Effective Green, g (s)	23.1	44.0	28.0	57.1	20.9	48.9
Actuated g/C Ratio	0.26	0.49	0.31	0.63	0.23	0.54
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	900	871	1058	2224	797	1700
v/s Ratio Prot	c0.20	c0.15	c0.28	0.15	0.14	0.14
v/s Ratio Perm		0.21				0.13
v/c Ratio	0.77	0.65	0.90	0.23	0.60	0.44
Uniform Delay, d1	31.0	17.2	29.6	7.1	30.8	12.3
Progression Factor	1.00	1.00	0.92	0.83	1.00	1.00
Incremental Delay, d2	6.2	1.3	8.8	0.2	0.9	0.1
Delay (s)	37.2	18.5	36.0	6.1	31.7	12.4
Level of Service	D	B	D	A	C	B
Approach Delay (s)	28.7			25.4	19.8	
Approach LOS	C			C	B	

Intersection Summary				
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1270	60	1310	80	50
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	7.0	7.0
Minimum Split (s)	26.0	16.0	26.0	13.0	13.0
Total Split (s)	59.0	16.0	75.0	15.0	15.0
Total Split (%)	65.6%	17.8%	83.3%	16.7%	16.7%
Maximum Green (s)	53.0	10.0	69.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1270	50	60	1310	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	220
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	433			505	486	
Travel Time (s)	8.4			9.8	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1390	0	63	1379	84	53
v/c Ratio	0.59		0.32	0.48	0.53	0.28
Control Delay	5.3		41.9	4.0	51.1	15.1
Queue Delay	0.5		0.0	0.0	0.0	0.0
Total Delay	5.8		41.9	4.0	51.1	15.1
Queue Length 50th (ft)	102		34	121	46	0
Queue Length 95th (ft)	118		73	160	92	34
Internal Link Dist (ft)	353			425	406	
Turn Bay Length (ft)			200			220
Base Capacity (vph)	2358		195	2869	177	206
Starvation Cap Reductn	466		0	0	0	0
Spillback Cap Reductn	0		0	105	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.73		0.32	0.50	0.47	0.26

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1270	50	60	1310	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3485		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3485		1752	3505	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1337	53	63	1379	84	53
RTOR Reduction (vph)	3	0	0	0	0	49
Lane Group Flow (vph)	1387	0	63	1379	84	4
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	57.3		8.0	71.3	6.7	6.7
Effective Green, g (s)	57.3		8.0	71.3	6.7	6.7
Actuated g/C Ratio	0.64		0.09	0.79	0.07	0.07
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2219		156	2777	132	118
v/s Ratio Prot	c0.40		0.04	c0.39	c0.05	
v/s Ratio Perm						0.00
v/c Ratio	0.63		0.40	0.50	0.64	0.03
Uniform Delay, d1	9.9		38.7	3.2	40.5	38.6
Progression Factor	0.41		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		0.6	0.1	7.2	0.0
Delay (s)	5.1		39.4	3.3	47.6	38.7
Level of Service	A		D	A	D	D
Approach Delay (s)	5.1			4.8	44.2	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	6.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

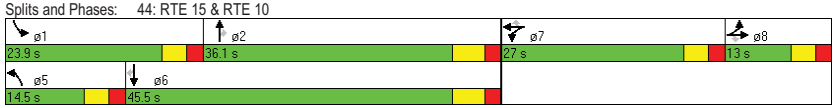
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	80	110	300	50	210	100	830	470	250	1070	110
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	10.0	10.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.5	16.0	16.0	11.5	36.0	36.0
Total Split (s)	13.0	13.0	13.0	27.0	27.0	27.0	14.5	36.1	36.1	23.9	45.5	45.5
Total Split (%)	13.0%	13.0%	13.0%	27.0%	27.0%	27.0%	14.5%	36.1%	36.1%	23.9%	45.5%	45.5%
Maximum Green (s)	8.0	8.0	8.0	22.0	22.0	22.0	9.5	30.1	30.1	18.9	39.5	39.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	80	110	300	50	210	100	830	470	250	1070	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		611			945			3059			773	
Travel Time (s)		11.9			18.4			59.6			15.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	92	101	125	341	57	239	114	943	534	284	1216	125
v/c Ratio	0.72	0.75	0.53	0.92	0.15	0.46	0.73	0.84	0.62	0.89	0.83	0.17
Control Delay	75.7	78.0	16.9	70.0	32.6	7.5	78.7	26.1	4.2	69.8	33.2	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.7	78.0	16.9	70.0	32.6	7.5	78.7	26.1	4.2	69.8	33.2	4.4
Queue Length 50th (ft)	61	67	0	212	29	0	77	232	21	176	368	1
Queue Length 95th (ft)	#137	#149	52	#357	62	57	m107	#386	42	#305	447	34
Internal Link Dist (ft)		531			865			2979			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	133	140	240	385	406	531	166	1127	866	335	1459	725
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.72	0.52	0.89	0.14	0.45	0.69	0.84	0.62	0.85	0.83	0.17

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	80	110	300	50	210	100	830	470	250	1070	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1744	1568	1752	1845	1568	1752	3505	1568	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1744	1568	1752	1845	1568	1752	3505	1568	1770	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	91	125	341	57	239	114	943	534	284	1216	125
RTOR Reduction (vph)	0	0	115	0	0	188	0	0	363	0	0	72
Lane Group Flow (vph)	92	101	10	341	57	51	114	943	171	284	1216	53
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	7.7	7.7	7.7	21.2	21.2	21.2	8.9	32.1	32.1	18.0	41.2	41.2
Effective Green, g (s)	7.7	7.7	7.7	21.2	21.2	21.2	8.9	32.1	32.1	18.0	41.2	41.2
Actuated g/C Ratio	0.08	0.08	0.08	0.21	0.21	0.21	0.09	0.32	0.32	0.18	0.41	0.41
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	128	134	121	371	391	332	156	1125	503	319	1458	652
v/s Ratio Prot	0.06	c0.06		c0.19	0.03		0.07	0.27		c0.16	c0.34	
v/s Ratio Perm			0.01			0.03			0.11			0.03
v/c Ratio	0.72	0.75	0.08	0.92	0.15	0.15	0.73	0.84	0.34	0.89	0.83	0.08
Uniform Delay, d1	45.1	45.2	42.9	38.6	32.0	32.1	44.4	31.5	25.9	40.0	26.3	17.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.37	0.62	0.73	1.00	1.00	1.00
Incremental Delay, d2	14.8	19.0	0.1	26.7	0.1	0.1	9.6	5.1	1.2	24.5	5.8	0.2
Delay (s)	59.9	64.2	43.0	65.2	32.1	32.2	70.3	24.7	20.2	64.6	32.1	18.1
Level of Service	E	E	D	E	C	C	E	C	C	E	C	B
Approach Delay (s)		54.6			49.9			26.5			36.7	
Approach LOS		D			D			C			D	

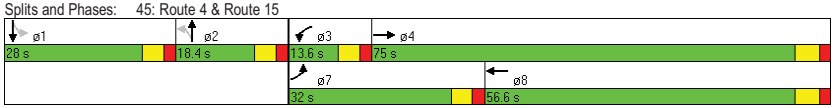
Intersection Summary				
HCM Average Control Delay	36.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	73.4%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	220	1310	30	810	20	10	40	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	16.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	32.0	75.0	13.6	56.6	18.4	18.4	28.0	28.0
Total Split (%)	23.7%	55.6%	10.1%	41.9%	13.6%	13.6%	20.7%	20.7%
Maximum Green (s)	26.5	69.0	8.1	50.6	12.9	12.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 135
Actuated Cycle Length: 116.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	1310	60	30	810	70	20	10	30	40	10	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		749			563			294			294	
Travel Time (s)		14.6			11.0			5.7			5.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	1612	0	35	1035	0	0	71	0	0	200	0
v/c Ratio	0.80	0.91		0.28	0.75			0.50			0.85	
Control Delay	66.8	35.4		63.9	35.7			49.3			62.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	66.8	35.4		63.9	35.7			49.3			62.1	
Queue Length 50th (ft)	196	565		27	358			32			96	
Queue Length 95th (ft)	296	688		63	463			81			#201	
Internal Link Dist (ft)		669			483			214			214	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	414	2142		127	1566			186			294	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.63	0.75		0.28	0.66			0.38			0.68	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	1310	60	30	810	70	20	10	30	40	10	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3516		1770	3497			1710			1666	
Flt Permitted	0.95	1.00		0.95	1.00			0.81			0.70	
Satd. Flow (perm)	1770	3516		1770	3497			1407			1172	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	259	1541	71	35	953	82	24	12	35	47	12	141
RTOR Reduction (vph)	0	2	0	0	5	0	0	27	0	0	65	0
Lane Group Flow (vph)	259	1610	0	35	1030	0	0	44	0	0	135	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	21.2	58.6		8.3	45.7			9.6			16.8	
Effective Green, g (s)	21.2	58.6		8.3	45.7			9.6			16.8	
Actuated g/C Ratio	0.18	0.51		0.07	0.39			0.08			0.15	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	324	1779		127	1380			117			170	
v/s Ratio Prot	c0.15	c0.46		0.02	0.29							
v/s Ratio Perm								c0.03			c0.12	
v/c Ratio	0.80	0.90		0.28	0.75			0.38			0.79	
Uniform Delay, d1	45.3	26.1		50.9	30.1			50.3			47.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	12.1	6.8		0.4	2.0			0.8			20.7	
Delay (s)	57.4	32.9		51.3	32.0			51.0			68.5	
Level of Service	E	C		D	C			D			E	
Approach Delay (s)		36.3			32.7			51.0			68.5	
Approach LOS		D			C			D			E	

Intersection Summary

HCM Average Control Delay	37.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	115.8	Sum of lost time (s)	22.5
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

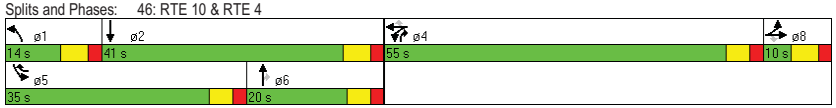
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	20	10	20	630	10	250	450	690	420
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	9.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.0	9.5	13.5	16.0
Total Split (s)	10.0	10.0	55.0	35.0	14.0	20.0	55.0	35.0	41.0
Total Split (%)	8.3%	8.3%	45.8%	29.2%	11.7%	16.7%	45.8%	29.2%	34.2%
Maximum Green (s)	4.0	4.0	49.5	29.5	8.0	14.5	49.5	29.5	35.0
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		17.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 111.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	590	20	630	10	250	450	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			734			914	
Travel Time (s)		7.3			12.6			14.3			17.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	11	0	693	716	11	284	511	784	500	0
v/c Ratio		0.69	0.16		0.94	0.64	0.09	0.71	0.55	0.91	0.69	
Control Delay		103.0	32.9		54.1	7.8	54.3	60.1	15.1	57.3	37.1	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		103.0	32.9		54.1	7.8	54.3	60.1	15.1	57.3	37.1	
Queue Length 50th (ft)		36	0		506	131	8	112	195	306	308	
Queue Length 95th (ft)		#103	19		#728	193	27	157	281	#407	#559	
Internal Link Dist (ft)		295			565			654			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		67	68		804	1147	127	460	989	926	720	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.69	0.16		0.86	0.62	0.09	0.62	0.52	0.85	0.69	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	590	20	630	10	250	450	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1777	1583	1736	3471	1553	3433	1850	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1777	1583	1736	3471	1553	3433	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	23	23	11	670	23	716	11	284	511	784	477	23
RTOR Reduction (vph)	0	0	11	0	0	50	0	0	35	0	1	0
Lane Group Flow (vph)	0	46	0	0	693	666	11	284	476	784	499	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		3.0	3.0		46.5	74.7	1.5	17.8	64.3	28.2	43.5	
Effective Green, g (s)		3.0	3.0		46.5	74.7	1.5	17.8	64.3	28.2	43.5	
Actuated g/C Ratio		0.03	0.03		0.39	0.63	0.01	0.15	0.54	0.24	0.37	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		46	40		700	1002	22	524	919	820	682	
v/s Ratio Prot		c0.03			c0.39	0.16	0.01	0.08	0.20	c0.23	c0.27	
v/s Ratio Perm			0.00			0.26			0.10			
v/c Ratio		1.00	0.01		0.99	0.66	0.50	0.54	0.52	0.96	0.73	
Uniform Delay, d1		57.5	56.0		35.5	13.7	57.9	46.3	17.0	44.3	32.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		132.7	0.0		31.1	1.3	6.4	0.6	0.2	21.1	3.5	
Delay (s)		190.2	56.1		66.6	15.0	64.2	46.9	17.2	65.3	35.7	
Level of Service		F	E		E	B	E	D	B	E	D	
Approach Delay (s)		164.3			40.4			28.3			53.8	
Approach LOS		F			D			C			D	

Intersection Summary				
HCM Average Control Delay	44.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	85.0%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1140	1010	60
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	32.0	32.0	13.0	22.0	33.0	33.0
Total Split (s)	43.0	43.0	15.0	87.0	72.0	72.0
Total Split (%)	33.1%	33.1%	11.5%	66.9%	55.4%	55.4%
Maximum Green (s)	38.0	38.0	10.0	81.0	66.0	66.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 103 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1140	1010	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	784			300	778	
Travel Time (s)	21.4			5.8	15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	116	21	1200	1063	63
v/c Ratio	0.81	0.44	0.19	0.47	0.45	0.06
Control Delay	71.0	50.4	69.5	1.8	12.9	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	50.4	69.5	1.8	12.9	10.6
Queue Length 50th (ft)	197	87	15	88	237	19
Queue Length 95th (ft)	273	137	m32	21	346	46
Internal Link Dist (ft)	704			220	698	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	463	414	135	2551	2339	1046
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.28	0.16	0.47	0.45	0.06

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1140	1010	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	116	21	1200	1063	63
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	242	116	21	1200	1063	63
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	24.4	24.4	4.9	94.6	84.7	84.7
Effective Green, g (s)	24.4	24.4	4.9	94.6	84.7	84.7
Actuated g/C Ratio	0.19	0.19	0.04	0.73	0.65	0.65
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	297	266	66	2551	2284	1022
v/s Ratio Prot	c0.15		0.01	c0.34	0.30	
v/s Ratio Perm		0.08				0.04
v/c Ratio	0.81	0.44	0.32	0.47	0.47	0.06
Uniform Delay, d1	50.6	46.7	60.9	7.3	11.3	8.2
Progression Factor	1.00	1.00	1.13	0.15	1.00	1.00
Incremental Delay, d2	14.9	0.4	0.9	0.5	0.7	0.1
Delay (s)	65.5	47.1	69.9	1.7	12.0	8.3
Level of Service	E	D	E	A	B	A
Approach Delay (s)	59.6			2.8	11.8	
Approach LOS	E			A	B	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	110	30	1000	80	980
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	25.0	25.0	28.0	13.5	22.0
Total Split (s)	27.0	27.0	83.0	20.0	103.0
Total Split (%)	20.8%	20.8%	63.8%	15.4%	79.2%
Maximum Green (s)	22.0	22.0	77.0	15.0	97.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 61 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6 & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	1000	160	80	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		553			1337
Travel Time (s)	16.0		10.8			26.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	34	1333	0	92	1126
v/c Ratio	0.66	0.17	0.57		0.60	0.40
Control Delay	71.8	17.2	6.8		61.4	11.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	71.8	17.2	6.8		61.4	11.0
Queue Length 50th (ft)	104	0	116		77	270
Queue Length 95th (ft)	159	29	145		127	427
Internal Link Dist (ft)	506		473			1257
Turn Bay Length (ft)					200	
Base Capacity (vph)	300	296	2348		202	2831
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.42	0.11	0.57		0.46	0.40

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	1000	160	80	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3432		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3432		1752	3505
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	126	34	1149	184	92	1126
RTOR Reduction (vph)	0	30	8	0	0	0
Lane Group Flow (vph)	126	4	1325	0	92	1126
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	14.0	14.0	88.7		11.3	105.0
Effective Green, g (s)	14.0	14.0	88.7		11.3	105.0
Actuated g/C Ratio	0.11	0.11	0.68		0.09	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	191	170	2342		152	2831
v/s Ratio Prot	c0.07		c0.39		c0.05	0.32
v/s Ratio Perm		0.00				
v/c Ratio	0.66	0.02	0.57		0.61	0.40
Uniform Delay, d1	55.7	51.9	10.7		57.2	3.5
Progression Factor	1.00	1.00	0.51		0.81	2.78
Incremental Delay, d2	6.1	0.0	0.9		4.3	0.4
Delay (s)	61.9	51.9	6.4		50.8	10.2
Level of Service	E	D	A		D	B
Approach Delay (s)	59.7		6.4			13.3
Approach LOS	E		A			B

Intersection Summary				
HCM Average Control Delay	12.6	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	61.1%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	40	30	1130	990
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	26.0	13.0	22.0	30.0
Total Split (s)	31.0	17.0	99.0	82.0
Total Split (%)	23.8%	13.1%	76.2%	63.1%
Maximum Green (s)	26.0	12.0	93.0	76.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 83 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1130	990	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2042			2039	7256	
Travel Time (s)	39.8			39.7	141.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	33	1256	1122	0
v/c Ratio	0.61		0.29	0.43	0.41	
Control Delay	45.7		69.7	2.1	2.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	45.7		69.7	2.1	2.9	
Queue Length 50th (ft)	48		29	34	121	
Queue Length 95th (ft)	107		m60	55	7	
Internal Link Dist (ft)	1962			1959	7176	
Turn Bay Length (ft)			125			
Base Capacity (vph)	378		162	2934	2706	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.29		0.20	0.43	0.41	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1130	990	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	1.00	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1678		1752	3505	3495	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1678		1752	3505	3495	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	67	33	1256	1100	22
RTOR Reduction (vph)	49	0	0	0	1	0
Lane Group Flow (vph)	62	0	33	1256	1121	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	10.2		5.1	108.8	98.7	
Effective Green, g (s)	10.2		5.1	108.8	98.7	
Actuated g/C Ratio	0.08		0.04	0.84	0.76	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	132		69	2933	2654	
v/s Ratio Prot	c0.04		0.02	c0.36	0.32	
v/s Ratio Perm						
v/c Ratio	0.47		0.48	0.43	0.42	
Uniform Delay, d1	57.3		61.1	2.7	5.5	
Progression Factor	1.00		1.09	0.57	0.42	
Incremental Delay, d2	1.0		1.7	0.4	0.5	
Delay (s)	58.3		68.6	2.0	2.8	
Level of Service	E		E	A	A	
Approach Delay (s)	58.3			3.7	2.8	
Approach LOS	E			A	A	

Intersection Summary			
HCM Average Control Delay	5.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

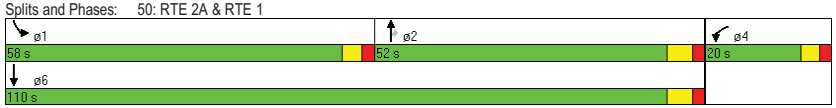
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	610	170	940	280
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	20.0		33.0	33.0	9.0	21.0
Total Split (s)	20.0	0.0	52.0	52.0	58.0	110.0
Total Split (%)	15.4%	0.0%	40.0%	40.0%	44.6%	84.6%
Maximum Green (s)	15.0		46.0	46.0	53.0	104.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 33 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	610	170	940	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	763		960			531
Travel Time (s)	14.9		18.7			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	588	718	200	1106	329
v/c Ratio	0.62	0.37	0.51	0.27	0.83	0.11
Control Delay	74.6	0.7	32.2	4.7	34.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	0.7	32.2	4.7	34.1	1.4
Queue Length 50th (ft)	78	0	243	0	441	9
Queue Length 95th (ft)	125	0	300	42	349	12
Internal Link Dist (ft)	683		880			451
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	204	1583	1395	744	1395	2910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.37	0.51	0.27	0.79	0.11

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	610	170	940	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3471	1553	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3471	1553	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	94	588	718	200	1106	329
RTOR Reduction (vph)	0	0	0	120	0	0
Lane Group Flow (vph)	94	588	718	80	1106	329
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	11.1	130.0	52.2	52.2	50.7	107.9
Effective Green, g (s)	11.1	130.0	52.2	52.2	50.7	107.9
Actuated g/C Ratio	0.09	1.00	0.40	0.40	0.39	0.83
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	151	1583	1394	624	1326	2909
v/s Ratio Prot	c0.05		c0.21		c0.33	0.09
v/s Ratio Perm		0.37		0.05		
v/c Ratio	0.62	0.37	0.52	0.13	0.83	0.11
Uniform Delay, d1	57.4	0.0	29.4	24.5	35.8	2.1
Progression Factor	1.00	1.00	1.00	1.00	0.78	0.57
Incremental Delay, d2	5.6	0.7	1.4	0.4	5.0	0.1
Delay (s)	63.1	0.7	30.7	25.0	33.0	1.3
Level of Service	E	A	C	C	C	A
Approach Delay (s)	9.3		29.5			25.7
Approach LOS	A		C			C

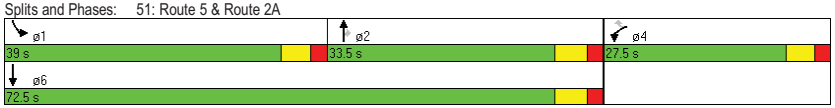
Intersection Summary				
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	27.5	27.5	33.5	33.5	39.0	72.5
Total Split (%)	27.5%	27.5%	33.5%	33.5%	39.0%	72.5%
Maximum Green (s)	22.0	22.0	27.5	27.5	33.5	66.5
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 73.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1099		864			879
Travel Time (s)	21.4		16.8			17.1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	172	290	75	387	462
v/c Ratio	0.26	0.51	0.22	0.12	0.80	0.18
Control Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Length 50th (ft)	23	0	44	0	160	26
Queue Length 95th (ft)	61	56	91	29	264	44
Internal Link Dist (ft)	1019		784			799
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	534	598	1334	644	813	3215
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.29	0.22	0.12	0.48	0.14

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	172	290	75	387	462
RTOR Reduction (vph)	0	152	0	47	0	0
Lane Group Flow (vph)	54	20	290	28	387	462
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.5	8.5	27.8	27.8	20.1	53.4
Effective Green, g (s)	8.5	8.5	27.8	27.8	20.1	53.4
Actuated g/C Ratio	0.12	0.12	0.38	0.38	0.27	0.73
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	205	183	1340	600	485	2575
v/s Ratio Prot	c0.03		c0.08		c0.22	0.13
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.26	0.11	0.22	0.05	0.80	0.18
Uniform Delay, d1	29.6	29.1	15.4	14.4	24.8	3.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.4	0.1	8.3	0.0
Delay (s)	29.8	29.2	15.8	14.6	33.1	3.1
Level of Service	C	C	B	B	C	A
Approach Delay (s)	29.3		15.5			16.8
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	560
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	33.0	33.0	49.0	49.0	38.0	87.0
Total Split (%)	27.5%	27.5%	40.8%	40.8%	31.7%	72.5%
Maximum Green (s)	27.5	27.5	43.0	43.0	32.5	81.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 58.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1682		1244			1258
Travel Time (s)	32.8		24.2			24.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	113	320	144	227	577
v/c Ratio	0.48	0.29	0.62	0.27	0.57	0.52
Control Delay	28.7	8.0	25.4	5.4	27.9	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.7	8.0	25.4	5.4	27.9	8.7
Queue Length 50th (ft)	49	0	91	0	66	92
Queue Length 95th (ft)	131	40	210	38	166	200
Internal Link Dist (ft)	1602		1164			1178
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	880	844	1448	1262	1039	1863
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.13	0.22	0.11	0.22	0.31

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	113	320	144	227	577
RTOR Reduction (vph)	0	91	0	103	0	0
Lane Group Flow (vph)	165	22	320	41	227	577
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.2	11.2	16.2	16.2	13.1	34.8
Effective Green, g (s)	11.2	11.2	16.2	16.2	13.1	34.8
Actuated g/C Ratio	0.19	0.19	0.28	0.28	0.23	0.61
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	345	308	525	446	403	1128
v/s Ratio Prot	c0.09		c0.17		0.13	c0.31
v/s Ratio Perm		0.01		0.03		
v/c Ratio	0.48	0.07	0.61	0.09	0.56	0.51
Uniform Delay, d1	20.6	18.9	17.9	15.2	19.7	6.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	1.4	0.0	1.1	0.2
Delay (s)	20.9	18.9	19.3	15.3	20.7	6.7
Level of Service	C	B	B	B	C	A
Approach Delay (s)	20.1		18.0			10.6
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	17.5
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	360	80	70	20	30	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	434	96	84	24	36	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	84				1048	84
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	84				1048	84
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	71				80	85
cM capacity (veh/h)	1512				180	975

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	530	84	24	36	145
Volume Left	434	0	0	36	0
Volume Right	0	0	24	0	145
cSH	1512	1700	1700	180	975
Volume to Capacity	0.29	0.05	0.01	0.20	0.15
Queue Length 95th (ft)	30	0	0	18	13
Control Delay (s)	7.3	0.0	0.0	30.0	9.3
Lane LOS	A			D	A
Approach Delay (s)	7.3	0.0		13.5	
Approach LOS				B	

Intersection Summary					
Average Delay	7.7				
Intersection Capacity Utilization	40.8%	ICU Level of Service			A
Analysis Period (min)	15				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	30	40	10	20	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	14	41	54	14	27	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	155	61			68	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	155	61			68	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	96			98	
cM capacity (veh/h)	821	1004			1534	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	54	68	68
Volume Left	14	0	27
Volume Right	41	14	0
cSH	951	1700	1534
Volume to Capacity	0.06	0.04	0.02
Queue Length 95th (ft)	5	0	1
Control Delay (s)	9.0	0.0	3.0
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	3.0
Approach LOS	A		

Intersection Summary				
Average Delay		3.7		
Intersection Capacity Utilization		19.4%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	170	130	130	120	60	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	254	194	194	179	90	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			448		918	351
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			448		918	351
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			83		64	83
cM capacity (veh/h)			1113		249	693

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	448	373	209
Volume Left	0	194	90
Volume Right	194	0	119
cSH	1700	1113	393
Volume to Capacity	0.26	0.17	0.53
Queue Length 95th (ft)	0	16	75
Control Delay (s)	0.0	5.5	24.1
Lane LOS		A	C
Approach Delay (s)	0.0	5.5	24.1
Approach LOS			C

Intersection Summary				
Average Delay		6.9		
Intersection Capacity Utilization		48.6%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	210	30	20	250	380
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	22.0	22.0	10.0	43.0	43.0
Total Split (%)	29.3%	29.3%	13.3%	57.3%	57.3%
Maximum Green (s)	16.5	16.5	4.5	37.0	37.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 58
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	250	380	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	454	
Travel Time (s)	16.3			14.6	8.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	7%	7%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	247	35	24	294	788	0
v/c Ratio	0.61	0.09	0.17	0.33	0.85	
Control Delay	30.2	9.9	34.9	10.8	23.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	30.2	9.9	34.9	10.8	23.7	
Queue Length 50th (ft)	70	0	7	45	159	
Queue Length 95th (ft)	166	20	32	121	#466	
Internal Link Dist (ft)	758			671	374	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	536	504	139	1206	1215	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.07	0.17	0.24	0.65	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	250	380	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1687	1776	1754	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1687	1776	1754	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	247	35	24	294	447	341
RTOR Reduction (vph)	0	27	0	0	37	0
Lane Group Flow (vph)	247	8	24	294	751	0
Heavy Vehicles (%)	2%	2%	7%	7%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	13.2	13.2	1.4	29.4	29.4	
Effective Green, g (s)	13.2	13.2	1.4	29.4	29.4	
Actuated g/C Ratio	0.22	0.22	0.02	0.48	0.48	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	383	343	39	856	845	
v/s Ratio Prot	c0.14		c0.01	0.17	c0.43	
v/s Ratio Perm		0.00				
v/c Ratio	0.64	0.02	0.62	0.34	0.89	
Uniform Delay, d1	21.8	18.8	29.5	9.8	14.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.8	0.0	18.5	0.1	10.9	
Delay (s)	24.6	18.8	48.1	9.9	25.2	
Level of Service	C	B	D	A	C	
Approach Delay (s)	23.8			12.8	25.2	
Approach LOS	C			B	C	

Intersection Summary				
HCM Average Control Delay	22.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	58.9%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	150	200	80	70	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	52	156	208	83	73	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	292				510	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	292				510	250
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				85	92
cM capacity (veh/h)	1231				501	789

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	208	292	135
Volume Left	52	0	73
Volume Right	0	83	62
cSH	1231	1700	602
Volume to Capacity	0.04	0.17	0.22
Queue Length 95th (ft)	3	0	21
Control Delay (s)	2.3	0.0	12.7
Lane LOS	A		B
Approach Delay (s)	2.3	0.0	12.7
Approach LOS			B

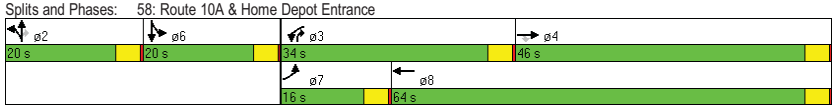
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	930	710	410	820	310	30	740	80	40
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	46.0	46.0	34.0	64.0	20.0	20.0	34.0	20.0	20.0
Total Split (%)	13.3%	38.3%	38.3%	28.3%	53.3%	16.7%	16.7%	28.3%	16.7%	16.7%
Maximum Green (s)	12.0	42.0	42.0	30.0	60.0	16.0	16.0	30.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 112.7
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	710	410	820	50	310	30	740	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1852			1228			703			493	
Travel Time (s)		42.1			23.9			13.7			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	1011	772	446	945	0	337	33	804	87	163	0
v/c Ratio	0.59	0.76	1.13	0.49	0.47		0.77	0.14	1.13	0.54	0.68	
Control Delay	66.8	36.4	104.1	37.8	16.6		61.0	46.2	100.0	61.8	36.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	66.8	36.4	104.1	37.8	16.6		61.0	46.2	100.0	61.8	36.5	
Queue Length 50th (ft)	62	338	~588	142	213		123	22	~530	62	47	
Queue Length 95th (ft)	119	458	#887	206	314		182	55	#932	115	118	
Internal Link Dist (ft)		1772			1148			623			413	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	189	1322	684	916	2021		489	265	711	252	319	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.46	0.76	1.13	0.49	0.47		0.69	0.12	1.13	0.35	0.51	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

58: Route 10A & Home Depot Entrance

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	710	410	820	50	310	30	740	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3509		3433	1863	1583	1770	1657	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3509		3433	1863	1583	1770	1657	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1011	772	446	891	54	337	33	804	87	43	120
RTOR Reduction (vph)	0	0	91	0	3	0	0	0	88	0	88	0
Lane Group Flow (vph)	87	1011	681	446	942	0	337	33	716	87	75	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	8.2	43.0	43.0	30.1	64.9		14.3	14.3	44.4	10.2	10.2	
Effective Green, g (s)	8.2	43.0	43.0	30.1	64.9		14.3	14.3	44.4	10.2	10.2	
Actuated g/C Ratio	0.07	0.38	0.38	0.26	0.57		0.13	0.13	0.39	0.09	0.09	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	128	1340	599	910	2005		432	235	619	159	149	
v/s Ratio Prot	0.05	0.29		0.13	0.27		0.10	0.02	c0.31	c0.05	0.05	
v/s Ratio Perm			c0.43						0.15			
v/c Ratio	0.68	0.75	1.14	0.49	0.47		0.78	0.14	1.16	0.55	0.50	
Uniform Delay, d1	51.4	30.7	35.3	35.3	14.3		48.1	44.2	34.6	49.5	49.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.7	2.2	80.4	0.2	0.1		8.2	0.1	87.6	2.1	1.0	
Delay (s)	62.1	32.9	115.7	35.4	14.3		56.3	44.3	122.2	51.5	50.2	
Level of Service	E	C	F	D	B		E	D	F	D	D	
Approach Delay (s)		68.5			21.1			101.1			50.7	
Approach LOS		E			C			F			D	

Intersection Summary				
HCM Average Control Delay	61.6	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.08			
Actuated Cycle Length (s)	113.6	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	86.0%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

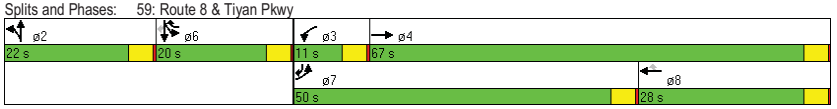
59: Route 8 & Tiyan Pkwy

Phasings

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	940	930	40	680	170	80	60	360	90	980
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	50.0	67.0	11.0	28.0	20.0	22.0	22.0	20.0	20.0	50.0
Total Split (%)	41.7%	55.8%	9.2%	23.3%	16.7%	18.3%	18.3%	16.7%	16.7%	41.7%
Maximum Green (s)	46.0	63.0	7.0	24.0	16.0	18.0	18.0	16.0	16.0	46.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 112.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	940	930	110	40	680	170	80	60	50	360	90	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2791			2670			614			1053	
Travel Time (s)		54.4			52.0			14.0			20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										38%		
Lane Group Flow (vph)	1022	1131	0	43	739	185	87	119	0	242	247	1065
v/c Ratio	0.73	0.56		0.44	0.98	0.27	0.53	0.64		1.01	1.01	1.04
Control Delay	32.2	16.6		66.2	72.5	3.3	60.4	52.3		110.2	109.3	59.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	32.2	16.6		66.2	72.5	3.3	60.4	52.3		110.2	109.3	59.4
Queue Length 50th (ft)	314	260		30	281	0	61	63		~189	~192	~761
Queue Length 95th (ft)	425	362		71	#438	33	113	124		#384	#390	#1084
Internal Link Dist (ft)		2711			2590			534			973	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1405	2037		110	756	683	283	303		239	244	1023
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.73	0.56		0.39	0.98	0.27	0.31	0.39		1.01	1.01	1.04

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	940	930	110	40	680	170	80	60	50	360	90	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	3433	3483		1770	3539	1583	1770	1736		1681	1718	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	3433	3483		1770	3539	1583	1770	1736		1681	1718	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1022	1011	120	43	739	185	87	65	54	391	98	1065
RTOR Reduction (vph)	0	7	0	0	0	118	0	26	0	0	0	102
Lane Group Flow (vph)	1022	1124	0	43	739	67	87	93	0	242	247	963
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Effective Green, g (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Actuated g/C Ratio	0.41	0.58		0.05	0.22	0.36	0.09	0.09		0.14	0.14	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1394	2017		83	778	571	162	159		237	243	922
v/s Ratio Prot	0.30	0.32		0.02	c0.21	0.02	0.05	c0.05		0.14	0.14	c0.42
v/s Ratio Perm						0.03						0.18
v/c Ratio	0.73	0.56		0.52	0.95	0.12	0.54	0.58		1.02	1.02	1.04
Uniform Delay, d1	28.5	14.8		52.8	43.6	24.2	49.2	49.4		48.6	48.6	25.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.7	0.2		2.3	20.5	0.0	1.7	3.5		64.0	62.0	41.8
Delay (s)	30.2	15.0		55.0	64.1	24.2	50.9	52.8		112.7	110.7	67.4
Level of Service	C	B		E	E	C	D	D		F	F	E
Approach Delay (s)		22.2			56.0			52.0			81.4	
Approach LOS		C			E			D			F	

Intersection Summary

HCM Average Control Delay	49.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	113.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	10	240	2080	50	2220
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	23.0	23.0	99.0	8.0	107.0
Total Split (%)	17.7%	17.7%	76.2%	6.2%	82.3%
Maximum Green (s)	19.0	19.0	95.0	4.0	103.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	240	2080	1160	50	2220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1181		1114			966
Travel Time (s)	26.8		21.7			18.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	261	3522	0	54	2413
v/c Ratio	0.04	0.95	1.01dr		0.87	0.60
Control Delay	69.6	71.6	8.1		145.0	3.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	69.6	71.6	8.1		145.0	3.4
Queue Length 50th (ft)	9	188	93		45	107
Queue Length 95th (ft)	m9	m172	m50		m#83	m101
Internal Link Dist (ft)	1101		1034			886
Turn Bay Length (ft)					300	
Base Capacity (vph)	259	282	3559		62	4012
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.04	0.93	0.99		0.87	0.60

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	10	240	2080	1160	50	2220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4765		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4765		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	261	2261	1261	54	2413
RTOR Reduction (vph)	0	51	77	0	0	0
Lane Group Flow (vph)	11	210	3445	0	54	2413
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	18.4	18.4	95.0		4.6	103.6
Effective Green, g (s)	18.4	18.4	95.0		4.6	103.6
Actuated g/C Ratio	0.14	0.14	0.73		0.04	0.80
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	251	224	3482		62	4013
v/s Ratio Prot	0.01		c0.72		c0.03	0.48
v/s Ratio Perm		c0.13				
v/c Ratio	0.04	0.94	1.01dr		0.87	0.60
Uniform Delay, d1	48.2	55.2	17.0		62.4	5.1
Progression Factor	1.45	1.56	0.25		1.26	0.54
Incremental Delay, d2	0.0	7.6	2.7		58.2	0.5
Delay (s)	69.8	93.7	7.1		136.9	3.3
Level of Service	E	F	A		F	A
Approach Delay (s)	92.7		7.1			6.2
Approach LOS	F		A			A

Intersection Summary				
HCM Average Control Delay	10.5	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	87.7%	ICU Level of Service	E	
Analysis Period (min)	15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	110	230	290	140	170	210
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	250	315	152	185	228
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	467				880	391
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	467				880	391
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				35	65
cM capacity (veh/h)	1089				283	657

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	120	250	467	413
Volume Left	120	0	0	185
Volume Right	0	0	152	228
cSH	1089	1700	1700	632
Volume to Capacity	0.11	0.15	0.27	0.65
Queue Length 95th (ft)	9	0	0	120
Control Delay (s)	8.7	0.0	0.0	24.8
Lane LOS	A			C
Approach Delay (s)	2.8		0.0	24.8
Approach LOS				C

Intersection Summary				
Average Delay	9.0			
Intersection Capacity Utilization	49.3%	ICU Level of Service	A	
Analysis Period (min)	15			

INTERSECTION ANALYSIS

Synchro Output

Year 2030 Barrigada Cantonment/Housing (Alternative D) Conditions

Weekday a.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	40	270	530	10	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	50	338	662	12	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	675				1106	669
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	675				1106	669
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				94	97
cM capacity (veh/h)	916				220	458

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	50	338	675	25
Volume Left	50	0	0	12
Volume Right	0	0	12	12
cSH	916	1700	1700	297
Volume to Capacity	0.05	0.20	0.40	0.08
Queue Length 95th (ft)	4	0	0	7
Control Delay (s)	9.2	0.0	0.0	18.2
Lane LOS	A			C
Approach Delay (s)	1.2		0.0	18.2
Approach LOS				C

Intersection Summary				
Average Delay			0.8	
Intersection Capacity Utilization			43.2%	ICU Level of Service
Analysis Period (min)			15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	260	40	20	340	190	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	325	50	25	425	238	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			375		825	350
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			375		825	350
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		29	91
cM capacity (veh/h)			1183		335	693

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	375	450	300
Volume Left	0	25	238
Volume Right	50	0	62
cSH	1700	1183	376
Volume to Capacity	0.22	0.02	0.80
Queue Length 95th (ft)	0	2	172
Control Delay (s)	0.0	0.7	43.5
Lane LOS		A	E
Approach Delay (s)	0.0	0.7	43.5
Approach LOS			E

Intersection Summary				
Average Delay	11.9			
Intersection Capacity Utilization	54.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	310	360	40	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	12	388	450	50	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	500				888	475
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	500				888	475
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	98
cM capacity (veh/h)	1064				311	590

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	400	500	25
Volume Left	12	0	12
Volume Right	0	50	12
cSH	1064	1700	407
Volume to Capacity	0.01	0.29	0.06
Queue Length 95th (ft)	1	0	5
Control Delay (s)	0.4	0.0	14.4
Lane LOS	A		B
Approach Delay (s)	0.4	0.0	14.4
Approach LOS			B

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	34.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	160	350	790	40	20	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	180	393	888	45	22	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	933				1663	910
vC1, stage 1 conf vol					910	
vC2, stage 2 conf vol					753	
vCu, unblocked vol	933				1663	910
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	76				92	76
cM capacity (veh/h)	734				267	333

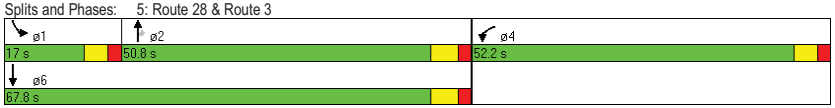
Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	180	393	933	101
Volume Left	180	0	0	22
Volume Right	0	0	45	79
cSH	734	1700	1700	428
Volume to Capacity	0.24	0.23	0.55	0.24
Queue Length 95th (ft)	24	0	0	23
Control Delay (s)	11.5	0.0	0.0	19.3
Lane LOS	B			C
Approach Delay (s)	3.6		0.0	19.3
Approach LOS				C

Intersection Summary				
Average Delay			2.5	
Intersection Capacity Utilization			66.2%	ICU Level of Service C
Analysis Period (min)			15	

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	940	400	280	110	890
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	52.2	50.8	50.8	17.0	67.8
Total Split (%)	43.5%	42.3%	42.3%	14.2%	56.5%
Maximum Green (s)	46.7	44.8	44.8	11.5	61.8
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 118.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	940	130	400	280	110	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1229	0	460	322	126	1023
v/c Ratio	0.94		0.65	0.40	0.75	0.56
Control Delay	49.1		36.0	4.3	80.1	20.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	49.1		36.0	4.3	80.1	20.9
Queue Length 50th (ft)	457		293	0	97	274
Queue Length 95th (ft)	#537		393	51	#181	321
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1346		708	801	172	1842
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.91		0.65	0.40	0.73	0.56

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	940	130	400	280	110	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3399		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3399		1863	1583	1770	3539
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1080	149	460	322	126	1023
RTOR Reduction (vph)	9	0	0	200	0	0
Lane Group Flow (vph)	1220	0	460	122	126	1023
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	45.4		45.1	45.1	11.2	61.8
Effective Green, g (s)	45.4		45.1	45.1	11.2	61.8
Actuated g/C Ratio	0.38		0.38	0.38	0.09	0.52
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1300		708	601	167	1843
v/s Ratio Prot	c0.36		c0.25		c0.07	0.29
v/s Ratio Perm				0.08		
v/c Ratio	0.94		0.65	0.20	0.75	0.56
Uniform Delay, d1	35.3		30.3	24.7	52.4	19.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	12.9		4.6	0.8	18.0	1.2
Delay (s)	48.2		34.9	25.5	70.4	20.4
Level of Service	D		C	C	E	C
Approach Delay (s)	48.2		31.0			25.9
Approach LOS	D		C			C

Intersection Summary			
HCM Average Control Delay	35.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	118.7	Sum of lost time (s)	17.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	20	10	640	1910	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	23	12	744	2221	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2628	1122	2244			
vC1, stage 1 conf vol	2233					
vC2, stage 2 conf vol	395					
vCu, unblocked vol	2628	1122	2244			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	88	95			
cM capacity (veh/h)	65	200	227			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	35	12	372	372	1481	764
Volume Left	12	12	0	0	0	0
Volume Right	23	0	0	0	0	23
cSH	119	227	1700	1700	1700	1700
Volume to Capacity	0.29	0.05	0.22	0.22	0.87	0.45
Queue Length 95th (ft)	28	4	0	0	0	0
Control Delay (s)	47.5	21.7	0.0	0.0	0.0	0.0
Lane LOS	E	C				
Approach Delay (s)	47.5	0.3			0.0	
Approach LOS	E					

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization		63.4%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	70	210	630	160	230
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	15.0	0.0	50.0	0.0	25.0	75.0
Total Split (%)	16.7%	0.0%	55.6%	0.0%	27.8%	83.3%
Maximum Green (s)	11.0		44.0		19.5	69.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 87.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	70	210	630	160	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	178	78	233	700	178	256
v/c Ratio	0.52	0.05	0.22	0.45	0.67	0.17
Control Delay	43.1	0.1	11.0	0.9	47.8	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.1	0.1	11.0	0.9	47.8	2.8
Queue Length 50th (ft)	48	0	58	0	95	27
Queue Length 95th (ft)	81	0	119	0	154	50
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	431	1583	1060	1568	394	1465
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.05	0.22	0.45	0.45	0.17

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	70	210	630	160	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1845	1568	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1845	1568	1770	1863
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	178	78	233	700	178	256
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	178	78	233	700	178	256
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	8.7	87.7	50.4	87.7	13.1	69.0
Effective Green, g (s)	8.7	87.7	50.4	87.7	13.1	69.0
Actuated g/C Ratio	0.10	1.00	0.57	1.00	0.15	0.79
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	341	1583	1060	1568	264	1466
v/s Ratio Prot	0.05		0.13		c0.10	0.14
v/s Ratio Perm		0.05		c0.45		
v/c Ratio	0.52	0.05	0.22	0.45	0.67	0.17
Uniform Delay, d1	37.5	0.0	9.1	0.0	35.3	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.1	0.5	0.9	5.3	0.3
Delay (s)	38.2	0.1	9.6	0.9	40.5	2.6
Level of Service	D	A	A	A	D	A
Approach Delay (s)	26.6		3.1			18.1
Approach LOS	C		A			B

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	87.7	Sum of lost time (s)	5.5
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

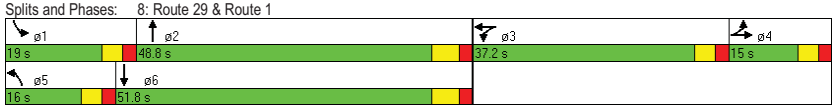
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	770	150	870
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	60	70	770	280	150	870	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				41%								
Lane Group Flow (vph)	0	87	0	349	339	0	75	1129	0	161	1000	0
v/c Ratio		0.58		0.88	0.85		0.57	0.80		0.79	0.61	
Control Delay		39.4		66.7	61.4		87.2	17.8		78.6	27.8	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		66.7	61.4		87.2	17.8		78.6	27.8	
Queue Length 50th (ft)		25		269	252		62	114		120	314	
Queue Length 95th (ft)		77		#406	#368		m87	#539		#235	430	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	453		162	1418		214	1639	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.77	0.75		0.46	0.80		0.75	0.61	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	60	70	770	280	150	870	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.97		1.00	0.96		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1659		1752	3365		1752	3471	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1659		1752	3365		1752	3471	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	65	75	828	301	161	935	65
RTOR Reduction (vph)	0	51	0	0	8	0	0	28	0	0	4	0
Lane Group Flow (vph)	0	36	0	349	331	0	75	1101	0	161	996	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		28.4	28.4		7.9	49.6		13.9	55.6	
Effective Green, g (s)		7.1		28.4	28.4		7.9	49.6		13.9	55.6	
Actuated g/C Ratio		0.06		0.24	0.24		0.07	0.41		0.12	0.46	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		398	393		115	1391		203	1608	
v/s Ratio Prot		c0.02		c0.21	0.20		0.04	c0.33		c0.09	0.29	
v/s Ratio Perm												
v/c Ratio		0.36		0.88	0.84		0.65	0.79		0.79	0.62	
Uniform Delay, d1		54.3		44.1	43.7		54.7	30.7		51.7	24.2	
Progression Factor		1.00		1.00	1.00		1.41	0.43		1.00	1.00	
Incremental Delay, d2		0.8		18.5	14.5		6.9	3.3		17.7	1.8	
Delay (s)		55.1		62.6	58.2		84.0	16.6		69.4	26.0	
Level of Service		E		E	E		F	B		E	C	
Approach Delay (s)		55.1			60.4			20.8			32.0	
Approach LOS		E			E			C			C	

Intersection Summary				
HCM Average Control Delay	34.6	HCM Level of Service		C
HCM Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	76.4%	ICU Level of Service		D
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	20	40	50	40	10	30	330	20	10	300	190
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	176	22	44	55	44	11	33	363	22	11	330	209
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	929	907	434	951	1000	374	538			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	929	907	434	951	1000	374	538			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	13	92	93	73	81	98	97			99		
cM capacity (veh/h)	202	264	622	202	233	673	1025			1168		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	110	418	549
Volume Left	176	55	33	11
Volume Right	44	11	22	209
cSH	236	230	1025	1168
Volume to Capacity	1.02	0.48	0.03	0.01
Queue Length 95th (ft)	247	59	2	1
Control Delay (s)	109.3	34.1	1.0	0.3
Lane LOS	F	D	A	A
Approach Delay (s)	109.3	34.1	1.0	0.3
Approach LOS	F	D		

Intersection Summary				
Average Delay	23.3			
Intersection Capacity Utilization	59.6%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	320	150	1030	200	1520
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	320	150	1030	150	200	1520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	348	163	1283	0	217	1652
v/c Ratio	0.87	0.38	0.75		0.86	0.69
Control Delay	66.6	18.4	14.1		80.9	13.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	66.6	18.4	14.1		80.9	13.5
Queue Length 50th (ft)	258	42	190		179	302
Queue Length 95th (ft)	360	100	m543		m#313	343
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	467	489	1710		255	2386
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.75	0.33	0.75		0.85	0.69

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	320	150	1030	150	200	1520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3438		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3438		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	348	163	1120	163	217	1652
RTOR Reduction (vph)	0	74	9	0	0	0
Lane Group Flow (vph)	348	89	1274	0	217	1652
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	27.3	27.3	59.4		17.3	81.7
Effective Green, g (s)	27.3	27.3	59.4		17.3	81.7
Actuated g/C Ratio	0.23	0.23	0.49		0.14	0.68
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	399	357	1702		253	2386
v/s Ratio Prot	c0.20		c0.37		c0.12	0.47
v/s Ratio Perm		0.06				
v/c Ratio	0.87	0.25	0.75		0.86	0.69
Uniform Delay, d1	44.7	38.0	24.3		50.1	11.6
Progression Factor	1.00	1.00	0.45		1.10	0.96
Incremental Delay, d2	18.0	0.1	2.8		20.0	1.4
Delay (s)	62.6	38.1	13.6		75.2	12.5
Level of Service	E	D	B		E	B
Approach Delay (s)	54.8		13.6			19.8
Approach LOS	D		B			B

Intersection Summary				
HCM Average Control Delay	22.5	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	75.4%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	210	130	150	320	180
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	137	288	178	205	438	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1123	562	685			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1123	562	685			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	25	45	80			
cM capacity (veh/h)	182	525	904			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	425	384	685
Volume Left	137	178	0
Volume Right	288	0	247
cSH	326	904	1700
Volume to Capacity	1.30	0.20	0.40
Queue Length 95th (ft)	505	18	0
Control Delay (s)	189.2	5.8	0.0
Lane LOS	F	A	
Approach Delay (s)	189.2	5.8	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	55.3		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	560	370	1730	270	1810	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	560	370	0	1730	290	270	1810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	609	402	0	2195	0	293	1967
v/c Ratio	1.60	0.13		1.29		0.55	1.54
Control Delay	303.2	10.6		161.2		40.0	267.9
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	303.2	10.6		161.2		40.0	267.9
Queue Length 50th (ft)	~694	73		~792		190	~1010
Queue Length 95th (ft)	#926	58		#860		282	#1161
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	380	3022		1702		531	1280
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.60	0.13		1.29		0.55	1.54

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	560	370	0	1730	290	270	1810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4928		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4928		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	609	402	0	1880	315	293	1967
RTOR Reduction (vph)	0	0	0	19	0	0	456
Lane Group Flow (vph)	609	402	0	2176	0	293	1511
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	380	3022		1684		531	825
v/s Ratio Prot	c0.35	0.08		c0.44		0.17	
v/s Ratio Perm							c0.55
v/c Ratio	1.60	0.13		1.29		0.55	1.83
Uniform Delay, d1	47.0	10.4		39.5		35.2	42.0
Progression Factor	0.50	1.01		0.70		1.00	1.00
Incremental Delay, d2	279.9	0.1		135.4		0.7	379.1
Delay (s)	303.6	10.6		163.2		35.9	421.1
Level of Service	F	B		F		D	F
Approach Delay (s)		187.1		163.2		371.2	
Approach LOS		F		F		F	

Intersection Summary				
HCM Average Control Delay	253.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	740	720	2410	410	290
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	740	250	720	2410	410	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1053	0	766	2564	436	309
v/c Ratio	0.15	0.75		1.07	0.71	0.75	0.59
Control Delay	58.3	36.4		64.0	9.0	36.8	5.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	58.3	36.4		64.0	9.0	36.8	5.7
Queue Length 50th (ft)	8	280		~671	281	77	2
Queue Length 95th (ft)	m24	m#164		m261	m213	105	17
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1405		715	3593	765	592
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	0.75		1.07	0.71	0.57	0.52

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	740	250	720	2410	410	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4845		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4845		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	787	266	766	2564	436	309
RTOR Reduction (vph)	0	50	0	0	0	0	256
Lane Group Flow (vph)	11	1003	0	766	2564	436	53
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	29.6		53.0	81.6	20.4	20.4
Effective Green, g (s)	1.0	29.6		53.0	81.6	20.4	20.4
Actuated g/C Ratio	0.01	0.25		0.44	0.68	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1195		774	3424	578	267
v/s Ratio Prot	0.01	c0.21		c0.44	0.51	c0.13	
v/s Ratio Perm							0.03
v/c Ratio	0.73	0.84		0.99	0.75	0.75	0.20
Uniform Delay, d1	59.4	42.9		33.2	12.5	47.4	42.8
Progression Factor	0.98	0.87		0.79	0.76	0.62	0.35
Incremental Delay, d2	88.3	6.7		7.4	0.1	4.2	0.1
Delay (s)	146.3	44.0		33.6	9.7	33.7	14.9
Level of Service	F	D		C	A	C	B
Approach Delay (s)		45.1			15.2	25.9	
Approach LOS		D			B	C	

Intersection Summary

HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	290	120	240	740	10	1940
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	740	10	1940	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	322	133	267	822	11	3012	0
v/c Ratio	0.94	0.48	0.96	0.21	0.18	1.01	
Control Delay	89.2	14.5	96.5	3.4	60.6	29.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.2	14.5	96.5	3.4	60.6	29.7	
Queue Length 50th (ft)	129	0	217	40	9	~133	
Queue Length 95th (ft)	#219	60	#383	79	m12	#182	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	278	277	3995	60	2991	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.94	0.48	0.96	0.21	0.18	1.01	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	740	10	1940	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4821	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4821	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	322	133	267	822	11	2156	856
RTOR Reduction (vph)	0	120	0	0	0	60	0
Lane Group Flow (vph)	322	13	267	822	11	2952	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Effective Green, g (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Actuated g/C Ratio	0.10	0.10	0.16	0.76	0.01	0.61	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	277	3827	12	2933	
v/s Ratio Prot	c0.09		c0.15	0.16	0.01	c0.61	
v/s Ratio Perm		0.01					
v/c Ratio	0.94	0.08	0.96	0.21	0.92	1.01	
Uniform Delay, d1	53.6	49.0	50.2	4.1	59.6	23.5	
Progression Factor	1.00	1.00	1.09	1.01	0.98	0.58	
Incremental Delay, d2	32.3	0.1	40.1	0.1	174.8	15.7	
Delay (s)	86.0	49.1	94.7	4.3	233.3	29.2	
Level of Service	F	D	F	A	F	C	
Approach Delay (s)	75.2			26.4		30.0	
Approach LOS	E			C		C	

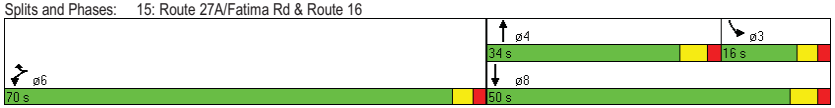
Intersection Summary				
HCM Average Control Delay	33.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	660	250	580	80	1090
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	660	250	580	200	80	1090
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	786	298	928	0	95	1298
v/c Ratio	0.89	0.32	0.67		0.59	0.63
Control Delay	36.6	1.8	29.7		47.8	17.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.6	1.8	29.7		47.8	17.4
Queue Length 50th (ft)	578	11	229		67	198
Queue Length 95th (ft)	625	6	m264		m81	m216
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	983	1385		161	2061
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.82	0.30	0.67		0.59	0.63

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	660	250	580	200	80	1090
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4842		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4842		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	786	298	690	238	95	1298
RTOR Reduction (vph)	0	137	49	0	0	0
Lane Group Flow (vph)	786	161	879	0	95	1298
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	59.9	59.9	33.1		11.0	49.1
Effective Green, g (s)	59.9	59.9	33.1		11.0	49.1
Actuated g/C Ratio	0.50	0.50	0.28		0.09	0.41
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	884	790	1336		161	2061
v/s Ratio Prot	c0.44	0.10	0.18		0.05	c0.26
v/s Ratio Perm						
v/c Ratio	0.89	0.20	0.66		0.59	0.63
Uniform Delay, d1	27.1	16.8	38.4		52.3	28.2
Progression Factor	0.88	0.38	0.75		0.71	0.56
Incremental Delay, d2	10.4	0.0	2.1		2.5	1.0
Delay (s)	34.2	6.4	30.8		39.6	16.8
Level of Service	C	A	C		D	B
Approach Delay (s)	26.6		30.8			18.3
Approach LOS	C		C			B

Intersection Summary				
HCM Average Control Delay	24.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

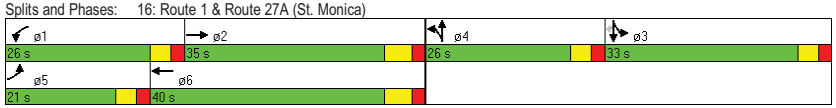
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	140	470	150	1060	120	120	30	240	450
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	470	90	150	1060	10	120	120	100	30	240	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	615	0	165	1176	0	132	242	0	33	264	495
v/c Ratio	0.77	0.34		0.73	0.61		0.50	0.85		0.10	0.80	0.81
Control Delay	83.4	9.2		86.0	22.8		68.1	81.5		39.4	64.0	21.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	83.4	9.2		86.0	22.8		68.1	81.5		39.4	64.0	21.2
Queue Length 50th (ft)	97	73		132	132		107	178		22	198	68
Queue Length 95th (ft)	#184	109		m206	m242		m166	#278		48	275	199
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	234	1828		307	1925		310	329		413	435	674
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.34		0.54	0.61		0.43	0.74		0.08	0.61	0.73

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

16: Route 1 & Route 27A (St. Monica)

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	470	90	150	1060	10	120	120	100	30	240	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4914		1752	5029		1770	1736		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4914		1752	5029		1770	1736		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	154	516	99	165	1165	11	132	132	110	33	264	495
RTOR Reduction (vph)	0	20	0	0	1	0	0	26	0	0	0	326
Lane Group Flow (vph)	154	595	0	165	1175	0	132	217	0	33	264	169
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	44.1		15.5	45.9		18.0	18.0		21.4	21.4	21.4
Effective Green, g (s)	13.7	44.1		15.5	45.9		18.0	18.0		21.4	21.4	21.4
Actuated g/C Ratio	0.11	0.37		0.13	0.38		0.15	0.15		0.18	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	200	1806		226	1924		266	260		316	332	282
v/s Ratio Prot	0.09	0.12		c0.09	c0.23		0.07	c0.12		0.02	c0.14	
v/s Ratio Perm												0.11
v/c Ratio	0.77	0.33		0.73	0.61		0.50	0.83		0.10	0.80	0.60
Uniform Delay, d1	51.6	27.3		50.2	29.9		46.8	49.5		41.3	47.2	45.3
Progression Factor	1.16	0.31		1.41	0.67		1.35	1.39		1.00	1.00	1.00
Incremental Delay, d2	14.9	0.5		8.4	1.2		0.4	16.2		0.1	11.6	2.3
Delay (s)	75.0	8.8		79.4	21.2		63.9	85.3		41.3	58.8	47.6
Level of Service	E	A		E	C		E	F		D	E	D
Approach Delay (s)		22.1			28.4			77.7			51.1	
Approach LOS		C			C			E			D	

Intersection Summary				
HCM Average Control Delay	38.0	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	68.6%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

17: Route 27A & Route 28

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	40	150	20	30	10	60	190	20	20	250	130
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	45	170	23	34	11	68	216	23	23	284	148

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	80	216	68	68	239	307	148
Volume Left (vph)	80	0	23	68	0	23	0
Volume Right (vph)	0	170	11	0	23	0	148
Hadj (s)	0.53	-0.52	0.00	0.53	-0.03	0.07	-0.67
Departure Headway (s)	7.1	6.1	7.0	6.8	6.3	6.2	5.4
Degree Utilization, x	0.16	0.37	0.13	0.13	0.41	0.53	0.22
Capacity (veh/h)	470	553	462	500	549	561	630
Control Delay (s)	10.3	11.4	11.0	9.6	12.4	14.7	8.8
Approach Delay (s)	11.1		11.0	11.8		12.7	
Approach LOS	B		B	B		B	

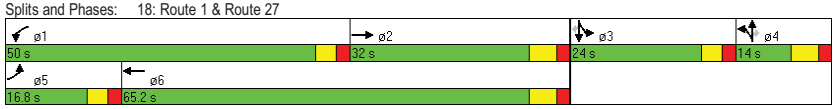
Intersection Summary				
Delay	11.9			
HCM Level of Service	B			
Intersection Capacity Utilization	53.5%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	70	580	930	1300	100	150	730	310	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	580	80	930	1300	30	100	150	730	40	310	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	717	0	1011	1446	0	109	163	793	0	380	43
v/c Ratio	0.57	0.66		1.54	0.54		0.92	1.31	0.86		1.30	0.17
Control Delay	87.4	32.8		277.8	12.9		65.0	188.1	14.5		197.2	35.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.4	32.8		277.8	12.9		65.0	188.1	14.5		197.2	35.8
Queue Length 50th (ft)	62	180		~1100	181		87	~166	109		~376	21
Queue Length 95th (ft)	m111	231		m#1305	m232		m#112	m#201	m83		#570	56
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	172	1084		657	2675		118	124	923		293	257
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.44	0.66		1.54	0.54		0.92	1.31	0.86		1.30	0.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	580	80	930	1300	30	100	150	730	40	310	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4935		1752	5019		1770	1863	2745		1852	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4935		1752	5019		1770	1863	2745		1852	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	630	87	1011	1413	33	109	163	793	43	337	43
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	740	0	0	10
Lane Group Flow (vph)	76	702	0	1011	1444	0	109	163	53	0	380	33
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.07	0.22		0.38	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	118	1069		657	2631		118	124	183		293	247
v/s Ratio Prot	0.04	c0.14		c0.58	0.29		0.06	c0.09			c0.21	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.64	0.66		1.54	0.55		0.92	1.31	0.29		1.30	0.13
Uniform Delay, d1	54.5	42.9		37.5	19.1		55.7	56.0	53.3		50.5	43.4
Progression Factor	1.36	0.71		1.00	0.63		0.93	0.93	4.20		1.00	1.00
Incremental Delay, d2	8.4	3.0		248.4	0.6		10.8	146.8	0.0		156.5	0.1
Delay (s)	82.4	33.4		285.8	12.8		62.5	198.9	224.1		207.0	43.5
Level of Service	F	C		F	B		E	F	F		F	D
Approach Delay (s)		38.1			125.1			203.7			190.4	
Approach LOS		D			F			F			F	

Intersection Summary				
HCM Average Control Delay	134.1	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.24			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	118.1%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	930	650	1790	550	370
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	930	380	650	1790	550	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1393	0	691	1904	585	394
v/c Ratio	0.18	0.98		1.01	0.53	0.97	0.65
Control Delay	77.7	39.8		36.8	2.4	80.2	10.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	77.7	39.8		36.8	2.4	80.2	10.0
Queue Length 50th (ft)	9	190		~565	55	235	0
Queue Length 95th (ft)	m12	m#446		m549	m58	#351	93
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1426		686	3575	601	602
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.18	0.98		1.01	0.53	0.97	0.65

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	930	380	650	1790	550	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4817		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4817		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	989	404	691	1904	585	394
RTOR Reduction (vph)	0	65	0	0	0	0	325
Lane Group Flow (vph)	11	1329	0	691	1904	585	69
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	30.0		51.0	81.2	21.0	21.0
Effective Green, g (s)	0.8	30.0		51.0	81.2	21.0	21.0
Actuated g/C Ratio	0.01	0.25		0.42	0.68	0.18	0.18
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1204		745	3408	601	277
v/s Ratio Prot	0.01	c0.28		c0.39	0.38	c0.17	
v/s Ratio Perm							0.04
v/c Ratio	0.92	1.10		0.93	0.56	0.97	0.25
Uniform Delay, d1	59.6	45.0		32.7	10.1	49.2	42.7
Progression Factor	1.30	0.63		0.62	0.27	1.00	1.00
Incremental Delay, d2	157.4	54.6		2.2	0.1	29.7	0.2
Delay (s)	234.7	82.8		22.5	2.8	79.0	42.9
Level of Service	F	F		C	A	E	D
Approach Delay (s)		83.9			8.0	64.4	
Approach LOS		F			A	E	

Intersection Summary

HCM Average Control Delay	40.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	200	970	20	1990	50	10	30	390
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	970	0	20	1990	110	50	50	10	170	30	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	1021	0	21	2211	0	0	106	11	0	211	411
v/c Ratio	1.07	0.37		0.24	1.01			0.81	0.09		0.99	1.12
Control Delay	120.1	4.4		66.2	44.0			95.0	26.6		110.4	109.1
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	120.1	4.4		66.2	44.0			95.0	26.6		110.4	109.1
Queue Length 50th (ft)	~185	39		16	~669			82	0		165	~222
Queue Length 95th (ft)	m#237	m47		m25	#750			#179	19		#324	#425
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2780		92	2193			136	129		214	366
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.07	0.37		0.23	1.01			0.78	0.09		0.99	1.12

Intersection Summary

Area Type: CBD
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	970	0	20	1990	110	50	50	10	170	30	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4497			1636	1425		1608	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4497			1636	1425		1608	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	1021	0	21	2095	116	53	53	11	179	32	411
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	176
Lane Group Flow (vph)	211	1021	0	21	2206	0	0	106	1	0	211	235
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	197	2666		37	2189			131	114		214	190
v/s Ratio Prot	c0.13	0.23		0.01	c0.49			c0.06			0.13	
v/s Ratio Perm									0.00			c0.16
v/c Ratio	1.07	0.38		0.57	1.01			0.81	0.01		0.99	1.24
Uniform Delay, d1	52.5	13.1		58.0	30.8			54.3	50.8		51.9	52.0
Progression Factor	1.19	0.34		1.12	0.79			1.00	1.00		1.00	1.00
Incremental Delay, d2	62.8	0.2		8.9	18.8			28.1	0.0		56.9	143.5
Delay (s)	125.2	4.7		74.0	43.1			82.4	50.8		108.8	195.5
Level of Service	F	A		E	D			F	D		F	F
Approach Delay (s)		25.3			43.4			79.4			166.1	
Approach LOS		C			D			E			F	

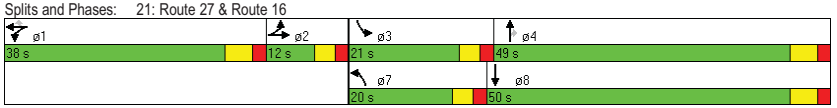
Intersection Summary				
HCM Average Control Delay	57.3	HCM Level of Service		E
HCM Volume to Capacity ratio	1.04			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		21.0
Intersection Capacity Utilization	92.3%	ICU Level of Service		F
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	320	740	780	210	610	550	510	170	1260
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	320	320	740	780	210	610	550	510	170	1260	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		3085			2934			862			2992	
Travel Time (s)		70.1			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	736	0	851	897	241	701	632	586	195	1620	0
v/c Ratio	1.12	2.15		0.93	1.80	0.47	3.20	0.49	0.62	0.87	0.89	
Control Delay	165.4	544.1		39.2	389.3	13.0	1020.2	31.4	5.4	80.5	36.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	165.4	544.1		39.2	389.3	13.0	1020.2	31.4	5.4	80.5	36.2	
Queue Length 50th (ft)	~102	~414		348	~1067	74	~953	200	0	152	290	
Queue Length 95th (ft)	#214	#515		m286	m#810	m58	#1142	246	60	m#240	365	
Internal Link Dist (ft)		3005			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	343		915	497	511	219	1277	944	234	1829	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.12	2.15		0.93	1.80	0.47	3.20	0.49	0.62	0.83	0.89	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	320	320	740	780	210	610	550	510	170	1260	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3274		3433	1863	1583	1752	3505	1568	1752	4956	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3274		3433	1863	1583	1752	3505	1568	1752	4956	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	115	368	368	851	897	241	701	632	586	195	1448	172
RTOR Reduction (vph)	0	152	0	0	0	89	0	0	373	0	12	0
Lane Group Flow (vph)	115	584	0	851	897	152	701	632	213	195	1608	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.36	0.36	0.13	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	191		915	497	422	219	1276	571	223	1817	
v/s Ratio Prot	0.06	c0.18		0.25	c0.48		c0.40	0.18		0.11	c0.32	
v/s Ratio Perm						0.10			0.14			
v/c Ratio	1.12	3.06		0.93	1.80	0.36	3.20	0.50	0.37	0.87	0.88	
Uniform Delay, d1	56.5	56.5		42.9	44.0	35.7	52.5	29.6	28.1	51.4	35.6	
Progression Factor	0.82	0.69		0.85	0.85	0.70	1.00	1.00	1.00	1.05	0.88	
Incremental Delay, d2	121.1	939.9		1.9	362.9	0.0	1002.2	1.4	1.9	21.8	4.9	
Delay (s)	167.3	978.8		38.2	400.5	25.0	1054.7	31.0	29.9	75.6	36.2	
Level of Service	F	F		D	F	C	F	C	C	E	D	
Approach Delay (s)		869.1			200.0			404.6			40.4	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	302.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	126.4%	ICU Level of Service	H
Analysis Period (min)	15		

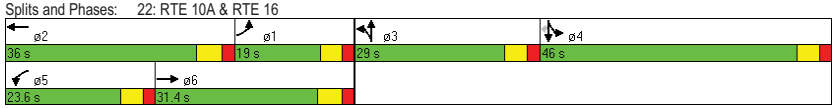
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	350	190	260	100	1010	750	10	10	940
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	15.5	15.5	15.5	15.5
Total Split (s)	19.0	31.4	0.0	23.6	36.0	29.0	29.0	46.0	46.0
Total Split (%)	14.6%	24.2%	0.0%	18.2%	27.7%	22.3%	22.3%	35.4%	35.4%
Maximum Green (s)	13.5	25.4		18.1	30.0	23.5	23.5	40.5	40.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Minimum Gap (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		5			5	5	5	5	5

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 131
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	190	260	100	1010	20	750	10	20	10	10	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1270			779			868			1242	
Travel Time (s)		24.7			15.2			16.9			24.2	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	432	235	321	123	1272	0	482	481	0	0	24	1160
v/c Ratio	1.19	0.30	0.20	0.63	1.57		1.57	1.56			0.04	1.80
Control Delay	159.8	44.4	0.3	70.0	298.0		306.4	302.8			32.7	388.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	159.8	44.4	0.3	70.0	298.0		306.4	302.8			32.7	388.2
Queue Length 50th (ft)	~228	87	0	100	~802		~610	~611			14	~1332
Queue Length 95th (ft)	#281	120	0	151	#854		#717	#720			34	#1424
Internal Link Dist (ft)		1190			699			788			1162	
Turn Bay Length (ft)	350		450	350								
Base Capacity (vph)	362	793	1583	244	809		307	308			557	646
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.19	0.30	0.20	0.50	1.57		1.57	1.56			0.04	1.80

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	190	260	100	1010	20	750	10	20	10	10	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.98	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3529		1665	1662			1800	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.98	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3529		1665	1662			1800	1568
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	432	235	321	123	1247	25	926	12	25	12	12	1160
RTOR Reduction (vph)	0	0	0	0	1	0	0	2	0	0	0	161
Lane Group Flow (vph)	432	235	321	123	1271	0	482	479	0	0	24	999
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Effective Green, g (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Actuated g/C Ratio	0.11	0.22	1.00	0.11	0.23		0.18	0.18			0.31	0.31
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	3.5	4.0		3.5	4.0		3.5	3.5			3.5	3.5
Lane Grp Cap (vph)	364	794	1583	196	808		307	307			556	484
v/s Ratio Prot	c0.13	0.07		0.07	c0.36		c0.29	0.29			0.01	
v/s Ratio Perm			0.20									c0.64
v/c Ratio	1.19	0.30	0.20	0.63	1.57		1.57	1.56			0.04	2.06
Uniform Delay, d1	58.6	42.3	0.0	55.7	50.5		53.4	53.4			31.7	45.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	108.4	0.3	0.3	6.4	264.0		271.8	268.0			0.0	485.9
Delay (s)	167.0	42.5	0.3	62.2	314.5		325.2	321.5			31.8	531.2
Level of Service	F	D	A	E	F		F	F			C	F
Approach Delay (s)		83.2			292.3			323.3			521.1	
Approach LOS		F			F			F			F	

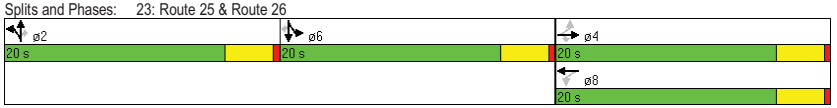
Intersection Summary				
HCM Average Control Delay	313.1	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.71			
Actuated Cycle Length (s)	131.1	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	122.6%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	90	10	150	10	10	440	450	10	20	420	510
Turn Type	Perm		Perm	Perm		Split		Perm	Split		Perm
Protected Phases		4			8	2	2		6	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 51.2
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	10	150	10	10	60	440	450	10	20	420	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		636			405			396			486	
Travel Time (s)		12.4			7.9			7.7			9.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	170	0	90	0	500	511	11	23	477	580
v/c Ratio		0.43	0.41		0.28		0.89	0.86	0.02	0.04	0.81	0.65
Control Delay		24.9	7.3		10.2		41.6	37.6	9.9	14.8	32.3	6.3
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.9	7.3		10.2		41.6	37.6	9.9	14.8	32.3	6.3
Queue Length 50th (ft)		32	0		6		149	151	1	5	137	4
Queue Length 95th (ft)		68	37		34		#335	#335	10	19	#306	64
Internal Link Dist (ft)		556			325			316			406	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		487	619		552		562	592	509	562	592	887
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.23	0.27		0.16		0.89	0.86	0.02	0.04	0.81	0.65

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	10	150	10	10	60	440	450	10	20	420	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.96	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1782	1583		1663		1770	1863	1583	1770	1863	1583
Flt Permitted		0.82	1.00		0.95		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1533	1583		1591		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	11	170	11	11	68	500	511	11	23	477	580
RTOR Reduction (vph)	0	0	146	0	58	0	0	0	6	0	0	387
Lane Group Flow (vph)	0	113	24	0	32	0	500	511	5	23	477	193
Turn Type	Perm		Perm	Perm			Split		Perm	Split		Perm
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)		7.5	7.5		7.5		16.3	16.3	16.3	16.3	16.3	16.3
Effective Green, g (s)		7.5	7.5		7.5		16.3	16.3	16.3	16.3	16.3	16.3
Actuated g/C Ratio		0.14	0.14		0.14		0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		221	228		229		554	583	495	554	583	495
v/s Ratio Prot							c0.28	0.27		0.01	c0.26	
v/s Ratio Perm		c0.07	0.02		0.02				0.00			0.12
v/c Ratio		0.51	0.11		0.14		0.90	0.88	0.01	0.04	0.82	0.39
Uniform Delay, d1		20.6	19.4		19.5		17.1	16.9	12.3	12.5	16.5	14.0
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		0.8	0.1		0.1		20.5	16.8	0.0	0.1	12.1	2.3
Delay (s)		21.4	19.5		19.6		37.6	33.8	12.4	12.6	28.6	16.3
Level of Service		C	B		B		D	C	B	B	C	B
Approach Delay (s)		20.3			19.6			35.4			21.7	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	52.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	130	10	400	10	10	10	270	300	10	20	470	280
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	151	12	465	12	12	12	314	349	12	23	547	326
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1587	1581	547	1576	1570	349	547			360		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1587	1581	547	1576	1570	349	547			360		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	84	13	0	84	98	69			98		
cM capacity (veh/h)	57	74	537	8	75	694	1018			1193		

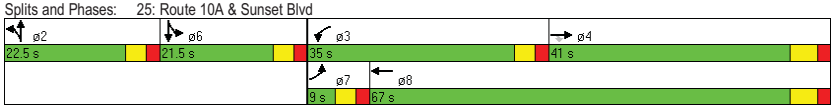
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	151	477	35	314	349	12	23	547	326
Volume Left	151	0	12	314	0	0	23	0	0
Volume Right	0	465	12	0	0	12	0	0	326
cSH	57	551	21	1018	1700	1700	1193	1700	1700
Volume to Capacity	2.64	0.87	1.64	0.31	0.21	0.01	0.02	0.32	0.19
Queue Length 95th (ft)	386	238	114	33	0	0	1	0	0
Control Delay (s)	898.3	41.4	698.6	10.1	0.0	0.0	8.1	0.0	0.0
Lane LOS	F	E	F	B			A		
Approach Delay (s)	247.7		698.6	4.7			0.2		
Approach LOS	F		F						

Intersection Summary					
Average Delay		82.1			
Intersection Capacity Utilization		63.6%	ICU Level of Service		B
Analysis Period (min)		15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	630	10	320	2120	20	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	41.0	41.0	35.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	34.2%	34.2%	29.2%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	35.0	35.0	30.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 102.3
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	630	10	320	2120	50	20	10	100	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			892			650			525	
Travel Time (s)		26.3			20.3			14.8			11.9	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	759	12	386	2614	0	24	132	0	0	48	0
v/c Ratio	0.17	0.66	0.02	0.87	0.85		0.08	0.35			0.38	
Control Delay	56.9	34.8	13.6	57.0	20.8		39.6	12.4			46.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	56.9	34.8	13.6	57.0	20.8		39.6	12.4			46.6	
Queue Length 50th (ft)	8	237	0	229	467		13	7			23	
Queue Length 95th (ft)	27	292	13	#348	610		37	51			58	
Internal Link Dist (ft)		1075			812			570			445	
Turn Bay Length (ft)	180		180	420								
Base Capacity (vph)	70	1243	564	522	3092		305	376			295	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	0.61	0.02	0.74	0.85		0.08	0.35			0.16	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	630	10	320	2120	50	20	10	100	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3539	1583	1770	5068		1770	1609			1756	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	1770	3539	1583	1770	5068		1770	1609			1756	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	12	759	12	386	2554	60	24	12	120	24	12	12
RTOR Reduction (vph)	0	0	8	0	2	0	0	100	0	0	11	0
Lane Group Flow (vph)	12	759	4	386	2612	0	24	32	0	0	37	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.7	37.2	37.2	25.8	62.3		17.6	17.6			5.7	
Effective Green, g (s)	0.7	37.2	37.2	25.8	62.3		17.6	17.6			5.7	
Actuated g/C Ratio	0.01	0.35	0.35	0.24	0.58		0.16	0.16			0.05	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1227	549	426	2943		290	264			93	
v/s Ratio Prot	0.01	0.21		c0.22	c0.52		0.01	c0.02			c0.02	
v/s Ratio Perm			0.00									
v/c Ratio	1.00	0.62	0.01	0.91	0.89		0.08	0.12			0.39	
Uniform Delay, d1	53.3	29.1	23.0	39.6	19.5		38.0	38.2			49.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	259.8	0.7	0.0	22.0	3.5		0.6	0.9			1.0	
Delay (s)	313.1	29.8	23.0	61.6	23.0		38.6	39.2			50.1	
Level of Service	F	C	C	E	C		D	D			D	
Approach Delay (s)		34.0			28.0			39.1			50.1	
Approach LOS		C			C			D			D	

Intersection Summary					
HCM Average Control Delay	29.9	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.68				
Actuated Cycle Length (s)	107.3	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	67.6%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	250	980	130	1610	120	40	90	360	30	150
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	39.0	12.0	33.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	24.0	63.0	22.0	61.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (%)	20.0%	52.5%	18.3%	50.8%	12.5%	12.5%	12.5%	16.7%	16.7%	16.7%
Maximum Green (s)	19.0	57.0	17.0	55.0	10.0	10.0	10.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	980	270	130	1610	420	120	40	90	360	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	150		150	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3056			1501			676			669	
Travel Time (s)		59.5			29.2			18.4			18.2	
Confl. Peds. (#/hr)						1			160			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							34%			46%		
Lane Group Flow (vph)	272	1358	0	141	2207	0	86	87	98	211	213	163
v/c Ratio	0.98	0.53		0.72	0.96		0.68	0.67	0.53	1.00	1.00	0.48
Control Delay	62.3	16.4		70.8	23.1		80.5	78.7	20.9	116.0	115.7	12.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.3	16.4		70.8	23.1		80.5	78.7	20.9	116.0	115.7	12.3
Queue Length 50th (ft)	221	176		113	290		69	69	0	~175	~176	0
Queue Length 95th (ft)	m210	m171		m133	#702		#141	#138	54	#344	#346	63
Internal Link Dist (ft)		2976			1421			596			589	
Turn Bay Length (ft)	630			350			150		150	360		250
Base Capacity (vph)	277	2539		248	2310		140	144	196	210	212	341
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.53		0.57	0.96		0.61	0.60	0.50	1.00	1.00	0.48

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

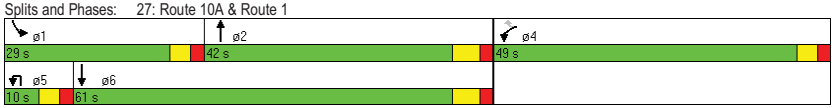
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	980	270	130	1610	420	120	40	90	360	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.81	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4873		1752	4866		1681	1726	1276	1681	1698	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4873		1752	4866		1681	1726	1276	1681	1698	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	1065	293	141	1750	457	130	43	98	391	33	163
RTOR Reduction (vph)	0	39	0	0	38	0	0	0	91	0	0	143
Lane Group Flow (vph)	272	1319	0	141	2169	0	86	87	7	211	213	20
Confl. Peds. (#/hr)						1			160			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Effective Green, g (s)	19.0	61.5		13.5	56.0		9.0	9.0	9.0	15.0	15.0	15.0
Actuated g/C Ratio	0.16	0.51		0.11	0.47		0.08	0.08	0.08	0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	277	2497		197	2271		126	129	96	210	212	198
v/s Ratio Prot	c0.16	0.27		0.08	c0.45		c0.05	0.05		c0.13	0.13	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.98	0.53		0.72	0.95		0.68	0.67	0.08	1.00	1.00	0.10
Uniform Delay, d1	50.3	19.6		51.4	30.8		54.1	54.1	51.6	52.5	52.5	46.5
Progression Factor	0.98	0.86		1.17	0.52		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	0.1		5.2	6.5		11.5	10.4	0.1	63.3	63.0	0.1
Delay (s)	61.5	16.8		65.5	22.5		65.6	64.5	51.8	115.8	115.5	46.6
Level of Service	E	B		E	C		E	E	D	F	F	D
Approach Delay (s)		24.3			25.1			60.2			96.5	
Approach LOS		C			C			E			F	

Intersection Summary				
HCM Average Control Delay	35.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	93.4%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1180	720	20	990	330	1480
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	35.0	35.0	9.0	33.0	12.0	22.0
Total Split (s)	49.0	49.0	10.0	42.0	29.0	61.0
Total Split (%)	40.8%	40.8%	8.3%	35.0%	24.2%	50.8%
Maximum Green (s)	44.0	44.0	5.0	36.0	24.0	55.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		5		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 76 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1180	720	20	990	450	330	1480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1896			1896			3056
Travel Time (s)	36.9			36.9			59.5
Confl. Peds. (#/hr)					11		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1326	809	22	1618	0	371	1663
v/c Ratio	1.05	0.98	0.30	1.08		1.06	0.67
Control Delay	77.9	48.4	73.4	65.3		97.6	8.2
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	77.9	48.4	73.4	65.3		97.6	8.2
Queue Length 50th (ft)	~578	394	15	~464		~307	204
Queue Length 95th (ft)	#700	#668	m40	m#541		m#358	m230
Internal Link Dist (ft)	1816			1816			2976
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	1259	822	75	1496		350	2476
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.05	0.98	0.29	1.08		1.06	0.67

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1180	720	20	990	450	330	1480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	0.95		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4759		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4759		1752	5036
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1326	809	22	1112	506	371	1663
RTOR Reduction (vph)	0	241	0	69	0	0	0
Lane Group Flow (vph)	1326	568	22	1549	0	371	1663
Confl. Peds. (#/hr)					11		
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	44.0	44.0	3.0	36.0		24.0	57.0
Effective Green, g (s)	44.0	44.0	3.0	36.0		24.0	57.0
Actuated g/C Ratio	0.37	0.37	0.02	0.30		0.20	0.48
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1259	580	45	1428		350	2392
v/s Ratio Prot	c0.39		0.01	c0.33		c0.21	0.33
v/s Ratio Perm		0.36					
v/c Ratio	1.05	0.98	0.49	1.09		1.06	0.70
Uniform Delay, d1	38.0	37.5	57.7	42.0		48.0	24.7
Progression Factor	1.00	1.00	1.15	0.39		1.08	0.32
Incremental Delay, d2	40.6	31.5	2.6	49.1		48.4	0.7
Delay (s)	78.6	69.0	68.8	65.4		100.1	8.5
Level of Service	E	E	E	E		F	A
Approach Delay (s)	75.0			65.5			25.2
Approach LOS	E			E			C

Intersection Summary

HCM Average Control Delay	54.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	260	1250	10	1980	330	210
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	20.0	20.0
Total Split (s)	24.0	81.0	9.0	66.0	30.0	30.0
Total Split (%)	20.0%	67.5%	7.5%	55.0%	25.0%	25.0%
Maximum Green (s)	19.0	75.0	4.0	60.0	25.0	25.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 90 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1250	10	1980	330	330	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2658		1896		2759	
Travel Time (s)		51.8		36.9		75.2	
Confl. Peds. (#/hr)					4		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	286	1374	11	2539	0	363	231
v/c Ratio	1.03	0.40	0.18	1.03		0.98	0.54
Control Delay	80.6	13.3	52.0	43.9		90.8	25.0
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	80.6	13.3	52.0	43.9		90.8	25.0
Queue Length 50th (ft)	~207	258	8	~763		282	74
Queue Length 95th (ft)	m#326	m382	m10	m#771		#480	158
Internal Link Dist (ft)		2578		1816		2679	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	277	3450	60	2473		369	426
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.40	0.18	1.03		0.98	0.54

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

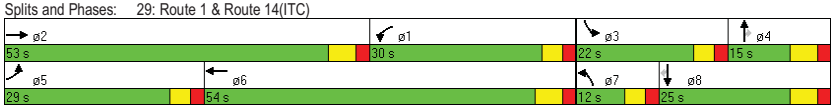
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	260	1250	10	1980	330	330	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4906		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4906		1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	286	1374	11	2176	363	363	231
RTOR Reduction (vph)	0	0	0	19	0	0	96
Lane Group Flow (vph)	286	1374	11	2520	0	363	135
Confl. Peds. (#/hr)					4		
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	19.0	78.2	0.8	60.0		25.0	25.0
Effective Green, g (s)	19.0	78.2	0.8	60.0		25.0	25.0
Actuated g/C Ratio	0.16	0.65	0.01	0.50		0.21	0.21
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	277	3282	12	2453		369	330
v/s Ratio Prot	c0.16	0.27	c0.01	c0.51		c0.21	0.09
v/s Ratio Perm							
v/c Ratio	1.03	0.42	0.92	1.03		0.98	0.41
Uniform Delay, d1	50.5	10.0	59.6	30.0		47.3	41.1
Progression Factor	0.58	1.53	0.85	0.76		1.00	1.00
Incremental Delay, d2	48.6	0.2	146.7	20.8		42.1	0.3
Delay (s)	77.8	15.6	197.5	43.6		89.4	41.4
Level of Service	E	B	F	D		F	D
Approach Delay (s)		26.3		44.2		70.7	
Approach LOS		C		D		E	

Intersection Summary				
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	380	950	190	1340	60	140	70	470	110	450
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	15.0	15.0	12.0	18.0	18.0
Total Split (s)	29.0	53.0	30.0	54.0	12.0	15.0	15.0	22.0	25.0	25.0
Total Split (%)	24.2%	44.2%	25.0%	45.0%	10.0%	12.5%	12.5%	18.3%	20.8%	20.8%
Maximum Green (s)	24.0	47.0	25.0	48.0	7.0	9.0	9.0	17.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	950	140	190	1340	560	60	140	70	470	110	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		2690			2658			634			1131	
Travel Time (s)		52.4			51.8			14.4			25.7	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	458	1314	0	229	2289	0	72	169	84	566	133	542
v/c Ratio	1.31	0.73		0.54	1.14		0.40	0.67	0.44	1.16	0.40	0.91
Control Delay	186.2	20.1		21.8	81.5		61.2	67.6	18.7	139.9	49.3	36.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	186.2	20.1		21.8	81.5		61.2	67.6	18.7	139.9	49.3	36.0
Queue Length 50th (ft)	~446	330		129	~731		28	67	0	~268	94	136
Queue Length 95th (ft)	#573	97		m142	m#698		48	97	42	#335	145	#278
Internal Link Dist (ft)		2610			2578			554			1051	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1951		424	2005		200	265	195	486	329	594
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.67		0.54	1.14		0.36	0.64	0.43	1.16	0.40	0.91

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	950	140	190	1340	560	60	140	70	470	110	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4939		1752	4813		3433	3539	1562	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4939		1752	4813		3433	3539	1562	3433	1863	1583
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	458	1145	169	229	1614	675	72	169	84	566	133	542
RTOR Reduction (vph)	0	17	0	0	64	0	0	0	77	0	0	315
Lane Group Flow (vph)	458	1297	0	229	2225	0	72	169	7	566	133	227
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	24.0	42.4		29.0	47.4		5.4	9.6	9.6	17.0	21.2	21.2
Effective Green, g (s)	24.0	42.4		29.0	47.4		5.4	9.6	9.6	17.0	21.2	21.2
Actuated g/C Ratio	0.20	0.35		0.24	0.39		0.05	0.08	0.08	0.14	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1745		423	1901		154	283	125	486	329	280
v/s Ratio Prot	c0.26	0.26		0.13	c0.46		0.02	0.05		c0.16	0.07	
v/s Ratio Perm									0.00			c0.14
v/c Ratio	1.31	0.74		0.54	1.17		0.47	0.60	0.05	1.16	0.40	0.81
Uniform Delay, d1	48.0	34.0		39.7	36.3		55.9	53.3	51.0	51.5	43.8	47.5
Progression Factor	0.70	0.55		0.48	0.32		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	155.5	2.5		0.3	79.0		0.8	2.3	0.1	94.6	0.3	15.5
Delay (s)	189.1	21.3		19.4	90.7		56.7	55.6	51.1	146.1	44.1	63.0
Level of Service	F	C		B	F		E	E	D	F	D	E
Approach Delay (s)		64.7			84.2			54.7			98.9	
Approach LOS		E			F			D			F	

Intersection Summary

HCM Average Control Delay	79.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	470	1380	50	1690	50	130	10	510
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	20.0	12.0	12.0	12.0
Total Split (s)	36.0	70.0	14.0	48.0	20.0	16.0	16.0	16.0
Total Split (%)	30.0%	58.3%	11.7%	40.0%	16.7%	13.3%	13.3%	13.3%
Maximum Green (s)	31.0	64.0	9.0	42.0	15.0	11.0	11.0	11.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	10	10	10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1380	10	50	1690	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2690			238			2279	
Travel Time (s)		25.0			52.4			6.5			62.2	
Confl. Peds. (#/hr)												24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	553	1636	0	59	2106	0	0	95	0	83	82	600
v/c Ratio	1.22	0.54		0.53	1.08			0.59		0.54	0.53	1.02
Control Delay	146.2	14.8		60.1	56.7			64.2		65.7	64.9	53.3
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	146.2	14.8		60.1	56.7			64.2		65.7	64.9	53.3
Queue Length 50th (ft)	~518	341		48	~649			68		66	65	~118
Queue Length 95th (ft)	m#655	387		m46	m#599			114		114	113	#279
Internal Link Dist (ft)		1204			2610			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	453	3018		131	1947			231		154	156	588
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.22	0.54		0.45	1.08			0.41		0.54	0.53	1.02

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1380	10	50	1690	100	20	50	10	130	10	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5030		1752	4994			1808		1681	1697	1503
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5030		1752	4994			1808		1681	1697	1503
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	553	1624	12	59	1988	118	24	59	12	153	12	600
RTOR Reduction (vph)	0	0	0	0	5	0	0	5	0	0	0	451
Lane Group Flow (vph)	553	1636	0	59	2101	0	0	90	0	83	82	149
Confl. Peds. (#/hr)												24
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Effective Green, g (s)	31.0	70.9		6.7	46.6			10.4		11.0	11.0	11.0
Actuated g/C Ratio	0.26	0.59		0.06	0.39			0.09		0.09	0.09	0.09
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	453	2972		98	1939			157		154	156	138
v/s Ratio Prot	c0.32	0.33		0.03	c0.42			c0.05		0.05	0.05	
v/s Ratio Perm												c0.10
v/c Ratio	1.22	0.55		0.60	1.08			0.58		0.54	0.53	1.08
Uniform Delay, d1	44.5	14.9		55.3	36.7			52.7		52.1	52.0	54.5
Progression Factor	0.83	0.93		1.08	0.43			1.00		1.00	1.00	1.00
Incremental Delay, d2	112.2	0.5		0.6	38.7			3.2		1.8	1.5	100.6
Delay (s)	149.3	14.3		60.3	54.3			55.8		53.9	53.5	155.1
Level of Service	F	B		E	D			E		D	D	F
Approach Delay (s)		48.4			54.5			55.8			133.2	
Approach LOS		D			D			E			F	

Intersection Summary				
HCM Average Control Delay	63.5	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.07			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	89.1%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1070	140	1410	40	240	10	160	10	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	10.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	12.0	62.0	22.0	72.0	72.0	21.0	21.0	21.0	15.0	15.0
Total Split (%)	10.0%	51.7%	18.3%	60.0%	60.0%	17.5%	17.5%	17.5%	12.5%	12.5%
Maximum Green (s)	7.0	56.0	17.0	66.0	66.0	16.0	16.0	16.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		17.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 6 (Easterly Adelup) &

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1070	340	140	1410	40	240	10	160	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		722			5590			835			321	
Travel Time (s)		14.1			108.9			19.0			10.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	11	1517	0	151	1516	43	134	135	172	0	22	11
v/c Ratio	0.14	0.53		0.74	0.60	0.04	0.73	0.73	0.53		0.24	0.12
Control Delay	58.5	16.8		88.7	1.3	0.1	73.5	73.3	13.2		60.2	28.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	58.5	16.8		88.7	1.3	0.1	73.5	73.3	13.2		60.2	28.9
Queue Length 50th (ft)	8	258		104	0	0	106	107	0		17	0
Queue Length 95th (ft)	28	344		m153	0	m0	175	177	64		44	20
Internal Link Dist (ft)		642			5510			755			241	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	102	2862		248	2524	1140	224	226	360		152	142
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.11	0.53		0.61	0.60	0.04	0.60	0.60	0.48		0.14	0.08

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1070	340	140	1410	40	240	10	160	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)	1752	4854		1752	3505	1568	1681	1692	1583		1817	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (perm)	1752	4854		1752	3505	1568	1681	1692	1583		1817	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	1151	366	151	1516	43	258	11	172	11	11	11
RTOR Reduction (vph)	0	39	0	0	0	13	0	0	153	0	0	11
Lane Group Flow (vph)	11	1478	0	151	1516	30	134	135	19	0	22	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Effective Green, g (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Actuated g/C Ratio	0.01	0.57		0.12	0.67	0.67	0.11	0.11	0.11		0.03	0.03
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	19	2747		203	2351	1052	184	185	173		62	54
v/s Ratio Prot	0.01	0.30		c0.09	c0.43		0.08	c0.08			c0.01	
v/s Ratio Perm						0.02			0.01			0.00
v/c Ratio	0.58	0.54		0.74	0.64	0.03	0.73	0.73	0.11		0.35	0.01
Uniform Delay, d1	59.1	16.3		51.3	11.5	6.6	51.7	51.7	48.2		56.7	56.0
Progression Factor	1.00	1.00		1.44	0.05	0.01	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	23.8	0.8		8.5	0.9	0.0	11.5	11.5	0.1		1.3	0.0
Delay (s)	82.9	17.0		82.5	1.6	0.1	63.2	63.3	48.3		57.9	56.0
Level of Service	F	B		F	A	A	E	E	D		E	E
Approach Delay (s)		17.5			8.7			57.4			57.3	
Approach LOS		B			A			E			E	

Intersection Summary				
HCM Average Control Delay	18.5	HCM Level of Service		B
HCM Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		15.0
Intersection Capacity Utilization	69.2%	ICU Level of Service		C
Analysis Period (min)	15			

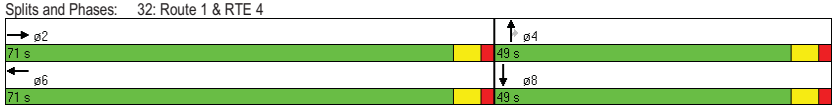
c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1170	2040	390	660	420
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	71.0	71.0	49.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%	40.8%
Maximum Green (s)	65.0	65.0	43.0	43.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	14.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 32: Route 1 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1170	60	0	2040	10	0	390	660	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			489			921			385	
Travel Time (s)		7.7			9.5			17.9			7.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1323	0	0	2205	0	0	774	355	0	452	0
v/c Ratio		0.43			0.72			0.81	0.78		0.44	
Control Delay		3.1			8.6			16.8	18.1		35.2	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		3.1			8.6			16.8	18.1		35.2	
Queue Length 50th (ft)		27			258			75	52		149	
Queue Length 95th (ft)		46			409			85	m75		180	
Internal Link Dist (ft)		313			409			841			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3052			3067			1162	547		1268	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.43			0.72			0.67	0.65		0.36	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1170	60	0	2040	10	0	390	660	0	420	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		4999			5032			3157	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		4999			5032			3157	1441		3539	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1258	65	0	2194	11	0	419	710	0	452	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	34	34	0	0	0
Lane Group Flow (vph)	0	1319	0	0	2205	0	0	740	321	0	452	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		73.1			73.1			34.9	34.9		34.9	
Effective Green, g (s)		73.1			73.1			34.9	34.9		34.9	
Actuated g/C Ratio		0.61			0.61			0.29	0.29		0.29	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3045			3065			918	419		1029	
v/s Ratio Prot		0.26			c0.44			c0.23			0.13	
v/s Ratio Perm									0.22			
v/c Ratio		0.43			0.72			0.81	0.77		0.44	
Uniform Delay, d1		12.5			16.3			39.4	38.8		34.6	
Progression Factor		0.21			0.43			0.29	0.23		1.00	
Incremental Delay, d2		0.4			1.1			4.1	6.1		0.1	
Delay (s)		3.0			8.1			15.5	14.8		34.7	
Level of Service		A			A			B	B		C	
Approach Delay (s)		3.0			8.1			15.3			34.7	
Approach LOS		A			A			B			C	

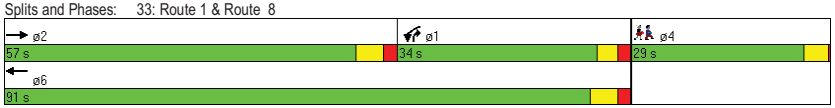
Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1430	460	1950	890	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	28.0	33.0	28.0	29.0
Total Split (s)	57.0	34.0	91.0	34.0	29.0
Total Split (%)	47.5%	28.3%	75.8%	28.3%	24%
Maximum Green (s)	51.0	29.0	85.0	29.0	25.0
Yellow Time (s)	4.0	3.0	4.0	3.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	5.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	C-Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 33: Route 1 & Route 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1430	320	460	1950	0	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	490			1938	458	
Travel Time (s)	9.5			37.8	8.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2058	0	541	2294	0	1047
v/c Ratio	0.63		0.66	0.65		0.90
Control Delay	14.4		19.1	8.6		28.9
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	14.4		19.1	8.6		28.9
Queue Length 50th (ft)	426		140	280		196
Queue Length 95th (ft)	294		m119	m276		258
Internal Link Dist (ft)	410			1858	378	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3284		822	3505		1157
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.63		0.66	0.65		0.90

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1430	320	460	1950	0	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0		5.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4898		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4898		3400	3505		2787
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1682	376	541	2294	0	1047
RTOR Reduction (vph)	17	0	0	0	0	483
Lane Group Flow (vph)	2041	0	541	2294	0	564
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	80.0		29.0	120.0		29.0
Effective Green, g (s)	80.0		29.0	120.0		29.0
Actuated g/C Ratio	0.67		0.24	1.00		0.24
Clearance Time (s)	6.0		5.0	6.0		5.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3265		822	3505		674
v/s Ratio Prot	0.42		0.16	c0.65		c0.20
v/s Ratio Perm						
v/c Ratio	0.63		0.66	0.65		0.84
Uniform Delay, d1	11.4		41.0	0.0		43.2
Progression Factor	1.21		0.43	1.00		1.00
Incremental Delay, d2	0.8		0.4	0.3		8.5
Delay (s)	14.7		18.2	0.3		51.8
Level of Service	B		B	A		D
Approach Delay (s)	14.7			3.7	51.8	
Approach LOS	B			A	D	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	210	550	940	650	110
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	12	250	655	1119	774	131
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1210	458	
pX, platoon unblocked	0.97					
vC, conflicting volume	2643	387	774			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2630	387	774			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	59	22			
cM capacity (veh/h)	4	612	838			

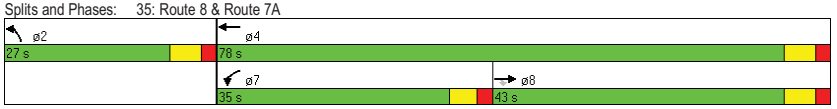
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	250	655	560	560	387	387	131
Volume Left	12	0	655	0	0	0	0	0
Volume Right	0	250	0	0	0	0	0	131
cSH	4	612	838	1700	1700	1700	1700	1700
Volume to Capacity	2.94	0.41	0.78	0.33	0.33	0.23	0.23	0.08
Queue Length 95th (ft)	66	50	199	0	0	0	0	0
Control Delay (s)	2496.5	14.9	22.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	C					
Approach Delay (s)	127.7		8.4			0.0		
Approach LOS	F							

Intersection Summary					
Average Delay		16.5			
Intersection Capacity Utilization		61.8%	ICU Level of Service		B
Analysis Period (min)		15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	830	60	720	1340	200	650
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	20.5	31.0	16.0	
Total Split (s)	43.0	43.0	35.0	78.0	27.0	0.0
Total Split (%)	41.0%	41.0%	33.3%	74.3%	25.7%	0.0%
Maximum Green (s)	37.0	37.0	29.5	72.0	21.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	5	5			5	

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 99.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	830	60	720	1340	200	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1210			1375	661	
Travel Time (s)	23.6			26.8	12.9	
Confl. Peds. (#/hr)		5				5
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1000	72	867	1614	241	783
v/c Ratio	0.82	0.12	0.89	0.67	0.71	0.50
Control Delay	37.2	6.7	47.3	11.3	50.1	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	6.7	47.3	11.3	50.1	1.2
Queue Length 50th (ft)	312	0	285	284	151	0
Queue Length 95th (ft)	384	26	#377	374	212	0
Internal Link Dist (ft)	1130			1295	581	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1336	632	1033	2599	399	1562
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.11	0.84	0.62	0.60	0.50

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	830	60	720	1340	200	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1556	3433	3539	1770	1562
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1556	3433	3539	1770	1562
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	1000	72	867	1614	241	783
RTOR Reduction (vph)	0	47	0	0	0	0
Lane Group Flow (vph)	1000	25	867	1614	241	783
Confl. Peds. (#/hr)		5				5
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	34.3	34.3	28.3	68.1	19.2	99.3
Effective Green, g (s)	34.3	34.3	28.3	68.1	19.2	99.3
Actuated g/C Ratio	0.35	0.35	0.28	0.69	0.19	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1222	537	978	2427	342	1562
v/s Ratio Prot	c0.28		c0.25	0.46	c0.14	
v/s Ratio Perm		0.02				0.50
v/c Ratio	0.82	0.05	0.89	0.67	0.70	0.50
Uniform Delay, d1	29.7	21.6	34.0	9.0	37.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6	0.0	10.0	0.8	6.9	1.2
Delay (s)	34.3	21.7	44.0	9.8	44.3	1.2
Level of Service	C	C	D	A	D	A
Approach Delay (s)	33.4			21.7	11.3	
Approach LOS	C			C	B	

Intersection Summary

HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	99.3	Sum of lost time (s)	17.5
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

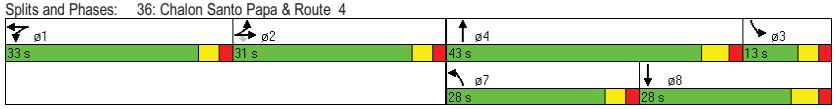
c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	130	90	270	170	850	40	420
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	26.0	12.0	28.0	12.0	28.0
Total Split (s)	31.0	31.0	33.0	28.0	43.0	13.0	28.0
Total Split (%)	25.8%	25.8%	27.5%	23.3%	35.8%	10.8%	23.3%
Maximum Green (s)	26.0	26.0	28.0	23.0	37.0	8.0	22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 70 (58%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	270	170	170	850	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			780			850	
Travel Time (s)		28.3			11.8			15.2			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	102	0	648	0	193	1080	0	45	591	0
v/c Ratio		0.81	0.29		0.88		0.76	0.53		0.42	0.39	
Control Delay		67.3	9.7		56.1		43.1	17.9		44.1	15.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.3	9.7		56.1		43.1	17.9		44.1	15.4	
Queue Length 50th (ft)		188	0		236		109	202		34	40	
Queue Length 95th (ft)		260	43		293		m128	m333		71	160	
Internal Link Dist (ft)		1164			439			700			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		395	423		819		339	2022		118	1527	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.63	0.24		0.79		0.57	0.53		0.38	0.39	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

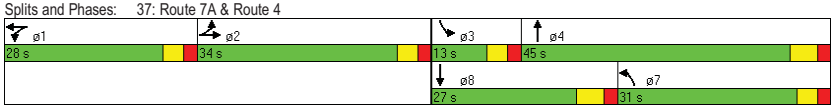
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	130	90	130	270	170	170	850	100	40	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.98		1.00	0.97	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1826	1583		3343		1770	5005		1770	4938	
Flt Permitted		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1826	1583		3343		1770	5005		1770	4938	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	148	102	148	307	193	193	966	114	45	477	114
RTOR Reduction (vph)	0	0	85	0	40	0	0	11	0	0	29	0
Lane Group Flow (vph)	0	250	17	0	608	0	193	1069	0	45	562	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		20.3	20.3		25.0		17.2	47.3		6.4	36.5	
Effective Green, g (s)		20.3	20.3		25.0		17.2	47.3		6.4	36.5	
Actuated g/C Ratio		0.17	0.17		0.21		0.14	0.39		0.05	0.30	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		309	268		696		254	1973		94	1502	
v/s Ratio Prot		c0.14			c0.18		c0.11	c0.21		c0.03	0.11	
v/s Ratio Perm			0.01									
v/c Ratio		0.81	0.06		0.87		0.76	0.54		0.48	0.37	
Uniform Delay, d1		48.0	41.9		46.0		49.4	28.0		55.2	32.8	
Progression Factor		1.00	1.00		1.00		0.63	0.59		0.61	0.44	
Incremental Delay, d2		13.6	0.0		11.4		7.0	0.7		1.4	0.7	
Delay (s)		61.6	41.9		57.3		38.1	17.2		34.8	15.2	
Level of Service		E	D		E		D	B		C	B	
Approach Delay (s)		55.9			57.3			20.4			16.6	
Approach LOS		E			E			C			B	

Intersection Summary				
HCM Average Control Delay	32.1	HCM Level of Service		C
HCM Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		20.0
Intersection Capacity Utilization	68.0%	ICU Level of Service		C
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	180	340	270	500	330	950	60	360
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.5	29.5	28.0	28.0	13.0	28.0	13.0	21.0
Total Split (s)	34.0	34.0	28.0	28.0	31.0	45.0	13.0	27.0
Total Split (%)	28.3%	28.3%	23.3%	23.3%	25.8%	37.5%	10.8%	22.5%
Maximum Green (s)	29.0	29.0	23.0	23.0	26.0	39.0	8.0	21.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	340	20	270	500	60	330	950	360	60	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	215		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		609			967			740			780	
Travel Time (s)		13.8			22.0			14.4			15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	200	400	0	270	653	0	367	1456	0	67	644	0
v/c Ratio	0.49	0.93		0.88	1.02		0.96	0.81		0.57	0.66	
Control Delay	44.1	74.0		76.6	88.1		83.0	38.4		58.4	29.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	44.1	74.0		76.6	88.1		83.0	38.4		58.4	29.1	
Queue Length 50th (ft)	133	300		225	~291		283	371		50	144	
Queue Length 95th (ft)	208	#481		#395	#419		#474	436		m93	169	
Internal Link Dist (ft)		529			887			660			700	
Turn Bay Length (ft)				215			250			200		
Base Capacity (vph)	428	448		306	640		384	1791		118	975	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.89		0.88	1.02		0.96	0.81		0.57	0.66	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	340	20	270	500	60	330	950	360	60	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.98		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1847		1595	3298		1770	4876		1770	4796	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1847		1595	3298		1770	4876		1770	4796	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	200	378	22	300	556	67	367	1056	400	67	400	244
RTOR Reduction (vph)	0	2	0	0	7	0	0	55	0	0	91	0
Lane Group Flow (vph)	200	398	0	270	646	0	367	1401	0	67	553	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	27.9	27.9		23.0	23.0		27.0	41.7		6.4	21.1	
Effective Green, g (s)	27.9	27.9		23.0	23.0		27.0	41.7		6.4	21.1	
Actuated g/C Ratio	0.23	0.23		0.19	0.19		0.22	0.35		0.05	0.18	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	412	429		306	632		398	1694		94	843	
v/s Ratio Prot	0.11	c0.22		0.17	c0.20		c0.21	c0.29		0.04	c0.12	
v/s Ratio Perm												
v/c Ratio	0.49	0.93		0.88	1.02		0.92	0.83		0.71	0.66	
Uniform Delay, d1	39.8	45.1		47.2	48.5		45.5	35.8		55.9	46.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.75	0.68	
Incremental Delay, d2	0.3	25.9		23.8	41.4		26.2	4.8		17.5	3.6	
Delay (s)	40.2	71.0		71.0	89.9		71.7	40.6		59.5	35.1	
Level of Service	D	E		E	F		E	D		E	D	
Approach Delay (s)		60.7			84.4			46.9			37.4	
Approach LOS		E			F			D			D	

Intersection Summary

HCM Average Control Delay	55.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	80	170	150	1690	600	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	91	193	170	1920	682	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1031	
pX, platoon unblocked	0.91	0.91	0.91			
vC, conflicting volume	2006	364	727			
vC1, stage 1 conf vol	705					
vC2, stage 2 conf vol	1301					
vCu, unblocked vol	1903	91	492			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	46	78	82			
cM capacity (veh/h)	169	860	968			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	284	170	960	960	455	273
Volume Left	91	170	0	0	0	0
Volume Right	193	0	0	0	0	45
cSH	372	968	1700	1700	1700	1700
Volume to Capacity	0.76	0.18	0.56	0.56	0.27	0.16
Queue Length 95th (ft)	155	16	0	0	0	0
Control Delay (s)	39.9	9.5	0.0	0.0	0.0	0.0
Lane LOS	E	A				
Approach Delay (s)	39.9	0.8			0.0	
Approach LOS	E					

Intersection Summary				
Average Delay		4.2		
Intersection Capacity Utilization		68.3%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	70	290	220	70
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	20.0	20.0
Total Split (s)	21.0	35.0	34.0	34.0
Total Split (%)	23.3%	38.9%	37.8%	37.8%
Maximum Green (s)	16.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	2.0	2.0	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 75.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route - 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	510	290	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		345			618			271			199	
Travel Time (s)		7.8			14.0			6.2			3.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	364	0	0	1200	0	259	764	0	0	0	0
v/c Ratio		0.67			0.87		0.48	0.91				
Control Delay		19.3			31.5		24.6	25.7				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		19.3			31.5		24.6	25.7				
Queue Length 50th (ft)		32			290		97	122				
Queue Length 95th (ft)		66			#440		162	#288				
Internal Link Dist (ft)		265			538			191			119	
Turn Bay Length (ft)												
Base Capacity (vph)		869			1377		715	949				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.42			0.87		0.36	0.81				

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	510	290	220	220	70	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.90			0.97		1.00	0.87				
Flt Protected		0.99			0.98		0.95	1.00				
Satd. Flow (prot)		3176			3341		1770	1613				
Flt Permitted		0.99			0.98		0.95	1.00				
Satd. Flow (perm)		3176			3341		1770	1613				
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	82	235	600	341	259	259	82	682	0	0	0
RTOR Reduction (vph)	0	210	0	0	25	0	0	348	0	0	0	0
Lane Group Flow (vph)	0	154	0	0	1175	0	259	416	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		8.0			30.6		22.9	22.9				
Effective Green, g (s)		8.0			30.6		22.9	22.9				
Actuated g/C Ratio		0.11			0.41		0.30	0.30				
Clearance Time (s)		5.0			5.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		337			1354		537	489				
v/s Ratio Prot		c0.05			c0.35		0.15	c0.26				
v/s Ratio Perm												
v/c Ratio		0.46			0.87		0.48	0.85				
Uniform Delay, d1		31.7			20.6		21.5	24.7				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		0.4			5.9		0.2	12.9				
Delay (s)		32.1			26.5		21.7	37.6				
Level of Service		C			C		C	D				
Approach Delay (s)		32.1			26.5			33.6			0.0	
Approach LOS		C			C			C			A	

Intersection Summary

HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	75.5	Sum of lost time (s)	14.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

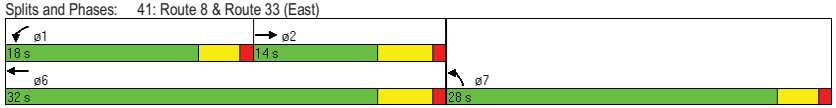
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	450	340	1200	330
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	7.0	4.0	7.0	4.0
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	14.0	18.0	32.0	28.0
Total Split (%)	23.3%	30.0%	53.3%	46.7%
Maximum Green (s)	9.0	14.0	27.0	24.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	4.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	4.0	2.0	4.0	2.0
Minimum Gap (s)	2.0	0.5	2.0	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 62.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	450	190	340	1200	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2965			2384	2961	
Travel Time (s)	57.8			46.4	57.7	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	744	0	395	1395	756	0
v/c Ratio	1.09		0.99	0.84	1.06	
Control Delay	85.3		72.3	19.9	70.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	85.3		72.3	19.9	70.9	
Queue Length 50th (ft)	~170		141	227	~256	
Queue Length 95th (ft)	182		#353	278	#563	
Internal Link Dist (ft)	2885			2304	2881	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	684		398	1662	714	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	1.09		0.99	0.84	1.06	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	450	190	340	1200	330	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	5.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.96		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3382		1770	3539	1696	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	3382		1770	3539	1696	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	523	221	395	1395	384	372
RTOR Reduction (vph)	75	0	0	0	60	0
Lane Group Flow (vph)	669	0	395	1395	696	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	11.3		14.1	29.4	24.1	
Effective Green, g (s)	11.3		14.1	29.4	24.1	
Actuated g/C Ratio	0.18		0.23	0.47	0.39	
Clearance Time (s)	5.0		4.0	5.0	4.0	
Vehicle Extension (s)	4.0		2.0	4.0	2.0	
Lane Grp Cap (vph)	611		399	1665	654	
v/s Ratio Prot	c0.20		c0.22	0.39	c0.41	
v/s Ratio Perm						
v/c Ratio	1.10		0.99	0.84	1.06	
Uniform Delay, d1	25.6		24.1	14.5	19.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	65.3		41.8	4.0	53.7	
Delay (s)	90.9		65.9	18.5	72.9	
Level of Service	F		E	B	E	
Approach Delay (s)	90.9			29.0	72.9	
Approach LOS	F			C	E	

Intersection Summary				
HCM Average Control Delay	53.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	13.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	440	370	830	670	890	1170
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	36.0	36.0	64.0	36.0	36.0
Total Split (%)	28.0%	36.0%	36.0%	64.0%	36.0%	36.0%
Maximum Green (s)	22.0	30.0	30.0	58.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	440	370	830	670	890	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			454	789	
Travel Time (s)	14.8			8.8	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	484	407	912	736	978	1286
v/c Ratio	0.62	0.44	0.89	0.36	0.96	0.69
Control Delay	39.1	13.2	40.6	9.8	55.5	12.1
Queue Delay	0.4	0.0	0.2	0.2	0.0	0.4
Total Delay	39.5	13.2	40.8	10.0	55.5	12.5
Queue Length 50th (ft)	147	131	291	101	313	239
Queue Length 95th (ft)	202	202	#400	124	#442	318
Internal Link Dist (ft)	682			374	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	783	904	1020	2045	1030	1865
Starvation Cap Reductn	0	0	6	537	0	0
Spillback Cap Reductn	58	0	0	0	0	177
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.45	0.90	0.49	0.95	0.76

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	440	370	830	670	890	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	484	407	912	736	978	1286
RTOR Reduction (vph)	0	8	0	0	0	41
Lane Group Flow (vph)	484	399	912	736	978	1245
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	22.3	52.0	30.0	58.3	29.7	59.7
Effective Green, g (s)	22.3	52.0	30.0	58.3	29.7	59.7
Actuated g/C Ratio	0.22	0.52	0.30	0.58	0.30	0.60
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	782	909	1020	2043	1020	1831
v/s Ratio Prot	c0.14	0.13	c0.27	0.21	c0.28	0.20
v/s Ratio Perm		0.12				0.24
v/c Ratio	0.62	0.44	0.89	0.36	0.96	0.68
Uniform Delay, d1	35.0	14.9	33.5	11.0	34.5	13.7
Progression Factor	1.00	1.00	0.87	0.84	1.00	1.00
Incremental Delay, d2	3.7	0.1	8.9	0.4	18.6	0.8
Delay (s)	38.7	15.0	37.9	9.7	53.2	14.5
Level of Service	D	B	D	A	D	B
Approach Delay (s)	27.9			25.3	31.2	
Approach LOS	C			C	C	

Intersection Summary

HCM Average Control Delay	28.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1330	130	1150	150	120
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	8.0	8.0
Minimum Split (s)	26.0	16.0	26.0	14.0	14.0
Total Split (s)	63.0	17.0	80.0	20.0	20.0
Total Split (%)	63.0%	17.0%	80.0%	20.0%	20.0%
Maximum Green (s)	57.0	11.0	74.0	14.0	14.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	Min	Max	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 52 (52%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1330	180	130	1150	150	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	454			482	431	
Travel Time (s)	8.8			9.4	8.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1756	0	151	1337	174	140
v/c Ratio	0.87		0.78	0.51	0.78	0.43
Control Delay	17.9		71.1	5.9	65.7	11.4
Queue Delay	3.9		0.0	0.0	0.0	0.0
Total Delay	21.8		71.1	5.9	65.7	11.4
Queue Length 50th (ft)	318		95	158	107	0
Queue Length 95th (ft)	408		#184	183	#183	47
Internal Link Dist (ft)	374			402	351	
Turn Bay Length (ft)			200			200
Base Capacity (vph)	2019		193	2642	248	342
Starvation Cap Reductn	194		0	0	0	0
Spillback Cap Reductn	0		0	131	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.96		0.78	0.53	0.70	0.41

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1330	180	130	1150	150	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3442		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3442		1752	3505	1770	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1547	209	151	1337	174	140
RTOR Reduction (vph)	10	0	0	0	0	122
Lane Group Flow (vph)	1746	0	151	1337	174	18
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	58.4		11.0	75.4	12.6	12.6
Effective Green, g (s)	58.4		11.0	75.4	12.6	12.6
Actuated g/C Ratio	0.58		0.11	0.75	0.13	0.13
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2010		193	2643	223	199
v/s Ratio Prot	c0.51		c0.09	0.38	c0.10	
v/s Ratio Perm						0.01
v/c Ratio	0.87		0.78	0.51	0.78	0.09
Uniform Delay, d1	17.6		43.3	4.9	42.4	38.6
Progression Factor	0.74		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1		17.1	0.7	14.9	0.1
Delay (s)	17.1		60.5	5.6	57.3	38.7
Level of Service	B		E	A	E	D
Approach Delay (s)	17.1			11.2	49.0	
Approach LOS	B			B	D	

Intersection Summary				
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	70	120	340	90	460	240	1230	380	320	830	130
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	8.0	36.0	36.0	8.0	36.0	36.0
Total Split (s)	16.0	16.0	16.0	28.0	28.0	28.0	28.0	49.0	49.0	27.0	48.0	48.0
Total Split (%)	13.3%	13.3%	13.3%	23.3%	23.3%	23.3%	23.3%	40.8%	40.8%	22.5%	40.0%	40.0%
Maximum Green (s)	11.0	11.0	11.0	23.0	23.0	23.0	23.0	43.0	43.0	22.0	42.0	42.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	70	120	340	90	460	240	1230	380	320	830	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		549			3012			2453			773	
Travel Time (s)		10.7			58.7			47.8			15.1	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	35%											
Lane Group Flow (vph)	168	169	135	382	101	517	270	1382	427	360	933	146
v/c Ratio	1.10	1.08	0.51	1.15	0.29	0.92	0.87	1.09	0.57	1.11	0.72	0.22
Control Delay	151.8	147.0	15.6	139.2	44.1	40.9	79.2	73.7	3.7	127.5	37.0	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	151.8	147.0	15.6	139.2	44.1	40.9	79.2	73.7	3.7	127.5	37.0	5.2
Queue Length 50th (ft)	~155	~153	0	~348	68	160	207	~629	11	~319	333	1
Queue Length 95th (ft)	#301	#300	60	#533	119	#367	m242	#746	m14	#501	406	43
Internal Link Dist (ft)		469			2932			2373			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	153	156	266	333	350	561	339	1268	754	325	1299	673
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.10	1.08	0.51	1.15	0.29	0.92	0.80	1.09	0.57	1.11	0.72	0.22

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	70	120	340	90	460	240	1230	380	320	830	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1707	1568	1736	1827	1553	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1707	1568	1736	1827	1553	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	258	79	135	382	101	517	270	1382	427	360	933	146
RTOR Reduction (vph)	0	0	123	0	0	264	0	0	187	0	0	92
Lane Group Flow (vph)	168	169	12	382	101	253	270	1382	240	360	933	54
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	11.0	11.0	11.0	23.0	23.0	23.0	21.0	43.0	43.0	22.0	44.0	44.0
Effective Green, g (s)	11.0	11.0	11.0	23.0	23.0	23.0	21.0	43.0	43.0	22.0	44.0	44.0
Actuated g/C Ratio	0.09	0.09	0.09	0.19	0.19	0.19	0.18	0.36	0.36	0.18	0.37	0.37
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	153	156	144	333	350	298	310	1268	567	325	1298	580
v/s Ratio Prot	c0.10	0.10		c0.22	0.06		0.15	c0.39		c0.20	0.26	
v/s Ratio Perm			0.01			0.16			0.15			0.03
v/c Ratio	1.10	1.08	0.09	1.15	0.29	0.85	0.87	1.09	0.42	1.11	0.72	0.09
Uniform Delay, d1	54.5	54.5	49.9	48.5	41.5	46.8	48.2	38.5	29.1	49.0	32.7	24.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.31	0.63	0.22	1.00	1.00	1.00
Incremental Delay, d2	101.4	96.1	0.1	95.4	0.2	19.5	13.2	48.3	1.3	82.1	3.5	0.3
Delay (s)	155.9	150.6	50.0	143.9	41.7	66.3	76.1	72.5	7.6	131.1	36.1	25.2
Level of Service	F	F	D	F	D	E	E	E	A	F	D	C
Approach Delay (s)		123.7			93.5			59.7			58.8	
Approach LOS		F			F			E			E	

Intersection Summary

HCM Average Control Delay	72.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

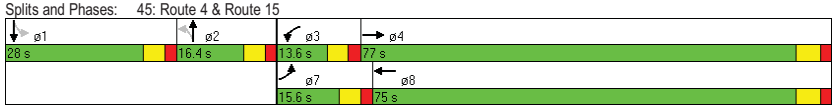
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	120	650	10	1690	40	10	50	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	15.6	77.0	13.6	75.0	16.4	16.4	28.0	28.0
Total Split (%)	11.6%	57.0%	10.1%	55.6%	12.1%	12.1%	20.7%	20.7%
Maximum Green (s)	10.1	71.0	8.1	69.0	10.9	10.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0	3.5	4.0	3.5	3.5	0.5	0.5
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	650	10	10	1690	40	40	10	40	50	10	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			548			338			351	
Travel Time (s)		12.5			10.7			6.6			6.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	750	0	11	1965	0	0	101	0	0	386	0
v/c Ratio	1.03	0.40		0.10	1.09			0.88			1.08	
Control Delay	145.5	19.9		62.5	81.3			102.3			100.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	145.5	19.9		62.5	81.3			102.3			100.9	
Queue Length 50th (ft)	~127	201		9	~1020			69			~260	
Queue Length 95th (ft)	#256	242		29	#1113			#173			#447	
Internal Link Dist (ft)		561			468			258			271	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	132	1864		106	1808			117			359	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.03	0.40		0.10	1.09			0.86			1.08	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

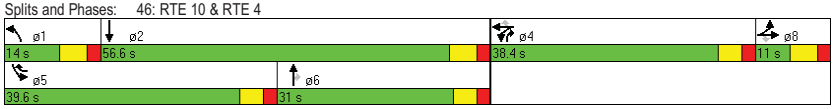
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	650	10	10	1690	40	40	10	40	50	10	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3531		1770	3527			1713			1643	
Flt Permitted	0.95	1.00		0.95	1.00			0.68			0.85	
Satd. Flow (perm)	1770	3531		1770	3527			1192			1401	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	136	739	11	11	1920	45	45	11	45	57	11	318
RTOR Reduction (vph)	0	1	0	0	1	0	0	21	0	0	125	0
Lane Group Flow (vph)	136	749	0	11	1964	0	0	80	0	0	261	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	10.1	71.1		8.0	69.0			10.7			22.5	
Effective Green, g (s)	10.1	71.1		8.0	69.0			10.7			22.5	
Actuated g/C Ratio	0.07	0.53		0.06	0.51			0.08			0.17	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	3.5	4.0		3.5	4.0			3.5			0.5	
Lane Grp Cap (vph)	133	1862		105	1805			95			234	
v/s Ratio Prot	c0.08	0.21		0.01	c0.56							
v/s Ratio Perm								c0.07			c0.19	
v/c Ratio	1.02	0.40		0.10	1.09			0.84			1.12	
Uniform Delay, d1	62.4	19.1		60.0	32.9			61.2			56.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	84.2	0.2		0.5	49.5			46.3			93.4	
Delay (s)	146.5	19.3		60.5	82.4			107.5			149.5	
Level of Service	F	B		E	F			F			F	
Approach Delay (s)		38.8			82.3			107.5			149.5	
Approach LOS		D			F			F			F	

Intersection Summary				
HCM Average Control Delay	79.3	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	134.8	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	90.2%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	30	10	10	820	10	660	800	640	220
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	10.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.5	9.5	13.5	16.0
Total Split (s)	11.0	11.0	38.4	39.6	14.0	31.0	38.4	39.6	56.6
Total Split (%)	9.2%	9.2%	32.0%	33.0%	11.7%	25.8%	32.0%	33.0%	47.2%
Maximum Green (s)	5.0	5.0	32.9	34.1	8.0	25.5	32.9	34.1	50.6
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		20.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 119.1
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	340	10	820	10	660	800	640	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			759			914	
Travel Time (s)		7.3			12.6			14.8			17.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	11	0	381	891	11	717	870	696	261	0
v/c Ratio		0.86	0.14		0.78	0.97	0.09	0.96	0.98	0.72	0.28	
Control Delay		126.9	31.3		52.2	41.0	54.5	70.6	50.4	43.6	18.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		126.9	31.3		52.2	41.0	54.5	70.6	50.4	43.6	18.2	
Queue Length 50th (ft)		52	0		273	389	8	291	591	250	102	
Queue Length 95th (ft)		#140	20		#415	#929	28	#412	#900	318	198	
Internal Link Dist (ft)		295			565			679			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		77	77		491	923	119	758	890	983	943	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.86	0.14		0.78	0.97	0.09	0.95	0.98	0.71	0.28	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	340	10	820	10	660	800	640	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	33	11	370	11	891	11	717	870	696	239	22
RTOR Reduction (vph)	0	0	11	0	0	34	0	0	46	0	3	0
Lane Group Flow (vph)	0	66	0	0	381	857	11	717	824	696	258	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		5.0	5.0		32.9	66.4	1.6	30.0	62.9	33.5	60.9	
Effective Green, g (s)		5.0	5.0		32.9	66.4	1.6	30.0	62.9	33.5	60.9	
Actuated g/C Ratio		0.04	0.04		0.27	0.54	0.01	0.24	0.51	0.27	0.49	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		73	64		472	848	23	857	874	928	904	
v/s Ratio Prot		c0.04			0.21	c0.27	0.01	0.20	c0.25	0.20	0.14	
v/s Ratio Perm			0.00			0.27			0.27			
v/c Ratio		0.90	0.01		0.81	1.01	0.48	0.84	0.94	0.75	0.29	
Uniform Delay, d1		59.2	57.1		42.5	28.8	60.7	44.6	28.8	41.4	18.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		71.7	0.0		9.2	33.4	5.6	6.8	17.8	3.1	0.1	
Delay (s)		130.9	57.1		51.8	62.2	66.3	51.5	46.6	44.4	18.7	
Level of Service		F	E		D	E	E	D	D	D	B	
Approach Delay (s)		120.3			59.1			48.9			37.4	
Approach LOS		F			E			D			D	

Intersection Summary			
HCM Average Control Delay	50.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	123.9	Sum of lost time (s)	17.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1110	1250	280
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	24.0	24.0	13.0	22.0	33.0	33.0
Total Split (s)	24.0	24.0	21.0	96.0	75.0	75.0
Total Split (%)	20.0%	20.0%	17.5%	80.0%	62.5%	62.5%
Maximum Green (s)	19.0	19.0	16.0	90.0	69.0	69.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1110	1250	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	438			286	526	
Travel Time (s)	11.9			5.6	10.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	45	125	1261	1420	318
v/c Ratio	0.45	0.40	0.68	0.42	0.58	0.29
Control Delay	63.7	62.4	56.8	5.5	11.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	62.4	56.8	5.5	11.3	8.8
Queue Length 50th (ft)	43	34	95	98	275	88
Queue Length 95th (ft)	83	69	154	392	392	155
Internal Link Dist (ft)	358			206	446	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	251	224	234	3016	2469	1105
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.53	0.42	0.58	0.29

Intersection Summary

Area Type: Other

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1110	1250	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	57	45	125	1261	1420	318
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	57	45	125	1261	1420	318
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	8.0	8.0	12.5	101.0	83.5	83.5
Effective Green, g (s)	8.0	8.0	12.5	101.0	83.5	83.5
Actuated g/C Ratio	0.07	0.07	0.10	0.84	0.70	0.70
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	106	94	183	2950	2439	1091
v/s Ratio Prot	c0.04		c0.07	0.36	c0.41	
v/s Ratio Perm		0.03				0.20
v/c Ratio	0.54	0.48	0.68	0.43	0.58	0.29
Uniform Delay, d1	54.2	54.0	51.8	2.3	9.3	7.0
Progression Factor	1.00	1.00	0.78	1.99	1.00	1.00
Incremental Delay, d2	2.6	1.4	7.2	0.4	1.0	0.7
Delay (s)	56.8	55.4	47.5	5.1	10.4	7.6
Level of Service	E	E	D	A	B	A
Approach Delay (s)	56.2			8.9	9.9	
Approach LOS	E			A	A	

Intersection Summary				
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	90	100	1120	80	1190
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	23.0	23.0	28.0	13.0	22.0
Total Split (s)	26.0	26.0	74.0	20.0	94.0
Total Split (%)	21.7%	21.7%	61.7%	16.7%	78.3%
Maximum Green (s)	21.0	21.0	68.0	15.0	88.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6(V.Cementary) & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1120	90	80	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		550			1355
Travel Time (s)	16.0		10.7			26.4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	108	1301	0	86	1280
v/c Ratio	0.55	0.43	0.54		0.55	0.45
Control Delay	63.3	14.3	7.1		74.8	2.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	63.3	14.3	7.1		74.8	2.0
Queue Length 50th (ft)	74	0	124		71	70
Queue Length 95th (ft)	126	53	137		m125	28
Internal Link Dist (ft)	506		470			1275
Turn Bay Length (ft)					200	
Base Capacity (vph)	310	366	2431		219	2837
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.31	0.30	0.54		0.39	0.45

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	90	100	1120	90	80	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3466		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3466		1752	3505
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	108	1204	97	86	1280
RTOR Reduction (vph)	0	97	3	0	0	0
Lane Group Flow (vph)	97	11	1298	0	86	1280
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	11.9	11.9	83.0		9.1	97.1
Effective Green, g (s)	11.9	11.9	83.0		9.1	97.1
Actuated g/C Ratio	0.10	0.10	0.69		0.08	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	176	157	2397		133	2836
v/s Ratio Prot	c0.05		c0.37		c0.05	0.37
v/s Ratio Perm		0.01				
v/c Ratio	0.55	0.07	0.54		0.65	0.45
Uniform Delay, d1	51.5	49.0	9.1		53.9	3.4
Progression Factor	1.00	1.00	0.63		1.23	0.43
Incremental Delay, d2	2.1	0.1	0.8		6.6	0.4
Delay (s)	53.6	49.1	6.6		72.6	1.9
Level of Service	D	D	A		E	A
Approach Delay (s)	51.2		6.6			6.4
Approach LOS	D		A			A

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	20	220	1190	1230
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	20.0	13.0	22.0	30.0
Total Split (s)	20.0	31.0	100.0	69.0
Total Split (%)	16.7%	25.8%	83.3%	57.5%
Maximum Green (s)	15.0	26.0	94.0	63.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1190	1230	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2159			1944	7258	
Travel Time (s)	42.1			37.9	141.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	237	1280	1420	0
v/c Ratio	0.37		0.79	0.42	0.63	
Control Delay	34.5		58.5	2.4	11.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	34.5		58.5	2.4	11.3	
Queue Length 50th (ft)	16		154	66	273	
Queue Length 95th (ft)	58		m232	237	249	
Internal Link Dist (ft)	2079			1864	7178	
Turn Bay Length (ft)			125			
Base Capacity (vph)	238		385	3050	2251	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.23		0.62	0.42	0.63	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1190	1230	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1680		1752	3505	3469	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1680		1752	3505	3469	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	32	237	1280	1323	97
RTOR Reduction (vph)	30	0	0	0	3	0
Lane Group Flow (vph)	24	0	237	1280	1417	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.8		20.5	102.2	76.7	
Effective Green, g (s)	6.8		20.5	102.2	76.7	
Actuated g/C Ratio	0.06		0.17	0.85	0.64	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	95		299	2985	2217	
v/s Ratio Prot	c0.01		c0.14	0.37	c0.41	
v/s Ratio Perm						
v/c Ratio	0.25		0.79	0.43	0.64	
Uniform Delay, d1	54.2		47.7	2.1	13.2	
Progression Factor	1.00		0.93	0.96	0.69	
Incremental Delay, d2	0.5		9.9	0.3	1.3	
Delay (s)	54.7		54.1	2.3	10.5	
Level of Service	D		D	A	B	
Approach Delay (s)	54.7			10.4	10.5	
Approach LOS	D			B	B	

Intersection Summary				
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	290	70	540	830
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	25.0		33.0	33.0	22.0	21.0
Total Split (s)	36.0	0.0	40.0	40.0	44.0	84.0
Total Split (%)	30.0%	0.0%	33.3%	33.3%	36.7%	70.0%
Maximum Green (s)	31.0		34.0	34.0	39.0	78.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	290	70	540	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	531		795			527
Travel Time (s)	10.3		15.5			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	1212	341	82	635	976
v/c Ratio	0.68	0.77	0.20	0.10	0.73	0.35
Control Delay	67.0	3.6	19.1	5.0	33.8	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	3.6	19.1	5.0	33.8	5.3
Queue Length 50th (ft)	106	0	75	0	203	69
Queue Length 95th (ft)	157	0	120	28	192	163
Internal Link Dist (ft)	451		715			447
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	457	1583	1736	818	1105	2775
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.77	0.20	0.10	0.57	0.35

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	1030	290	70	540	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3505	1568	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3505	1568	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	141	1212	341	82	635	976
RTOR Reduction (vph)	0	0	0	41	0	0
Lane Group Flow (vph)	141	1212	341	41	635	976
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	14.0	120.0	59.4	59.4	30.6	95.0
Effective Green, g (s)	14.0	120.0	59.4	59.4	30.6	95.0
Actuated g/C Ratio	0.12	1.00	0.49	0.49	0.26	0.79
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	207	1583	1735	776	867	2775
v/s Ratio Prot	0.08		0.10		0.19	0.28
v/s Ratio Perm		c0.77		0.03		
v/c Ratio	0.68	0.77	0.20	0.05	0.73	0.35
Uniform Delay, d1	50.9	0.0	17.0	15.7	40.9	3.6
Progression Factor	1.00	1.00	1.00	1.00	0.72	1.26
Incremental Delay, d2	7.1	3.6	0.3	0.1	3.4	0.3
Delay (s)	58.0	3.6	17.2	15.8	32.9	4.8
Level of Service	E	A	B	B	C	A
Approach Delay (s)	9.3		16.9			15.9
Approach LOS	A		B			B

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	36.0	36.0	37.0	37.0	27.0	64.0
Total Split (%)	36.0%	36.0%	37.0%	37.0%	27.0%	64.0%
Maximum Green (s)	30.5	30.5	31.0	31.0	21.5	58.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 73.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1169		1253			870
Travel Time (s)	22.8		24.4			16.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	448	677	42	229	198
v/c Ratio	0.57	0.72	0.45	0.06	0.69	0.08
Control Delay	38.5	10.6	17.5	8.3	39.6	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	10.6	17.5	8.3	39.6	4.2
Queue Length 50th (ft)	66	0	108	3	97	12
Queue Length 95th (ft)	133	82	200	24	179	27
Internal Link Dist (ft)	1089		1173			790
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	741	923	1506	691	522	2817
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.49	0.45	0.06	0.44	0.07

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	430	650	40	220	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	156	448	677	42	229	198
RTOR Reduction (vph)	0	379	0	18	0	0
Lane Group Flow (vph)	156	69	677	24	229	198
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.3	11.3	31.3	31.3	13.8	50.6
Effective Green, g (s)	11.3	11.3	31.3	31.3	13.8	50.6
Actuated g/C Ratio	0.15	0.15	0.43	0.43	0.19	0.69
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	272	244	1509	675	333	2440
v/s Ratio Prot	c0.09		c0.19		c0.13	0.06
v/s Ratio Perm		0.04		0.02		
v/c Ratio	0.57	0.28	0.45	0.04	0.69	0.08
Uniform Delay, d1	28.8	27.5	14.9	12.3	27.8	3.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.2	1.0	0.1	4.7	0.0
Delay (s)	30.6	27.7	15.9	12.4	32.4	3.8
Level of Service	C	C	B	B	C	A
Approach Delay (s)	28.5		15.7			19.1
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	36.0	36.0	66.0	66.0	18.0	84.0
Total Split (%)	30.0%	30.0%	55.0%	55.0%	15.0%	70.0%
Maximum Green (s)	30.5	30.5	60.0	60.0	12.5	78.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 111.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	665		412			515
Travel Time (s)	13.0		8.0			10.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	281	337	685	315	101	270
v/c Ratio	0.81	0.58	0.66	0.32	0.61	0.21
Control Delay	61.4	8.3	22.7	4.7	65.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.4	8.3	22.7	4.7	65.7	7.0
Queue Length 50th (ft)	194	0	327	21	70	60
Queue Length 95th (ft)	284	70	549	76	133	116
Internal Link Dist (ft)	585		332			435
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	485	679	1041	994	199	1307
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.50	0.66	0.32	0.51	0.21

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	250	300	610	280	90	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	281	337	685	315	101	270
RTOR Reduction (vph)	0	271	0	109	0	0
Lane Group Flow (vph)	281	66	685	206	101	270
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	21.8	21.8	62.3	62.3	10.4	78.2
Effective Green, g (s)	21.8	21.8	62.3	62.3	10.4	78.2
Actuated g/C Ratio	0.20	0.20	0.56	0.56	0.09	0.70
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	346	310	1041	884	165	1307
v/s Ratio Prot	c0.16		c0.37		c0.06	0.14
v/s Ratio Perm		0.04		0.13		
v/c Ratio	0.81	0.21	0.66	0.23	0.61	0.21
Uniform Delay, d1	42.9	37.6	17.2	12.5	48.6	5.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.8	0.1	1.2	0.0	4.7	0.4
Delay (s)	55.7	37.8	18.3	12.5	53.3	6.2
Level of Service	E	D	B	B	D	A
Approach Delay (s)	45.9		16.5			19.0
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	111.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	140	70	130	30	30	520
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	171	85	159	37	37	634
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	159				585	159
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	159				585	159
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				91	28
cM capacity (veh/h)	1421				416	887

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	256	159	37	37	634
Volume Left	171	0	0	37	0
Volume Right	0	0	37	0	634
cSH	1421	1700	1700	416	887
Volume to Capacity	0.12	0.09	0.02	0.09	0.72
Queue Length 95th (ft)	10	0	0	7	157
Control Delay (s)	5.6	0.0	0.0	14.5	18.5
Lane LOS	A			B	C
Approach Delay (s)	5.6	0.0		18.3	
Approach LOS				C	

Intersection Summary				
Average Delay	12.2			
Intersection Capacity Utilization	45.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	40	40	20	100	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	15	60	60	30	149	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418	75			90	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418	75			90	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			90	
cM capacity (veh/h)	533	987			1506	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	75	90	194
Volume Left	15	0	149
Volume Right	60	30	0
cSH	843	1700	1506
Volume to Capacity	0.09	0.05	0.10
Queue Length 95th (ft)	7	0	8
Control Delay (s)	9.7	0.0	6.1
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	6.1
Approach LOS	A		

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	23.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	100	50	70	180	240	140
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	110	55	77	198	264	154
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			165		489	137
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			165		489	137
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		48	83
cM capacity (veh/h)			1413		509	911

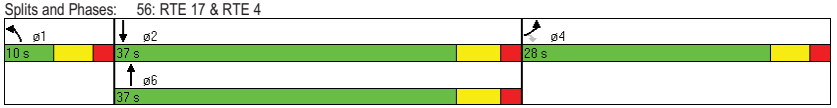
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	165	275	418
Volume Left	0	77	264
Volume Right	55	0	154
cSH	1700	1413	608
Volume to Capacity	0.10	0.05	0.69
Queue Length 95th (ft)	0	4	134
Control Delay (s)	0.0	2.5	22.9
Lane LOS		A	C
Approach Delay (s)	0.0	2.5	22.9
Approach LOS			C

Intersection Summary				
Average Delay		12.0		
Intersection Capacity Utilization		53.5%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	490	20	40	660	260
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	28.0	28.0	10.0	37.0	37.0
Total Split (%)	37.3%	37.3%	13.3%	49.3%	49.3%
Maximum Green (s)	22.5	22.5	4.5	31.0	31.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 71
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	490	20	40	660	260	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	456	
Travel Time (s)	16.3			14.6	8.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	628	26	51	846	628	0
v/c Ratio	1.11	0.05	0.45	1.03	0.78	
Control Delay	100.6	8.3	47.5	64.8	24.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	100.6	8.3	47.5	64.8	24.6	
Queue Length 50th (ft)	~358	0	24	~455	225	
Queue Length 95th (ft)	#442	13	49	#526	281	
Internal Link Dist (ft)	758			671	376	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	564	522	113	818	806	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.11	0.05	0.45	1.03	0.78	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	490	20	40	660	260	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1745	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1745	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	628	26	51	846	333	295
RTOR Reduction (vph)	0	18	0	0	41	0
Lane Group Flow (vph)	628	8	51	846	587	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	22.6	22.6	2.6	31.2	31.2	
Effective Green, g (s)	22.6	22.6	2.6	31.2	31.2	
Actuated g/C Ratio	0.31	0.31	0.04	0.43	0.43	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	545	487	63	792	742	
v/s Ratio Prot	c0.35		c0.03	c0.45	0.34	
v/s Ratio Perm		0.01				
v/c Ratio	1.15	0.02	0.81	1.07	0.79	
Uniform Delay, d1	25.4	17.7	35.2	21.1	18.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	88.0	0.0	49.3	51.8	5.4	
Delay (s)	113.4	17.7	84.5	72.9	23.6	
Level of Service	F	B	F	E	C	
Approach Delay (s)	109.6			73.5	23.6	
Approach LOS	F			E	C	

Intersection Summary			
HCM Average Control Delay	70.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	110	290	90	80	140	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	131	345	107	95	167	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	202				762	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202				762	155
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				51	95
cM capacity (veh/h)	1369				337	891

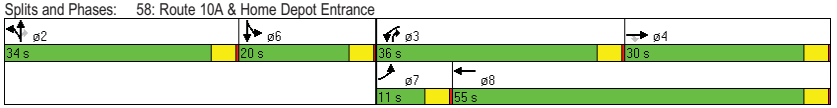
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	476	202	214
Volume Left	131	0	167
Volume Right	0	95	48
cSH	1369	1700	391
Volume to Capacity	0.10	0.12	0.55
Queue Length 95th (ft)	8	0	79
Control Delay (s)	2.9	0.0	24.8
Lane LOS	A		C
Approach Delay (s)	2.9	0.0	24.8
Approach LOS			C

Intersection Summary				
Average Delay		7.5		
Intersection Capacity Utilization		51.2%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	90	340	260	730	1270	700	40	350	20	10
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	11.0	30.0	30.0	36.0	55.0	34.0	34.0	36.0	20.0	20.0
Total Split (%)	9.2%	25.0%	25.0%	30.0%	45.8%	28.3%	28.3%	30.0%	16.7%	16.7%
Maximum Green (s)	7.0	26.0	26.0	32.0	51.0	30.0	30.0	32.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 103.1
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	340	260	730	1270	70	700	40	350	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1896			1155			624			394	
Travel Time (s)		43.1			22.5			12.2			9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	370	283	793	1456	0	761	43	380	22	65	0
v/c Ratio	0.80	0.40	0.56	0.84	0.88		0.84	0.09	0.36	0.21	0.44	
Control Delay	92.4	35.0	25.1	45.3	33.4		46.3	31.3	1.7	53.8	27.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	92.4	35.0	25.1	45.3	33.4		46.3	31.3	1.7	53.8	27.1	
Queue Length 50th (ft)	70	115	98	271	477		258	23	0	15	8	
Queue Length 95th (ft)	#177	170	199	353	#668		#348	53	26	42	51	
Internal Link Dist (ft)		1816			1075			544			314	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	123	953	515	1089	1778		1021	554	1092	281	304	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.80	0.39	0.55	0.73	0.82		0.75	0.08	0.35	0.08	0.21	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	340	260	730	1270	70	700	40	350	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3512		3433	1863	1583	1770	1631	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3512		3433	1863	1583	1770	1631	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	370	283	793	1380	76	761	43	380	22	11	54
RTOR Reduction (vph)	0	0	90	0	3	0	0	0	176	0	51	0
Lane Group Flow (vph)	98	370	193	793	1453	0	761	43	204	22	14	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	7.2	27.2	27.2	28.4	48.4		27.3	27.3	55.7	5.0	5.0	
Effective Green, g (s)	7.2	27.2	27.2	28.4	48.4		27.3	27.3	55.7	5.0	5.0	
Actuated g/C Ratio	0.07	0.26	0.26	0.27	0.47		0.26	0.26	0.54	0.05	0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	123	926	414	938	1636		902	490	849	85	78	
v/s Ratio Prot	0.06	0.10		c0.23	c0.41		c0.22	0.02	0.07	c0.01	0.01	
v/s Ratio Perm			0.12						0.06			
v/c Ratio	0.80	0.40	0.47	0.85	0.89		0.84	0.09	0.24	0.26	0.17	
Uniform Delay, d1	47.6	31.6	32.2	35.7	25.3		36.3	28.9	12.8	47.7	47.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	27.4	0.1	0.3	6.8	6.1		7.0	0.0	0.1	0.6	0.4	
Delay (s)	75.0	31.7	32.5	42.5	31.4		43.3	28.9	12.9	48.3	47.9	
Level of Service	E	C	C	D	C		D	C	B	D	D	
Approach Delay (s)		37.7			35.3			33.0			48.0	
Approach LOS		D			D			C			D	

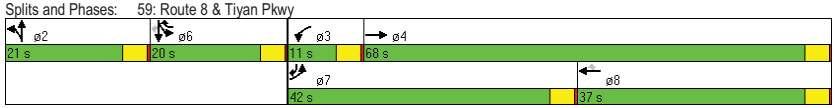
Intersection Summary					
HCM Average Control Delay	35.3	HCM Level of Service		D	
HCM Volume to Capacity ratio	0.81				
Actuated Cycle Length (s)	103.9	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	79.0%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	720	610	40	1150	500	110	90	130	50	890
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	42.0	68.0	11.0	37.0	20.0	21.0	21.0	20.0	20.0	42.0
Total Split (%)	35.0%	56.7%	9.2%	30.8%	16.7%	17.5%	17.5%	16.7%	16.7%	35.0%
Maximum Green (s)	38.0	64.0	7.0	33.0	16.0	17.0	17.0	16.0	16.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 111.3
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	720	610	70	40	1150	500	110	90	40	130	50	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2308			2965			532			1075	
Travel Time (s)		45.0			57.8			12.1			20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										32%		
Lane Group Flow (vph)	783	739	0	43	1250	543	120	141	0	96	99	967
v/c Ratio	0.67	0.34		0.43	1.19	0.73	0.62	0.68		0.53	0.53	1.16
Control Delay	35.6	12.4		66.7	129.7	17.0	62.7	60.3		58.7	58.4	110.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.6	12.4		66.7	129.7	17.0	62.7	60.3		58.7	58.4	110.6
Queue Length 50th (ft)	246	140		30	~574	145	84	88		69	71	~777
Queue Length 95th (ft)	347	212		72	#785	232	149	160		131	134	#1094
Internal Link Dist (ft)		2228			2885			452			995	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1176	2167		112	1053	797	271	285		243	250	834
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.67	0.34		0.38	1.19	0.68	0.44	0.49		0.40	0.40	1.16

Intersection Summary	
Area Type:	Other
~	Volume exceeds capacity, queue is theoretically infinite.
	Queue shown is maximum after two cycles.
#	95th percentile volume exceeds capacity, queue may be longer.
	Queue shown is maximum after two cycles.

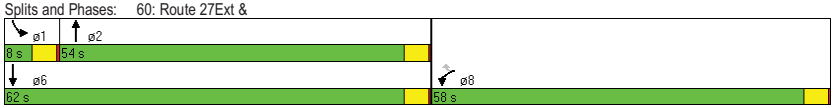
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	720	610	70	40	1150	500	110	90	40	130	50	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	3433	3485		1770	3539	1583	1770	1778		1681	1730	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (perm)	3433	3485		1770	3539	1583	1770	1778		1681	1730	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	783	663	76	43	1250	543	120	98	43	141	54	967
RTOR Reduction (vph)	0	6	0	0	0	103	0	13	0	0	0	70
Lane Group Flow (vph)	783	733	0	43	1250	440	120	128	0	96	99	897
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	38.2	69.0		4.0	34.8	46.7	12.0	12.0		11.9	11.9	50.1
Effective Green, g (s)	38.2	69.0		4.0	34.8	46.7	12.0	12.0		11.9	11.9	50.1
Actuated g/C Ratio	0.34	0.61		0.04	0.31	0.41	0.11	0.11		0.11	0.11	0.44
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1162	2130		63	1091	655	188	189		177	182	759
v/s Ratio Prot	0.23	0.21		0.02	c0.35	0.07	0.07	c0.07		0.06	0.06	c0.40
v/s Ratio Perm						0.21						0.17
v/c Ratio	0.67	0.34		0.68	1.15	0.67	0.64	0.68		0.54	0.54	1.18
Uniform Delay, d1	32.0	10.8		53.8	39.1	26.9	48.4	48.6		47.9	47.9	31.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	0.0		21.6	76.7	2.1	5.1	7.3		1.8	1.8	95.3
Delay (s)	33.2	10.8		75.4	115.7	29.0	53.5	55.8		49.7	49.7	126.7
Level of Service	C	B		E	F	C	D	E		D	D	F
Approach Delay (s)		22.4			89.1			54.8			113.8	
Approach LOS		C			F			D			F	

Intersection Summary					
HCM Average Control Delay	72.0	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.11				
Actuated Cycle Length (s)	112.9	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	104.1%	ICU Level of Service		G	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	620	460	520	10	2010
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	58.0	58.0	54.0	8.0	62.0
Total Split (%)	48.3%	48.3%	45.0%	6.7%	51.7%
Maximum Green (s)	54.0	54.0	50.0	4.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext &



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	620	460	520	590	10	2010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1271		1087			986
Travel Time (s)	28.9		21.2			19.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	674	500	1206	0	11	2185
v/c Ratio	0.92	0.62	0.49		0.17	0.84
Control Delay	30.7	14.7	17.0		63.5	13.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.7	14.7	17.0		63.5	13.6
Queue Length 50th (ft)	293	141	128		8	501
Queue Length 95th (ft)	m135	m54	m141		m8	m543
Internal Link Dist (ft)	1191		1007			906
Turn Bay Length (ft)					300	
Base Capacity (vph)	797	851	2486		65	2612
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.85	0.59	0.49		0.17	0.84

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	620	460	520	590	10	2010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.92		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4634		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4634		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	674	500	565	641	11	2185
RTOR Reduction (vph)	0	147	152	0	0	0
Lane Group Flow (vph)	674	353	1054	0	11	2185
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	49.8	49.8	57.4		0.8	62.2
Effective Green, g (s)	49.8	49.8	57.4		0.8	62.2
Actuated g/C Ratio	0.41	0.41	0.48		0.01	0.52
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	735	657	2217		12	2610
v/s Ratio Prot	c0.38		0.23		0.01	c0.43
v/s Ratio Perm		0.22				
v/c Ratio	0.92	0.54	0.48		0.92	0.84
Uniform Delay, d1	33.1	26.4	21.1		59.6	24.6
Progression Factor	0.85	1.16	1.09		1.09	0.48
Incremental Delay, d2	1.9	0.0	0.6		101.4	1.0
Delay (s)	30.1	30.6	23.5		166.6	12.8
Level of Service	C	C	C		F	B
Approach Delay (s)	30.3		23.5			13.6
Approach LOS	C		C			B

Intersection Summary			
HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	295	310	5	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	321	337	5	11	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	342				704	340
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	342				704	340
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				97	98
cM capacity (veh/h)	1217				396	703

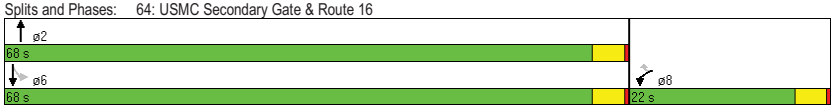
Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	22	321	342	22
Volume Left	22	0	0	11
Volume Right	0	0	5	11
cSH	1217	1700	1700	792
Volume to Capacity	0.02	0.19	0.20	0.03
Queue Length 95th (ft)	1	0	0	2
Control Delay (s)	8.0	0.0	0.0	12.3
Lane LOS	A			B
Approach Delay (s)	0.5		0.0	12.3
Approach LOS				B

Intersection Summary				
Average Delay			0.6	
Intersection Capacity Utilization			26.6%	ICU Level of Service A
Analysis Period (min)			15	

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	70	100	1460	10	1170
Turn Type		Perm		Perm	
Protected Phases	8		2		6
Permitted Phases		8		6	
Detector Phase	8	8	2	6	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	22.0	68.0	68.0	68.0
Total Split (%)	24.4%	24.4%	75.6%	75.6%	75.6%
Maximum Green (s)	18.0	18.0	64.0	64.0	64.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 47.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 64: USMC Secondary Gate & Route 16



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	70	100	1460	20	10	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1017		1750			1067
Travel Time (s)	19.8		34.1			20.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	76	109	1609	0	11	1272
v/c Ratio	0.29	0.39	0.61		0.07	0.48
Control Delay	23.1	16.4	5.4		4.0	4.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	23.1	16.4	5.4		4.0	4.3
Queue Length 50th (ft)	18	13	95		1	64
Queue Length 95th (ft)	57	56	193		5	129
Internal Link Dist (ft)	937		1670			987
Turn Bay Length (ft)	200				200	
Base Capacity (vph)	685	646	3498		218	3505
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.11	0.17	0.46		0.05	0.36

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	70	100	1460	20	10	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1719	1538	3498		1752	3505
Flt Permitted	0.95	1.00	1.00		0.12	1.00
Satd. Flow (perm)	1719	1538	3498		218	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	109	1587	22	11	1272
RTOR Reduction (vph)	0	48	1	0	0	0
Lane Group Flow (vph)	76	61	1608	0	11	1272
Heavy Vehicles (%)	5%	5%	3%	3%	3%	3%
Turn Type		Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	5.7	5.7	34.3		34.3	34.3
Effective Green, g (s)	5.7	5.7	34.3		34.3	34.3
Actuated g/C Ratio	0.12	0.12	0.71		0.71	0.71
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	204	183	2500		156	2505
v/s Ratio Prot	c0.04		c0.46			0.36
v/s Ratio Perm		0.04			0.05	
v/c Ratio	0.37	0.33	0.64		0.07	0.51
Uniform Delay, d1	19.5	19.4	3.6		2.1	3.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.4	0.4		0.1	0.1
Delay (s)	19.9	19.8	4.0		2.1	3.1
Level of Service	B	B	A		A	A
Approach Delay (s)	19.8		4.0			3.1
Approach LOS	B		A			A

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	380	280	10	680	20	20	55	10
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	100.0	100.0	100.0	100.0	20.0	20.0	20.0	20.0
Total Split (%)	83.3%	83.3%	83.3%	83.3%	16.7%	16.7%	16.7%	16.7%
Maximum Green (s)	96.0	96.0	96.0	96.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 114.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 65: RTE 15 & USMC Main Gate

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	280	20	10	680	115	20	20	20	55	10	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		3012			884			502			531	
Travel Time (s)		58.7			17.2			9.8			10.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	413	326	0	11	864	0	0	66	0	60	201	0
v/c Ratio	0.90	0.21		0.01	0.57			1.16		0.55	0.64	
Control Delay	33.2	2.3		2.1	4.8			202.1		68.0	18.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	33.2	2.3		2.1	4.8			202.1		68.0	18.2	
Queue Length 50th (ft)	137	31		1	129			~46		43	8	
Queue Length 95th (ft)	#511	70		5	282			#128		88	79	
Internal Link Dist (ft)		2932			804			422			451	
Turn Bay Length (ft)	200			200						200		
Base Capacity (vph)	461	1539		875	1523			81		175	385	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.90	0.21		0.01	0.57			0.81		0.34	0.52	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	280	20	10	680	115	20	20	20	55	10	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98			0.95		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1752	1826		1752	1805			1750		1752	1583	
Flt Permitted	0.30	1.00		0.56	1.00			0.27		0.67	1.00	
Satd. Flow (perm)	548	1826		1039	1805			474		1245	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	413	304	22	11	739	125	22	22	22	60	11	190
RTOR Reduction (vph)	0	2	0	0	4	0	0	16	0	0	173	0
Lane Group Flow (vph)	413	324	0	11	860	0	0	50	0	60	28	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	96.1	96.1		96.1	96.1			10.0		10.0	10.0	
Effective Green, g (s)	96.1	96.1		96.1	96.1			10.0		10.0	10.0	
Actuated g/C Ratio	0.84	0.84		0.84	0.84			0.09		0.09	0.09	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	
Lane Grp Cap (vph)	462	1538		875	1520			42		109	139	
v/s Ratio Prot		0.18			0.48						0.02	
v/s Ratio Perm	c0.75			0.01				c0.11		0.05		
v/c Ratio	0.89	0.21		0.01	0.57			1.20		0.55	0.20	
Uniform Delay, d1	5.7	1.7		1.4	2.7			52.0		49.9	48.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	18.9	0.0		0.0	0.3			204.4		3.4	0.3	
Delay (s)	24.6	1.8		1.4	3.0			256.4		53.3	48.6	
Level of Service	C	A		A	A			F		D	D	
Approach Delay (s)		14.5			3.0			256.4			49.7	
Approach LOS		B			A			F			D	

Intersection Summary				
HCM Average Control Delay	22.3	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.93			
Actuated Cycle Length (s)	114.1	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	91.9%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

INTERSECTION ANALYSIS

Synchro Output

Year 2030 Barrigada Cantonment/Housing (Alternative D) Conditions

Weekday p.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	360	360	10	10	50
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	400	400	11	11	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	411				828	406
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	411				828	406
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	99				97	91
cM capacity (veh/h)	1148				330	632

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	11	400	411	67
Volume Left	11	0	0	11
Volume Right	0	0	11	56
cSH	1148	1700	1700	549
Volume to Capacity	0.01	0.24	0.24	0.12
Queue Length 95th (ft)	1	0	0	10
Control Delay (s)	8.2	0.0	0.0	12.5
Lane LOS	A			B
Approach Delay (s)	0.2		0.0	12.5
Approach LOS				B

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	29.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	230	100	40	270	70	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	256	111	44	300	78	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			367		700	311
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			367		700	311
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		80	97
cM capacity (veh/h)			1192		390	729

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	367	344	100
Volume Left	0	44	78
Volume Right	111	0	22
cSH	1700	1192	435
Volume to Capacity	0.22	0.04	0.23
Queue Length 95th (ft)	0	3	22
Control Delay (s)	0.0	1.4	15.7
Lane LOS		A	C
Approach Delay (s)	0.0	1.4	15.7
Approach LOS			C

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	49.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	250	280	10	80	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	278	311	11	89	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	322				617	317
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	322				617	317
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	99				79	98
cM capacity (veh/h)	1238				431	697

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	289	322	100
Volume Left	11	0	89
Volume Right	0	11	11
cSH	1238	1700	450
Volume to Capacity	0.01	0.19	0.22
Queue Length 95th (ft)	1	0	21
Control Delay (s)	0.4	0.0	15.3
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	15.3
Approach LOS			C

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	33.0%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	420	410	30	30	80
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	57	477	466	34	34	91
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	500				1074	483
vC1, stage 1 conf vol					483	
vC2, stage 2 conf vol					591	
vCu, unblocked vol	500				1074	483
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	95				92	84
cM capacity (veh/h)	1064				441	584

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	57	477	500	125
Volume Left	57	0	0	34
Volume Right	0	0	34	91
cSH	1064	1700	1700	802
Volume to Capacity	0.05	0.28	0.29	0.16
Queue Length 95th (ft)	4	0	0	14
Control Delay (s)	8.6	0.0	0.0	12.7
Lane LOS	A			B
Approach Delay (s)	0.9		0.0	12.7
Approach LOS				B

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	40.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	300	560	560	130	450
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	29.2	66.7	66.7	24.1	90.8
Total Split (%)	24.3%	55.6%	55.6%	20.1%	75.7%
Maximum Green (s)	23.7	60.7	60.7	18.6	84.8
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 115.6
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	100	560	560	130	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	435	0	609	609	141	489
v/c Ratio	0.74		0.58	0.53	0.64	0.19
Control Delay	50.3		20.8	3.1	61.1	5.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	50.3		20.8	3.1	61.1	5.2
Queue Length 50th (ft)	147		286	0	101	52
Queue Length 95th (ft)	203		463	56	169	80
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	716		1043	1154	282	2574
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.61		0.58	0.53	0.50	0.19

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	100	560	560	130	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3352		1863	1583	1752	3505
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3352		1863	1583	1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	109	609	609	141	489
RTOR Reduction (vph)	29	0	0	268	0	0
Lane Group Flow (vph)	406	0	609	341	141	489
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	19.2		64.7	64.7	14.7	84.9
Effective Green, g (s)	19.2		64.7	64.7	14.7	84.9
Actuated g/C Ratio	0.17		0.56	0.56	0.13	0.73
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	557		1043	886	223	2574
v/s Ratio Prot	c0.12		c0.33		c0.08	0.14
v/s Ratio Perm				0.22		
v/c Ratio	0.73		0.58	0.38	0.63	0.19
Uniform Delay, d1	45.7		16.6	14.3	47.9	4.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9		2.4	1.3	6.0	0.2
Delay (s)	50.6		19.0	15.5	53.9	4.9
Level of Service	D		B	B	D	A
Approach Delay (s)	50.6		17.3			15.9
Approach LOS	D		B			B

Intersection Summary				
HCM Average Control Delay	23.3	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	115.6	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	63.7%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	10	10	1210	800	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	10	10	10	1260	833	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1490	422	844			
vC1, stage 1 conf vol	839					
vC2, stage 2 conf vol	651					
vCu, unblocked vol	1490	422	844			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	98	99			
cM capacity (veh/h)	311	580	788			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	21	10	630	630	556	288
Volume Left	10	10	0	0	0	0
Volume Right	10	0	0	0	0	10
cSH	405	788	1700	1700	1700	1700
Volume to Capacity	0.05	0.01	0.37	0.37	0.33	0.17
Queue Length 95th (ft)	4	1	0	0	0	0
Control Delay (s)	14.4	9.6	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	14.4	0.1			0.0	
Approach LOS	B					

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	43.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	700	150	200	270	80	170
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	40.0	0.0	32.0	0.0	18.0	50.0
Total Split (%)	44.4%	0.0%	35.6%	0.0%	20.0%	55.6%
Maximum Green (s)	34.5		26.0		12.5	44.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 55.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	700	150	200	270	80	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	6%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	824	176	235	318	94	200
v/c Ratio	0.73	0.11	0.52	0.20	0.32	0.25
Control Delay	21.6	0.1	26.0	0.3	28.3	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	0.1	26.0	0.3	28.3	11.1
Queue Length 50th (ft)	120	0	69	0	28	37
Queue Length 95th (ft)	210	0	154	0	79	87
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	2272	1583	953	1568	423	1457
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.11	0.25	0.20	0.22	0.14

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	700	150	200	270	80	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1845	1568	1703	1792
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1845	1568	1703	1792
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	824	176	235	318	94	200
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	824	176	235	318	94	200
Heavy Vehicles (%)	2%	2%	3%	3%	6%	6%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	18.2	55.6	13.6	55.6	6.8	25.9
Effective Green, g (s)	18.2	55.6	13.6	55.6	6.8	25.9
Actuated g/C Ratio	0.33	1.00	0.24	1.00	0.12	0.47
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1124	1583	451	1568	208	835
v/s Ratio Prot	c0.24		c0.13		c0.06	0.11
v/s Ratio Perm		0.11		0.20		
v/c Ratio	0.73	0.11	0.52	0.20	0.45	0.24
Uniform Delay, d1	16.6	0.0	18.2	0.0	22.7	8.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	0.1	0.5	0.3	0.6	0.1
Delay (s)	18.7	0.1	18.7	0.3	23.2	9.0
Level of Service	B	A	B	A	C	A
Approach Delay (s)	15.4		8.1			13.5
Approach LOS	B		A			B

Intersection Summary				
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	55.6	Sum of lost time (s)	17.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	310	10	10	980	50	1120
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	50	1120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Shared Lane Traffic (%)				32%								
Lane Group Flow (vph)	0	66	0	232	219	0	11	1440	0	55	1242	0
v/c Ratio		0.54		0.84	0.76		0.14	0.72		0.51	0.56	
Control Delay		51.6		77.4	61.2		71.0	13.4		74.6	17.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		77.4	61.2		71.0	13.4		74.6	17.1	
Queue Length 50th (ft)		30		200	162		9	161		46	278	
Queue Length 95th (ft)		78		292	249		m16	198		90	483	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	345		94	2003		134	2214	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.69	0.63		0.12	0.72		0.41	0.56	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	50	1120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.93		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1610		1752	3372		1736	3467	
Flt Permitted		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1610		1752	3372		1736	3467	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	341	11	99	11	1077	363	55	1231	11
RTOR Reduction (vph)	0	29	0	0	24	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	37	0	232	195	0	11	1419	0	55	1242	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		21.4	21.4		2.6	74.4		7.1	78.9	
Effective Green, g (s)		6.1		21.4	21.4		2.6	74.4		7.1	78.9	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.57		0.05	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		277	265		35	1930		95	2104	
v/s Ratio Prot		c0.02		c0.14	0.12		0.01	c0.42		c0.03	c0.36	
v/s Ratio Perm												
v/c Ratio		0.46		0.84	0.73		0.31	0.74		0.58	0.59	
Uniform Delay, d1		60.4		52.6	51.6		62.8	20.5		60.0	15.6	
Progression Factor		1.00		1.00	1.00		1.14	0.53		1.00	1.00	
Incremental Delay, d2		1.5		18.5	8.8		1.4	2.0		5.2	1.2	
Delay (s)		61.9		71.2	60.4		72.9	12.9		65.2	16.9	
Level of Service		E		E	E		E	B		E	B	
Approach Delay (s)		61.9			65.9			13.3			18.9	
Approach LOS		E			E			B			B	

Intersection Summary					
HCM Average Control Delay	23.8	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.77				
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		27.0	
Intersection Capacity Utilization	69.0%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	50	30	20	20	10	60	150	30	10	270	140
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	53	32	21	21	11	63	158	32	11	284	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	700	695	358	737	753	174	432			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	700	695	358	737	753	174	432			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	53	85	95	92	93	99	94			99		
cM capacity (veh/h)	316	343	686	268	317	870	1123			1378		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	232	53	253	442
Volume Left	147	21	63	11
Volume Right	32	11	32	147
cSH	348	335	1123	1378
Volume to Capacity	0.67	0.16	0.06	0.01
Queue Length 95th (ft)	114	14	4	1
Control Delay (s)	33.7	17.7	2.5	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	33.7	17.7	2.5	0.3
Approach LOS	D	C		

Intersection Summary					
Average Delay			9.7		
Intersection Capacity Utilization			65.2%	ICU Level of Service	C
Analysis Period (min)			15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	190	210	1160	180	1170
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	190	210	1160	180	180	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	219	1396	0	188	1219
v/c Ratio	0.78	0.56	0.68		0.81	0.46
Control Delay	73.8	15.6	7.0		82.7	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.8	15.6	7.0		82.7	4.4
Queue Length 50th (ft)	163	22	146		130	71
Queue Length 95th (ft)	237	95	m226		m#267	103
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	337	455	2065		252	2675
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.59	0.48	0.68		0.75	0.46

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	190	210	1160	180	180	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3434		1736	3471
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3434		1736	3471
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	198	219	1208	188	188	1219
RTOR Reduction (vph)	0	163	8	0	0	0
Lane Group Flow (vph)	198	56	1388	0	188	1219
Heavy Vehicles (%)	3%	3%	3%	3%	4%	4%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	18.8	18.8	77.8		17.4	100.2
Effective Green, g (s)	18.8	18.8	77.8		17.4	100.2
Actuated g/C Ratio	0.14	0.14	0.60		0.13	0.77
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	253	227	2055		232	2675
v/s Ratio Prot	c0.11		c0.40		c0.11	0.35
v/s Ratio Perm		0.04				
v/c Ratio	0.78	0.25	0.68		0.81	0.46
Uniform Delay, d1	53.6	49.3	17.6		54.7	5.3
Progression Factor	1.00	1.00	0.30		1.12	0.68
Incremental Delay, d2	13.5	0.2	1.4		15.1	0.5
Delay (s)	67.1	49.5	6.7		76.7	4.0
Level of Service	E	D	A		E	A
Approach Delay (s)	57.9		6.7			13.7
Approach LOS	E		A			B

Intersection Summary

HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	140	170	260	280	270	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	185	283	304	293	109
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1217	348	402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1217	348	402			
tC, single (s)	6.5	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.2			
p0 queue free %	0	73	75			
cM capacity (veh/h)	147	684	1151			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	337	587	402
Volume Left	152	283	0
Volume Right	185	0	109
cSH	258	1151	1700
Volume to Capacity	1.30	0.25	0.24
Queue Length 95th (ft)	430	24	0
Control Delay (s)	201.0	5.8	0.0
Lane LOS	F	A	
Approach Delay (s)	201.0	5.8	0.0
Approach LOS	F		

Intersection Summary				
Average Delay		53.6		
Intersection Capacity Utilization		77.6%	ICU Level of Service	D
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1110	1220	860	140	730	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1110	1220	0	860	160	140	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1168	1284	0	1073	0	147	768
v/c Ratio	1.35	0.33		0.85		0.67	0.75
Control Delay	181.1	3.4		30.5		68.3	8.5
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	181.1	3.4		30.5		68.3	8.5
Queue Length 50th (ft)	~1298	58		93		120	0
Queue Length 95th (ft)	m#1312	m115		#420		183	58
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	863	3939		1256		310	1120
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.35	0.33		0.85		0.47	0.69

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1110	1220	0	860	160	140	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4918		1752	2760
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4918		1752	2760
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1168	1284	0	905	168	147	768
RTOR Reduction (vph)	0	0	0	19	0	0	672
Lane Group Flow (vph)	1168	1284	0	1054	0	147	96
Heavy Vehicles (%)	3%	3%	0%	3%	3%	3%	3%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	101.7		32.7		16.3	16.3
Effective Green, g (s)	64.0	101.7		32.7		16.3	16.3
Actuated g/C Ratio	0.49	0.78		0.25		0.13	0.13
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	863	3940		1237		220	346
v/s Ratio Prot	c0.67	0.25		c0.21		c0.08	
v/s Ratio Perm							0.03
v/c Ratio	1.35	0.33		0.85		0.67	0.28
Uniform Delay, d1	33.0	4.1		46.3		54.3	51.5
Progression Factor	0.45	0.73		0.47		1.00	1.00
Incremental Delay, d2	161.3	0.1		6.9		5.8	0.2
Delay (s)	176.3	3.1		28.9		60.1	51.7
Level of Service	F	A		C		E	D
Approach Delay (s)		85.6		28.9		53.0	
Approach LOS		F		C		D	

Intersection Summary

HCM Average Control Delay	65.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		

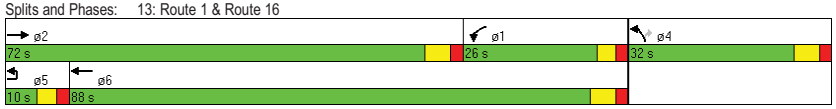
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1750	290	1380	570	500
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1750	690	290	1380	570	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2542	0	302	1438	594	521
v/c Ratio	0.14	1.02		1.07	0.41	0.87	0.98
Control Delay	57.6	49.0		96.2	4.8	36.5	38.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	57.6	49.0		96.2	4.8	36.5	38.4
Queue Length 50th (ft)	9	~809		~285	67	211	115
Queue Length 95th (ft)	m11	m#850		m#410	131	m246	m#337
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2495		283	3487	680	529
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.02		1.07	0.41	0.87	0.98

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1750	690	290	1380	570	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4804		1752	5036	3400	1544
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4804		1752	5036	3400	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1823	719	302	1438	594	521
RTOR Reduction (vph)	0	58	0	0	0	0	220
Lane Group Flow (vph)	10	2484	0	302	1438	594	301
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	62.0		25.0	86.0	26.0	26.0
Effective Green, g (s)	1.0	62.0		25.0	86.0	26.0	26.0
Actuated g/C Ratio	0.01	0.48		0.19	0.66	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2291		337	3332	680	309
v/s Ratio Prot	0.01	c0.52		c0.17	0.29	0.17	
v/s Ratio Perm							c0.19
v/c Ratio	0.71	1.08		0.90	0.43	0.87	0.97
Uniform Delay, d1	64.4	34.0		51.2	10.4	50.4	51.7
Progression Factor	0.91	0.99		0.60	0.51	0.54	0.46
Incremental Delay, d2	58.7	43.0		17.4	0.3	6.4	29.7
Delay (s)	116.9	76.7		48.3	5.6	33.9	53.5
Level of Service	F	E		D	A	C	D
Approach Delay (s)		76.8			13.0	43.0	
Approach LOS		E			B	D	

Intersection Summary				
HCM Average Control Delay	49.3	HCM Level of Service		D
HCM Volume to Capacity ratio	1.02			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)		17.0
Intersection Capacity Utilization	96.1%	ICU Level of Service		F
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	820	190	260	1940	30	1280
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	820	190	260	1940	30	1280	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	911	211	289	2156	33	2222	0
v/c Ratio	1.05	0.41	1.02	0.70	0.49	1.00dr	
Control Delay	89.9	15.2	89.3	18.0	93.8	40.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.9	15.2	89.3	18.0	93.8	40.4	
Queue Length 50th (ft)	~428	40	~265	347	26	687	
Queue Length 95th (ft)	#558	112	m#278	m358	m54	#738	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	514	283	3099	69	2277	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.05	0.41	1.02	0.70	0.48	0.98	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	820	190	260	1940	30	1280	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4764	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4764	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	911	211	289	2156	33	1422	800
RTOR Reduction (vph)	0	112	0	0	0	78	0
Lane Group Flow (vph)	911	99	289	2156	33	2144	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Effective Green, g (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Actuated g/C Ratio	0.25	0.25	0.16	0.60	0.02	0.46	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	283	3022	42	2199	
v/s Ratio Prot	c0.27		c0.16	0.43	0.02	c0.45	
v/s Ratio Perm		0.06					
v/c Ratio	1.05	0.25	1.02	0.71	0.79	1.00dr	
Uniform Delay, d1	48.5	38.6	54.5	18.2	63.2	34.3	
Progression Factor	1.00	1.00	1.06	1.00	1.19	0.84	
Incremental Delay, d2	43.2	0.1	33.3	0.4	53.5	13.0	
Delay (s)	91.7	38.7	90.9	18.5	128.6	42.0	
Level of Service	F	D	F	B	F	D	
Approach Delay (s)	81.7			27.1		43.2	
Approach LOS	F			C		D	

Intersection Summary

HCM Average Control Delay	43.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	380	180	1080	300	870
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1080	660	300	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	194	1871	0	323	935
v/c Ratio	0.88	0.35	0.97dr		0.89	0.28
Control Delay	47.1	2.7	16.0		55.8	3.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	47.1	2.7	16.0		55.8	3.1
Queue Length 50th (ft)	302	12	171		271	49
Queue Length 95th (ft)	m#477	m4	m168		m286	m50
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	557	2021		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.88	0.35	0.93		0.89	0.28

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1080	660	300	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.94		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4749		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4749		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	409	194	1161	710	323	935
RTOR Reduction (vph)	0	143	85	0	0	0
Lane Group Flow (vph)	409	51	1786	0	323	935
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1936		364	3293
v/s Ratio Prot	c0.23	0.03	c0.38		c0.18	0.19
v/s Ratio Perm						
v/c Ratio	0.88	0.12	0.97dr		0.89	0.28
Uniform Delay, d1	46.1	36.6	36.6		50.0	9.6
Progression Factor	0.61	0.26	0.35		0.79	0.31
Incremental Delay, d2	17.7	0.5	3.5		12.6	0.1
Delay (s)	45.8	9.8	16.3		52.0	3.0
Level of Service	D	A	B		D	A
Approach Delay (s)	34.2		16.3			15.6
Approach LOS	C		B			B

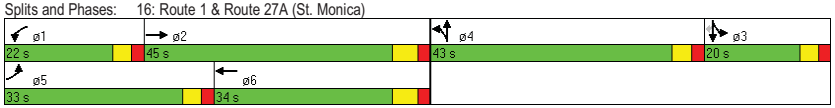
Intersection Summary				
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	300	910	180	690	90	210	20	170	150
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	910	90	180	690	10	90	210	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	316	1053	0	189	737	0	95	421	0	21	179	158
v/c Ratio	0.91	0.60		0.87	0.53		0.21	0.91		0.11	0.87	0.50
Control Delay	93.5	25.5		89.5	31.3		43.7	59.7		53.0	92.7	13.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	93.5	25.5		89.5	31.3		43.7	59.7		53.0	92.7	13.7
Queue Length 50th (ft)	233	132		159	210		55	224		16	150	0
Queue Length 95th (ft)	#394	153		#282	273		m55	m226		43	#278	65
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1747		229	1383		517	530		204	215	322
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.84	0.60		0.83	0.53		0.18	0.79		0.10	0.83	0.49

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	910	90	180	690	10	90	210	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4968		1752	5025		1770	1730		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4968		1752	5025		1770	1730		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	958	95	189	726	11	95	221	200	21	179	158
RTOR Reduction (vph)	0	8	0	0	1	0	0	26	0	0	0	140
Lane Group Flow (vph)	316	1045	0	189	736	0	95	395	0	21	179	18
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	25.9	45.5		16.1	35.7		33.0	33.0		14.4	14.4	14.4
Effective Green, g (s)	25.9	45.5		16.1	35.7		33.0	33.0		14.4	14.4	14.4
Actuated g/C Ratio	0.20	0.35		0.12	0.27		0.25	0.25		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	349	1739		217	1380		449	439		196	206	175
v/s Ratio Prot	c0.18	c0.21		0.11	0.15		0.05	c0.23		0.01	c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.91	0.60		0.87	0.53		0.21	0.90		0.11	0.87	0.10
Uniform Delay, d1	50.9	34.8		55.9	40.1		38.2	46.9		52.0	56.9	52.0
Progression Factor	1.29	0.67		1.00	0.71		1.17	1.14		1.00	1.00	1.00
Incremental Delay, d2	24.6	1.5		27.4	1.4		0.0	9.5		0.1	29.0	0.1
Delay (s)	90.3	24.8		83.4	30.0		44.9	62.8		52.1	85.9	52.1
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		39.9			40.9			59.5			69.0	
Approach LOS		D			D			E			E	

Intersection Summary

HCM Average Control Delay	46.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	80	220	40	70	20	20	350	30	20	310	330
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	117	104	286	52	91	26	26	455	39	26	403	429

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	117	390	169	26	494	429	429
Volume Left (vph)	117	0	52	26	0	26	0
Volume Right (vph)	0	286	26	0	39	0	429
Hadj (s)	0.53	-0.48	0.00	0.53	-0.02	0.06	-0.67
Departure Headway (s)	9.1	8.1	9.4	9.3	8.7	8.4	7.6
Degree Utilization, x	0.29	0.87	0.44	0.07	1.19	0.99	0.91
Capacity (veh/h)	390	439	352	382	419	429	460
Control Delay (s)	14.6	44.4	19.6	11.7	134.7	70.0	48.2
Approach Delay (s)	37.6		19.6	128.5		59.1	
Approach LOS	E		C	F		F	

Intersection Summary					
Delay		68.1			
HCM Level of Service		F			
Intersection Capacity Utilization	67.6%		ICU Level of Service	C	
Analysis Period (min)	15				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	100	1070	560	760	140	340	1110	110	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1070	70	560	760	40	140	340	1110	60	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	1212	0	596	852	0	149	362	1181	0	181	43
v/c Ratio	0.67	0.98		1.16	0.38		0.44	1.01	0.91		0.99	0.24
Control Delay	87.7	49.3		146.6	20.9		40.2	62.6	10.2		121.9	35.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.7	49.3		146.6	20.9		40.2	62.6	10.2		121.9	35.4
Queue Length 50th (ft)	94	366		~581	103		109	~309	158		155	16
Queue Length 95th (ft)	m152	#476		m#732	m120		m77	m201	m53		#307	55
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1233		512	2243		340	358	1298		183	178
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.52	0.98		1.16	0.38		0.44	1.01	0.91		0.99	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1070	70	560	760	40	140	340	1110	60	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (prot)	1752	4985		1752	4998		1770	1863	2745		1830	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (perm)	1752	4985		1752	4998		1770	1863	2745		1830	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1138	74	596	809	43	149	362	1181	64	117	43
RTOR Reduction (vph)	0	5	0	0	4	0	0	0	771	0	0	20
Lane Group Flow (vph)	106	1207	0	596	848	0	149	362	410	0	181	23
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Effective Green, g (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Actuated g/C Ratio	0.09	0.25		0.29	0.45		0.19	0.19	0.19		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	159	1227		512	2238		340	358	528		183	158
v/s Ratio Prot	0.06	c0.24		c0.34	0.17		0.08	c0.19			c0.10	
v/s Ratio Perm									0.15			0.01
v/c Ratio	0.67	0.98		1.16	0.38		0.44	1.01	0.78		0.99	0.15
Uniform Delay, d1	57.2	48.7		46.0	23.9		46.3	52.5	49.9		58.4	53.4
Progression Factor	1.24	0.59		1.43	0.85		0.85	0.86	0.90		1.00	1.00
Incremental Delay, d2	6.7	19.9		91.4	0.4		0.0	17.1	0.6		62.6	0.2
Delay (s)	77.6	48.5		157.3	20.7		39.3	62.2	45.3		121.0	53.6
Level of Service	E	D		F	C		D	E	D		F	D
Approach Delay (s)		50.8			76.9			48.4			108.0	
Approach LOS		D			E			D			F	

Intersection Summary

HCM Average Control Delay	60.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

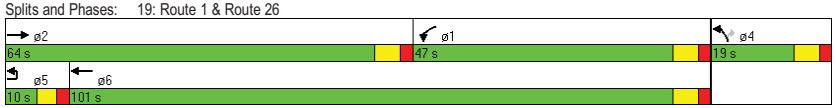
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1800	580	1140	360	610
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1800	530	580	1140	360	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2479	0	617	1213	383	649
v/c Ratio	0.31	1.12		1.12	0.32	1.12	1.10
Control Delay	75.8	78.7		82.9	1.9	136.2	83.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	75.8	78.7		82.9	1.9	136.2	83.0
Queue Length 50th (ft)	18	~844		~589	36	~190	~236
Queue Length 95th (ft)	m22	m#897		m#692	m56	#293	#474
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2212		553	3835	343	588
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.12		1.12	0.32	1.12	1.10

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1800	530	580	1140	360	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4864		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4864		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1915	564	617	1213	383	649
RTOR Reduction (vph)	0	42	0	0	0	0	429
Lane Group Flow (vph)	21	2437	0	617	1213	383	220
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2095		580	3758	343	158
v/s Ratio Prot	0.01	c0.50		c0.35	0.24	0.11	
v/s Ratio Perm							c0.14
v/c Ratio	0.50	1.16		1.06	0.32	1.12	1.39
Uniform Delay, d1	62.8	37.0		43.5	5.5	58.5	58.5
Progression Factor	1.16	0.56		0.35	0.34	1.00	1.00
Incremental Delay, d2	1.4	75.9		44.0	0.1	83.9	209.7
Delay (s)	74.0	96.7		59.0	2.0	142.4	268.2
Level of Service	E	F		E	A	F	F
Approach Delay (s)		96.5			21.2	221.5	
Approach LOS		F			C	F	

Intersection Summary			
HCM Average Control Delay	94.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	500	1790	20	1340	100	50	20	280
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	1790	0	20	1340	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	532	1904	0	21	1554	0	0	180	53	0	181	298
v/c Ratio	1.04	0.61		0.27	0.92			0.98	0.26		0.94	0.75
Control Delay	79.6	2.9		59.5	46.8			120.6	17.1		109.0	23.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	79.6	2.9		59.5	46.8			120.6	17.1		109.0	23.3
Queue Length 50th (ft)	~470	70		18	300			154	0		154	34
Queue Length 95th (ft)	m348	m65		m40	#529			#306	41		#299	#141
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3100		94	1692			183	206		192	398
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.04	0.61		0.22	0.92			0.98	0.26		0.94	0.75

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	1790	0	20	1340	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4974			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4974			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	532	1904	0	21	1426	128	74	106	53	160	21	298
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	48	0	0	228
Lane Group Flow (vph)	532	1904	0	21	1546	0	0	180	5	0	181	70
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Effective Green, g (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.29	0.60		0.03	0.34			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	512	3022		54	1684			183	158		192	170
v/s Ratio Prot	c0.30	0.38		0.01	c0.31			c0.10			c0.10	
v/s Ratio Perm									0.00			0.04
v/c Ratio	1.04	0.63		0.39	0.92			0.98	0.03		0.94	0.41
Uniform Delay, d1	46.0	16.7		61.8	41.3			58.4	52.8		57.6	54.2
Progression Factor	1.28	0.17		0.87	0.92			1.00	1.00		1.00	1.00
Incremental Delay, d2	23.8	0.1		1.6	8.9			61.2	0.0		48.0	0.6
Delay (s)	82.9	2.9		55.3	46.8			119.6	52.9		105.7	54.8
Level of Service	F	A		E	D			F	D		F	D
Approach Delay (s)		20.4			46.9			104.4			74.0	
Approach LOS		C			D			F			E	

Intersection Summary

HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		

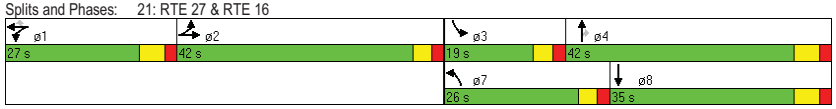
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	310	830	540	280	310	330	1080	860	250	850
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	830	540	540	280	310	330	1080	860	250	850	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		3150			1269			820			2979	
Travel Time (s)		71.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	1442	0	568	295	326	347	1137	905	263	937	0
v/c Ratio	0.65	1.40		1.02	0.98	0.64	1.23	1.17	1.34	1.39	0.84	
Control Delay	46.4	217.4		88.0	89.3	21.8	174.2	129.8	186.9	242.0	56.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.4	217.4		88.0	89.3	21.8	174.2	129.8	186.9	242.0	56.0	
Queue Length 50th (ft)	226	~815		~259	244	100	~360	~600	~780	~298	284	
Queue Length 95th (ft)	m257	m#873		m#265	m#277	m109	#552	#737	#1036	m#442	m328	
Internal Link Dist (ft)		3070			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1030		555	301	506	283	971	676	189	1119	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.65	1.40		1.02	0.98	0.64	1.23	1.17	1.34	1.39	0.84	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	830	540	540	280	310	330	1080	860	250	850	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3330		3433	1863	1583	1752	3505	1568	1752	5002	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3330		3433	1863	1583	1752	3505	1568	1752	5002	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	326	874	568	568	295	326	347	1137	905	263	895	42
RTOR Reduction (vph)	0	82	0	0	0	250	0	0	242	0	4	0
Lane Group Flow (vph)	326	1360	0	568	295	76	347	1137	663	263	933	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.22	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	948		555	301	256	283	971	434	189	1116	
v/s Ratio Prot	0.18	c0.41		c0.17	0.16		c0.20	0.32		0.15	0.19	
v/s Ratio Perm						0.05			c0.42			
v/c Ratio	0.65	1.43		1.02	0.98	0.30	1.23	1.17	1.53	1.39	0.84	
Uniform Delay, d1	40.8	46.5		54.5	54.3	48.0	54.5	47.0	47.0	58.0	48.2	
Progression Factor	1.01	1.00		0.96	0.96	2.25	1.00	1.00	1.00	0.91	1.02	
Incremental Delay, d2	4.3	199.5		36.9	36.4	0.2	129.0	88.0	248.7	202.7	6.8	
Delay (s)	45.6	246.2		89.0	88.3	108.0	183.5	135.0	295.7	255.2	55.9	
Level of Service	D	F		F	F	F	F	F	F	F	E	
Approach Delay (s)		209.2			94.1			202.9			99.6	
Approach LOS		F			F			F			F	

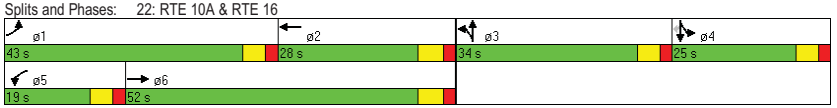
Intersection Summary				
HCM Average Control Delay	165.9	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.39			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	120.7%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	860	760	430	110	430	460	30	10	500
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	32.5	32.5	16.0	16.0
Total Split (s)	43.0	52.0	0.0	19.0	28.0	34.0	34.0	25.0	25.0
Total Split (%)	33.1%	40.0%	0.0%	14.6%	21.5%	26.2%	26.2%	19.2%	19.2%
Maximum Green (s)	37.5	46.0		13.5	22.0	28.5	28.5	19.5	19.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 122.2
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	860	760	430	110	430	20	460	30	110	40	10	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	400		0	0		400
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1065			746			868			1242	
Travel Time (s)		20.7			14.5			16.9			24.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							34%					
Lane Group Flow (vph)	956	844	478	122	500	0	337	329	0	0	55	556
v/c Ratio	0.94	0.66	0.30	0.69	0.86		0.91	0.88			0.23	0.94
Control Delay	60.5	36.6	0.5	75.3	65.7		77.5	69.3			51.6	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	60.5	36.6	0.5	75.3	65.7		77.5	69.3			51.6	36.0
Queue Length 50th (ft)	410	316	0	101	215		294	269			41	95
Queue Length 95th (ft)	#547	390	0	#182	#300		#485	#451			83	#319
Internal Link Dist (ft)		985			666			788			1162	
Turn Bay Length (ft)	350		450	350			400					400
Base Capacity (vph)	1064	1348	1583	198	642		392	396			286	627
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	0.90	0.63	0.30	0.62	0.78		0.86	0.83			0.19	0.89

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	860	760	430	110	430	20	460	30	110	40	10	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3516		1665	1612			1774	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3516		1665	1612			1774	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	956	844	478	122	478	22	511	33	122	44	11	556
RTOR Reduction (vph)	0	0	0	0	3	0	0	16	0	0	0	387
Lane Group Flow (vph)	956	844	478	122	497	0	337	313	0	0	55	169
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	36.1	44.0	122.1	12.3	20.2		27.1	27.1			16.2	16.2
Effective Green, g (s)	36.1	44.0	122.1	12.3	20.2		27.1	27.1			16.2	16.2
Actuated g/C Ratio	0.30	0.36	1.00	0.10	0.17		0.22	0.22			0.13	0.13
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	1015	1275	1583	178	582		370	358			235	208
v/s Ratio Prot	c0.28	0.24		0.07	c0.14		c0.20	0.19			0.03	
v/s Ratio Perm			0.30									c0.11
v/c Ratio	0.94	0.66	0.30	0.69	0.85		0.91	0.87			0.23	0.81
Uniform Delay, d1	42.0	32.8	0.0	53.0	49.5		46.3	45.8			47.4	51.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	15.9	1.0	0.5	8.4	11.3		25.5	19.7			0.2	20.0
Delay (s)	57.9	33.8	0.5	61.4	60.9		71.8	65.6			47.6	71.5
Level of Service	E	C	A	E	E		E	E			D	E
Approach Delay (s)		36.9			61.0			68.7			69.4	
Approach LOS		D			E			E			E	

Intersection Summary

HCM Average Control Delay	50.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	122.1	Sum of lost time (s)	22.5
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	260	10	330	10	10	220	530	10	30	510	390
Turn Type	Perm		Perm	Perm		Perm		Perm	Perm		Perm
Protected Phases		4			8		2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 41.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	10	330	10	10	20	220	530	10	30	510	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		870			640			642			991	
Travel Time (s)		16.9			12.5			12.5			19.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	281	344	0	41	0	229	552	10	31	531	406
v/c Ratio		0.67	0.47		0.08		0.76	0.64	0.01	0.11	0.61	0.43
Control Delay		25.0	5.2		9.5		27.3	12.1	3.6	7.3	11.6	2.4
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		25.0	5.2		9.5		27.3	12.1	3.6	7.3	11.6	2.4
Queue Length 50th (ft)		53	3		3		38	84	0	4	79	0
Queue Length 95th (ft)		#194	57		24		#139	181	5	15	172	30
Internal Link Dist (ft)		790			560			562			911	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		636	934		780		524	1507	1282	498	1507	1358
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.44	0.37		0.05		0.44	0.37	0.01	0.06	0.35	0.30

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	10	330	10	10	20	220	530	10	30	510	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1777	1583		1713		1770	1863	1583	1770	1863	1583
Flt Permitted		0.70	1.00		0.92		0.35	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)		1311	1583		1587		649	1863	1583	614	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	271	10	344	10	10	21	229	552	10	31	531	406
RTOR Reduction (vph)	0	0	218	0	14	0	0	0	5	0	0	212
Lane Group Flow (vph)	0	281	126	0	27	0	229	552	5	31	531	194
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)		13.3	13.3		13.3		19.4	19.4	19.4	19.4	19.4	19.4
Effective Green, g (s)		13.3	13.3		13.3		19.4	19.4	19.4	19.4	19.4	19.4
Actuated g/C Ratio		0.33	0.33		0.33		0.48	0.48	0.48	0.48	0.48	0.48
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		428	517		519		309	888	755	293	888	755
v/s Ratio Prot								0.30			0.29	
v/s Ratio Perm		c0.21	0.08		0.02		c0.35		0.00	0.05		0.12
v/c Ratio		0.66	0.24		0.05		0.74	0.62	0.01	0.11	0.60	0.26
Uniform Delay, d1		11.7	10.0		9.4		8.6	7.9	5.6	5.9	7.8	6.3
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.8	0.1		0.0		8.1	1.0	0.0	0.1	0.7	0.1
Delay (s)		14.5	10.1		9.4		16.7	8.9	5.6	5.9	8.5	6.4
Level of Service		B	B		A		B	A	A	A	A	A
Approach Delay (s)		12.1			9.4			11.1			7.6	
Approach LOS		B			A			B			A	

Intersection Summary				
HCM Average Control Delay	9.9	HCM Level of Service	A	
HCM Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	40.7	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	70.6%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	180	10	300	10	10	10	420	420	10	10	400	160
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	214	12	357	12	12	12	500	500	12	12	476	190
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2018	2012	476	2006	2000	500	476			512		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2018	2012	476	2006	2000	500	476			512		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	0	62	39	0	63	98	54			99		
cM capacity (veh/h)	20	31	589	8	32	571	1081			1009		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	214	369	36	500	500	12	12	476	190
Volume Left	214	0	12	500	0	0	12	0	0
Volume Right	0	357	12	0	0	12	0	0	190
cSH	20	608	19	1081	1700	1700	1009	1700	1700
Volume to Capacity	10.93	0.61	1.89	0.46	0.29	0.01	0.01	0.28	0.11
Queue Length 95th (ft)	Err	102	121	62	0	0	1	0	0
Control Delay (s)	Err	25.2	844.0	11.2	0.0	0.0	8.6	0.0	0.0
Lane LOS	F	D	F	B			A		
Approach Delay (s)	3689.0		844.0	5.5			0.2		
Approach LOS	F		F						

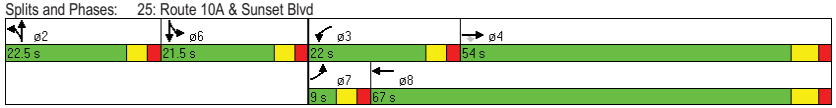
Intersection Summary				
Average Delay	947.3			
Intersection Capacity Utilization	71.0%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	1590	10	300	1200	60	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	54.0	54.0	22.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	45.0%	45.0%	18.3%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	48.0	48.0	17.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 109
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1590	10	300	1200	40	60	10	180	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		165	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1228			925			632			353	
Travel Time (s)		27.9			21.0			14.4			8.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1691	11	319	1320	0	64	202	0	0	54	0
v/c Ratio	0.17	1.08	0.02	1.15	0.41		0.22	0.48			0.43	
Control Delay	58.8	79.2	12.9	144.4	11.6		43.9	11.6			53.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	58.8	79.2	12.9	144.4	11.6		43.9	11.6			53.3	
Queue Length 50th (ft)	8	~721	2	~272	156		40	7			31	
Queue Length 95th (ft)	28	#902	13	#466	252		84	75			73	
Internal Link Dist (ft)		1148			845			552			273	
Turn Bay Length (ft)	180		165	420								
Base Capacity (vph)	65	1563	703	277	3182		285	418			275	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	1.08	0.02	1.15	0.41		0.22	0.48			0.20	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

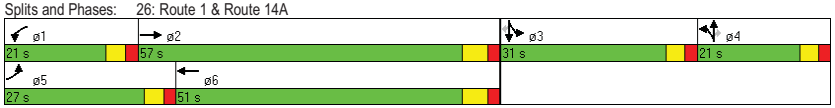
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1590	10	300	1200	40	60	10	180	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1770	3539	1583	1770	5060		1770	1599			1759	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (perm)	1770	3539	1583	1770	5060		1770	1599			1759	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1691	11	319	1277	43	64	11	191	32	11	11
RTOR Reduction (vph)	0	0	4	0	2	0	0	162	0	0	9	0
Lane Group Flow (vph)	11	1691	7	319	1318	0	64	40	0	0	45	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Effective Green, g (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Actuated g/C Ratio	0.01	0.46	0.46	0.15	0.60		0.15	0.15			0.06	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1622	726	264	3038		271	245			97	
v/s Ratio Prot	0.01	c0.48		c0.18	0.26		c0.04	0.03			c0.03	
v/s Ratio Perm			0.00									
v/c Ratio	0.92	1.04	0.01	1.21	0.43		0.24	0.16			0.47	
Uniform Delay, d1	56.6	30.9	16.8	48.5	12.3		42.4	42.0			52.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	209.7	34.3	0.0	123.7	0.0		2.0	1.4			1.3	
Delay (s)	266.3	65.2	16.8	172.3	12.4		44.5	43.4			53.6	
Level of Service	F	E	B	F	B		D	D			D	
Approach Delay (s)		66.2			43.5			43.7			53.6	
Approach LOS		E			D			D			D	

Intersection Summary				
HCM Average Control Delay	54.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	114.1	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	93.1%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	430	1690	290	1850	400	80	210	780	70	240
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	43.0	12.0	33.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (s)	27.0	57.0	21.0	51.0	21.0	21.0	21.0	31.0	31.0	31.0
Total Split (%)	20.8%	43.8%	16.2%	39.2%	16.2%	16.2%	16.2%	23.8%	23.8%	23.8%
Maximum Green (s)	22.0	51.0	16.0	45.0	16.0	16.0	16.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		5		0	0	0	0	10	10	10

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 22 (17%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1690	550	290	1850	340	400	80	210	780	70	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	200		200	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3050			1510			526			604	
Travel Time (s)		59.4			29.4			14.3			16.5	
Confl. Peds. (#/hr)			5									142
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							40%			46%		
Lane Group Flow (vph)	473	2461	0	319	2407	0	264	264	231	463	471	264
v/c Ratio	1.60	1.27		1.48	1.40		1.28	1.25	0.62	1.38	1.39	0.61
Control Delay	312.7	144.7		285.3	206.6		201.0	191.9	18.9	227.1	229.8	17.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	312.7	144.7		285.3	206.6		201.0	191.9	18.9	227.1	229.8	17.6
Queue Length 50th (ft)	~566	~933		~380	~977		~295	~292	24	~543	~554	36
Queue Length 95th (ft)	m#498	m#741		#573	#1070		#482	#477	110	#766	#780	132
Internal Link Dist (ft)		2970			1430			446			524	
Turn Bay Length (ft)	630			350			200		200	360		250
Base Capacity (vph)	296	1939		216	1723		207	211	370	336	340	430
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.60	1.27		1.48	1.40		1.28	1.25	0.62	1.38	1.39	0.61

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1690	550	290	1850	340	400	80	210	780	70	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4829		1752	4919		1681	1713	1583	1681	1699	1296
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4829		1752	4919		1681	1713	1583	1681	1699	1296
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	473	1857	604	319	2033	374	440	88	231	857	77	264
RTOR Reduction (vph)	0	45	0	0	20	0	0	0	175	0	0	170
Lane Group Flow (vph)	473	2416	0	319	2387	0	264	264	56	463	471	94
Confl. Peds. (#/hr)			5									142
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Effective Green, g (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Actuated g/C Ratio	0.17	0.39		0.12	0.35		0.12	0.12	0.12	0.20	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	296	1894		216	1703		207	211	195	336	340	259
v/s Ratio Prot	c0.27	0.50		0.18	c0.49		c0.16	0.15		0.28	c0.28	
v/s Ratio Perm									0.04			0.07
v/c Ratio	1.60	1.28		1.48	1.40		1.28	1.25	0.29	1.38	1.39	0.36
Uniform Delay, d1	54.0	39.5		57.0	42.5		57.0	57.0	51.8	52.0	52.0	44.8
Progression Factor	1.19	0.52		1.43	0.59		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	273.6	125.2		235.0	183.8		155.9	145.9	0.3	187.8	190.7	0.3
Delay (s)	337.6	145.9		316.5	208.9		212.9	202.9	52.1	239.8	242.7	45.2
Level of Service	F	F		F	F		F	F	D	F	F	D
Approach Delay (s)		176.8			221.5			160.5			198.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	194.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	110.6%	ICU Level of Service	H
Analysis Period (min)	15		

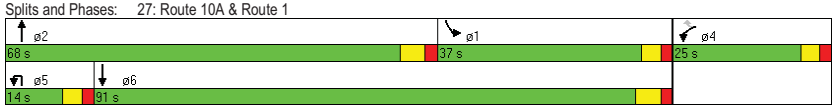
c Critical Lane Group

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	660	560	50	1690	610	1350
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	18.0	18.0	9.0	35.0	12.0	25.0
Total Split (s)	25.0	25.0	14.0	68.0	37.0	91.0
Total Split (%)	19.2%	19.2%	10.8%	52.3%	28.5%	70.0%
Maximum Green (s)	20.0	20.0	9.0	62.0	32.0	85.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lead	Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 93 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	660	560	50	1690	1130	610	1350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1852			1905			3050
Travel Time (s)	36.1			37.1			59.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	695	589	53	2968	0	642	1421
v/c Ratio	1.32	1.03	0.50	1.42dr		1.49	0.41
Control Delay	198.0	63.9	68.1	153.7		256.2	4.6
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	198.0	63.9	68.1	153.7		256.2	4.6
Queue Length 50th (ft)	~388	~235	45	~1134		~745	125
Queue Length 95th (ft)	#511	#466	m62	m#1210		m#491	m73
Internal Link Dist (ft)	1772			1825			2970
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	528	572	125	2350		431	3425
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.32	1.03	0.42	1.26		1.49	0.41

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	660	560	50	1690	1130	610	1350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	1.00	0.94		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4733		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4733		1752	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	695	589	53	1779	1189	642	1421
RTOR Reduction (vph)	0	328	0	94	0	0	0
Lane Group Flow (vph)	695	261	53	2874	0	642	1421
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	20.0	20.0	6.6	61.0		33.0	87.4
Effective Green, g (s)	20.0	20.0	6.6	61.0		33.0	87.4
Actuated g/C Ratio	0.15	0.15	0.05	0.47		0.25	0.67
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	528	244	92	2221		445	3386
v/s Ratio Prot	c0.20		0.03	c0.61		c0.37	0.28
v/s Ratio Perm		0.16					
v/c Ratio	1.32	1.07	0.58	1.42dr		1.44	0.42
Uniform Delay, d1	55.0	55.0	60.3	34.5		48.5	9.7
Progression Factor	1.00	1.00	0.95	1.16		0.97	0.47
Incremental Delay, d2	155.3	76.9	3.8	134.8		200.4	0.0
Delay (s)	210.3	131.9	61.1	174.9		247.6	4.6
Level of Service	F	F	E	F		F	A
Approach Delay (s)	174.4			172.9			80.2
Approach LOS	F			F			F

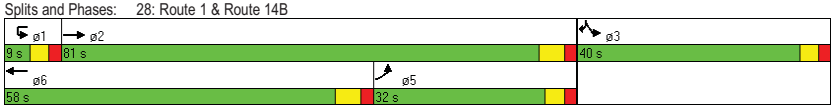
Intersection Summary				
HCM Average Control Delay	143.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	340	2180	10	1540	450	220
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	28.0	28.0
Total Split (s)	32.0	81.0	9.0	58.0	40.0	40.0
Total Split (%)	24.6%	62.3%	6.9%	44.6%	30.8%	30.8%
Maximum Green (s)	27.0	75.0	4.0	52.0	35.0	35.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 121 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2180	10	1540	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2667		1905		583	
Travel Time (s)		52.0		37.1		15.9	
Confl. Peds. (#/hr)							3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	354	2271	10	1885	0	469	229
v/c Ratio	0.97	0.71	0.18	0.95		0.98	0.46
Control Delay	67.1	6.0	70.1	27.7		84.6	26.4
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	67.1	6.0	70.1	27.7		84.6	26.4
Queue Length 50th (ft)	280	72	9	277		395	94
Queue Length 95th (ft)	m#413	m319	m17	m276		#616	175
Internal Link Dist (ft)		2587		1825		503	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	364	3184	56	1989		477	494
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.97	0.71	0.18	0.95		0.98	0.46

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	340	2180	10	1540	270	450	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4923		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4923		1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	354	2271	10	1604	281	469	229
RTOR Reduction (vph)	0	0	0	20	0	0	68
Lane Group Flow (vph)	354	2271	10	1865	0	469	161
Confl. Peds. (#/hr)							3
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	31.0	78.2	0.8	48.0		35.0	35.0
Effective Green, g (s)	31.0	78.2	0.8	48.0		35.0	35.0
Actuated g/C Ratio	0.24	0.60	0.01	0.37		0.27	0.27
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	418	3029	11	1818		477	426
v/s Ratio Prot	c0.20	0.45	0.01	c0.38		c0.27	0.10
v/s Ratio Perm							
v/c Ratio	0.85	0.75	0.91	1.03		0.98	0.38
Uniform Delay, d1	47.2	18.8	64.6	41.0		47.2	38.6
Progression Factor	0.70	0.31	1.06	0.50		1.00	1.00
Incremental Delay, d2	8.7	1.0	176.2	24.6		36.5	0.2
Delay (s)	41.7	6.9	244.4	45.0		83.7	38.8
Level of Service	D	A	F	D		F	D
Approach Delay (s)		11.6		46.1		69.0	
Approach LOS		B		D		E	

Intersection Summary

HCM Average Control Delay	31.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	360	1280	190	990	180	250	260	740	190	460
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	18.0	18.0	12.0	25.0	25.0
Total Split (s)	31.0	56.0	24.0	49.0	15.0	18.0	18.0	32.0	35.0	35.0
Total Split (%)	23.8%	43.1%	18.5%	37.7%	11.5%	13.8%	13.8%	24.6%	26.9%	26.9%
Maximum Green (s)	26.0	50.0	19.0	43.0	10.0	12.0	12.0	27.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 39 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	360	1280	180	190	990	630	180	250	260	740	190	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		2679			2667			634			1132	
Travel Time (s)		52.2			52.0			12.4			25.7	
Confl. Peds. (#/hr)			3						4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	379	1536	0	200	1705	0	189	263	274	779	200	484
v/c Ratio	1.08	0.77		0.85	1.09dr		0.74	0.83	0.75	1.09	0.48	0.74
Control Delay	104.5	24.2		74.1	34.5		76.7	79.4	22.7	109.4	48.5	17.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.5	24.2		74.1	34.5		76.7	79.4	22.7	109.4	48.5	17.6
Queue Length 50th (ft)	~354	444		138	~359		81	116	19	~381	148	69
Queue Length 95th (ft)	m#560	m517		m163	m#578		#130	#184	#120	#507	227	209
Internal Link Dist (ft)		2599			2587			554			1052	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1985		256	1669		264	327	370	713	416	654
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.77		0.78	1.02		0.72	0.80	0.74	1.09	0.48	0.74

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	360	1280	180	190	990	630	180	250	260	740	190	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4933		1752	4742		3433	3539	1554	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4933		1752	4742		3433	3539	1554	3433	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	379	1347	189	200	1042	663	189	263	274	779	200	484
RTOR Reduction (vph)	0	14	0	0	88	0	0	0	228	0	0	300
Lane Group Flow (vph)	379	1522	0	200	1617	0	189	263	47	779	200	184
Confl. Peds. (#/hr)			3						4			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	26.0	51.9		17.4	43.3		9.6	11.7	11.7	27.0	29.1	29.1
Effective Green, g (s)	26.0	51.9		17.4	43.3		9.6	11.7	11.7	27.0	29.1	29.1
Actuated g/C Ratio	0.20	0.40		0.13	0.33		0.07	0.09	0.09	0.21	0.22	0.22
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1969		234	1579		254	319	140	713	417	354
v/s Ratio Prot	c0.22	0.31		0.11	c0.34		0.06	c0.07		c0.23	0.11	
v/s Ratio Perm									0.03			0.12
v/c Ratio	1.08	0.77		0.85	1.09dr		0.74	0.82	0.33	1.09	0.48	0.52
Uniform Delay, d1	52.0	33.9		55.1	43.4		59.0	58.1	55.5	51.5	43.9	44.3
Progression Factor	0.76	0.64		1.03	0.27		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	65.7	2.3		13.5	22.4		9.9	15.0	0.5	61.8	0.3	0.5
Delay (s)	105.3	24.1		70.3	34.0		68.9	73.2	56.0	113.3	44.2	44.8
Level of Service	F	C		E	C		E	E	E	F	D	D
Approach Delay (s)		40.2			37.9			65.6			81.2	
Approach LOS		D			D			E			F	

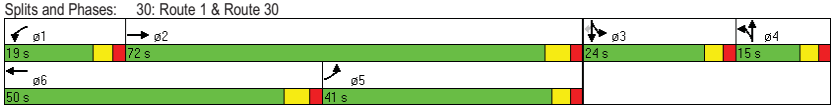
Intersection Summary				
HCM Average Control Delay	52.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	101.2%	ICU Level of Service	G	
Analysis Period (min)	15			

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	450	1700	90	1500	90	230	20	600
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	15.0	10.0	10.0	10.0
Total Split (s)	41.0	72.0	19.0	50.0	15.0	24.0	24.0	24.0
Total Split (%)	31.5%	55.4%	14.6%	38.5%	11.5%	18.5%	18.5%	18.5%
Maximum Green (s)	36.0	66.0	14.0	44.0	10.0	19.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 92 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1700	30	90	1500	180	20	90	20	230	20	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2679			238			2279	
Travel Time (s)		25.0			52.2			6.5			62.2	
Confl. Peds. (#/hr)			4									4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	484	1860	0	97	1807	0	0	141	0	133	136	645
v/c Ratio	1.00	0.67		0.65	1.01			0.97		0.62	0.63	0.96
Control Delay	75.8	20.5		76.7	43.4			124.8		66.5	66.9	36.0
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	75.8	20.5		76.7	43.4			124.8		66.5	66.9	36.0
Queue Length 50th (ft)	429	344		74	~604			116		110	113	86
Queue Length 95th (ft)	#633	378		m84	m#635			#256		184	187	#340
Internal Link Dist (ft)		1204			2599			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	485	2761		189	1785			145		246	248	692
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.00	0.67		0.51	1.01			0.97		0.54	0.55	0.93

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1700	30	90	1500	180	20	90	20	230	20	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5020		1752	4955			1809		1681	1698	1553
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5020		1752	4955			1809		1681	1698	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	484	1828	32	97	1613	194	22	97	22	247	22	645
RTOR Reduction (vph)	0	1	0	0	11	0	0	6	0	0	0	476
Lane Group Flow (vph)	484	1859	0	97	1796	0	0	135	0	133	136	169
Confl. Peds. (#/hr)			4									4
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	36.0	71.5		11.1	46.6			10.0		16.4	16.4	16.4
Effective Green, g (s)	36.0	71.5		11.1	46.6			10.0		16.4	16.4	16.4
Actuated g/C Ratio	0.28	0.55		0.09	0.36			0.08		0.13	0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	485	2761		150	1776			139		212	214	196
v/s Ratio Prot	c0.28	0.37		0.06	c0.36			c0.07		0.08	0.08	
v/s Ratio Perm												c0.11
v/c Ratio	1.00	0.67		0.65	1.01			0.97		0.63	0.64	0.86
Uniform Delay, d1	47.0	20.9		57.6	41.7			59.9		53.9	54.0	55.7
Progression Factor	0.89	0.89		1.14	0.54			1.00		1.00	1.00	1.00
Incremental Delay, d2	32.9	0.9		3.9	18.6			67.8		4.1	4.5	29.1
Delay (s)	74.9	19.6		69.6	41.3			127.7		58.0	58.4	84.7
Level of Service	E	B		E	D			F		E	E	F
Approach Delay (s)		31.0			42.8			127.7			76.9	
Approach LOS		C			D			F			E	

Intersection Summary

HCM Average Control Delay	45.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

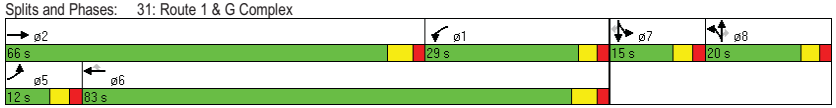
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1160	190	960	30	200	20	120	30	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	6.5	10.0	6.5	10.0	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	28.0	12.0	24.0	24.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	12.0	66.0	29.0	83.0	83.0	20.0	20.0	20.0	15.0	15.0
Total Split (%)	9.2%	50.8%	22.3%	63.8%	63.8%	15.4%	15.4%	15.4%	11.5%	11.5%
Maximum Green (s)	7.0	60.0	24.0	77.0	77.0	15.0	15.0	15.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		15.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 17 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 1 & G Complex



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1160	370	190	960	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		1343			5039			848			380	
Travel Time (s)		26.2			98.2			19.3			13.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	12	1800	0	224	1129	35	129	130	141	0	82	12
v/c Ratio	0.13	0.71		0.83	0.48	0.03	0.76	0.76	0.49		0.63	0.10
Control Delay	62.4	26.2		46.6	3.6	0.4	84.1	83.4	14.5		80.2	27.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	62.4	26.2		46.6	3.6	0.4	84.1	83.4	14.5		80.2	27.6
Queue Length 50th (ft)	10	417		195	38	0	111	112	0		68	0
Queue Length 95th (ft)	30	459		204	62	m0	173	175	52		116	19
Internal Link Dist (ft)		1263			4959			768			300	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	94	2525		323	2343	1060	194	196	307		139	133
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.13	0.71		0.69	0.48	0.03	0.66	0.66	0.46		0.59	0.09

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1160	370	190	960	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)	1752	4853		1752	3505	1568	1681	1700	1583		1811	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)	1752	4853		1752	3505	1568	1681	1700	1583		1811	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	1365	435	224	1129	35	235	24	141	47	35	12
RTOR Reduction (vph)	0	42	0	0	0	12	0	0	127	0	0	11
Lane Group Flow (vph)	12	1758	0	224	1129	23	129	130	14	0	82	1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Effective Green, g (s)	2.7	63.5		23.1	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Actuated g/C Ratio	0.02	0.49		0.18	0.65	0.65	0.10	0.10	0.10		0.07	0.07
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	36	2371		311	2262	1012	169	171	160		130	113
v/s Ratio Prot	0.01	c0.36		c0.13	0.32		c0.08	0.08			c0.05	
v/s Ratio Perm						0.01			0.01			0.00
v/c Ratio	0.33	0.74		0.72	0.50	0.02	0.76	0.76	0.09		0.63	0.01
Uniform Delay, d1	62.8	26.7		50.4	12.1	8.3	56.9	56.9	53.0		58.7	56.1
Progression Factor	1.00	1.00		0.48	0.26	0.10	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0	2.1		5.7	0.7	0.0	16.6	16.2	0.1		7.1	0.0
Delay (s)	64.7	28.8		29.9	3.8	0.8	73.6	73.2	53.1		65.8	56.1
Level of Service	E	C		C	A	A	E	E	D		E	E
Approach Delay (s)		29.0			7.9			66.2			64.6	
Approach LOS		C			A			E			E	

Intersection Summary				
HCM Average Control Delay	26.0	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1530	1600	310	580	710
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	74.0	74.0	56.0	56.0	56.0
Total Split (%)	56.9%	56.9%	43.1%	43.1%	43.1%
Maximum Green (s)	68.0	68.0	50.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	15.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 32: RTE 1 & Route 4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1530	60	0	1600	30	0	310	580	0	710	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		115	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			979			889			385	
Travel Time (s)		7.7			19.1			17.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1728	0	0	1772	0	0	652	315	0	772	0
v/c Ratio		0.54			0.56			0.75	0.78		0.80	
Control Delay		11.8			10.3			19.1	23.8		49.9	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		11.8			10.3			19.1	23.8		49.9	
Queue Length 50th (ft)		133			197			151	60		323	
Queue Length 95th (ft)		253			496			64	65		350	
Internal Link Dist (ft)		313			899			809			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3176			3184			1219	563		1361	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.54			0.56			0.53	0.56		0.57	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1530	60	0	1600	30	0	310	580	0	710	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		5008			5022			3145	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		5008			5022			3145	1441		3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1663	65	0	1739	33	0	337	630	0	772	0
RTOR Reduction (vph)	0	3	0	0	1	0	0	10	10	0	0	0
Lane Group Flow (vph)	0	1725	0	0	1771	0	0	642	305	0	772	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		82.4			82.4			35.6	35.6		35.6	
Effective Green, g (s)		82.4			82.4			35.6	35.6		35.6	
Actuated g/C Ratio		0.63			0.63			0.27	0.27		0.27	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3174			3183			861	395		969	
v/s Ratio Prot		0.34			c0.35			0.20			c0.22	
v/s Ratio Perm									0.21			
v/c Ratio		0.54			0.56			0.75	0.77		0.80	
Uniform Delay, d1		13.3			13.5			43.1	43.5		43.8	
Progression Factor		0.79			0.67			0.35	0.32		1.00	
Incremental Delay, d2		0.5			0.6			2.4	6.5		4.3	
Delay (s)		11.0			9.6			17.5	20.3		48.1	
Level of Service		B			A			B	C		D	
Approach Delay (s)		11.0			9.6			18.4			48.1	
Approach LOS		B			A			B			D	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

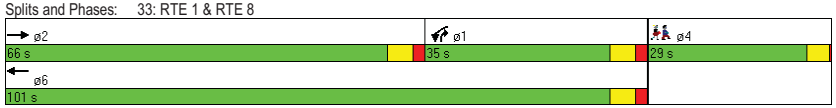
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1750	710	1570	660	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	35.0	22.0	35.0	29.0
Total Split (s)	66.0	35.0	101.0	35.0	29.0
Total Split (%)	50.8%	26.9%	77.7%	26.9%	22%
Maximum Green (s)	60.0	29.0	95.0	29.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 50 (38%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 33: RTE 1 & RTE 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1750	450	710	1570	0	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	979			927	469	
Travel Time (s)	19.1			18.1	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2444	0	789	1744	0	733
v/c Ratio	0.73		1.04	0.50		0.69
Control Delay	10.7		71.8	2.2		13.9
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	10.7		71.8	2.2		13.9
Queue Length 50th (ft)	380		~357	30		65
Queue Length 95th (ft)	234		m#378	m35		145
Internal Link Dist (ft)	899			847	389	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3361		758	3505		1063
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.73		1.04	0.50		0.69

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1750	450	710	1570	0	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0		6.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4881		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4881		3400	3505		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1944	500	789	1744	0	733
RTOR Reduction (vph)	21	0	0	0	0	441
Lane Group Flow (vph)	2424	0	789	1744	0	292
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	89.0		29.0	130.0		29.0
Effective Green, g (s)	89.0		29.0	130.0		29.0
Actuated g/C Ratio	0.68		0.22	1.00		0.22
Clearance Time (s)	6.0		6.0	6.0		6.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3342		758	3505		622
v/s Ratio Prot	c0.50		c0.23	0.50		0.10
v/s Ratio Perm						
v/c Ratio	0.73		1.04	0.50		0.47
Uniform Delay, d1	12.8		50.5	0.0		43.8
Progression Factor	0.75		0.77	1.00		1.00
Incremental Delay, d2	1.2		33.3	0.2		0.2
Delay (s)	10.8		72.0	0.2		44.0
Level of Service	B		E	A		D
Approach Delay (s)	10.8			22.6	44.0	
Approach LOS	B			C	D	

Intersection Summary				
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	30	590	300	660	1040	90
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	32	634	323	710	1118	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1157	469	
pX, platoon unblocked						
vC, conflicting volume	2118	559	1118			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2118	559	1118			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	48			
cM capacity (veh/h)	21	472	620			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	32	634	323	355	355	559	559	97
Volume Left	32	0	323	0	0	0	0	0
Volume Right	0	634	0	0	0	0	0	97
cSH	21	472	620	1700	1700	1700	1700	1700
Volume to Capacity	1.55	1.34	0.52	0.21	0.21	0.33	0.33	0.06
Queue Length 95th (ft)	107	715	75	0	0	0	0	0
Control Delay (s)	671.6	192.7	16.9	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	F	C					
Approach Delay (s)	215.9		5.3			0.0		
Approach LOS	F							

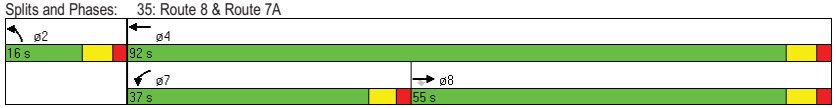
Intersection Summary			
Average Delay	51.3		
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1450	230	990	850	110	690
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	21.0	31.0	16.0	
Total Split (s)	55.0	55.0	37.0	92.0	16.0	0.0
Total Split (%)	50.9%	50.9%	34.3%	85.2%	14.8%	0.0%
Maximum Green (s)	49.0	49.0	31.5	86.0	10.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	0	0			0	

Intersection Summary

Cycle Length: 108
Actuated Cycle Length: 108
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1450	230	990	850	110	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1157			1264	644	
Travel Time (s)	22.5			24.6	12.5	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1835	291	1253	1076	139	873
v/c Ratio	1.14	0.35	1.25	0.38	0.85	0.55
Control Delay	101.4	7.2	155.7	3.7	88.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.4	7.2	155.7	3.7	88.4	1.4
Queue Length 50th (ft)	~785	35	~560	90	96	0
Queue Length 95th (ft)	#736	64	#561	93	#168	0
Internal Link Dist (ft)	1077			1184	564	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1606	829	1001	2818	164	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.35	1.25	0.38	0.85	0.55

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

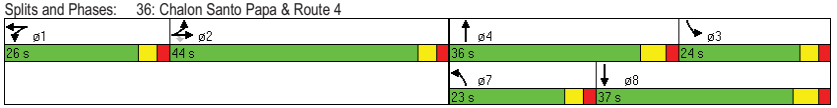
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1450	230	990	850	110	690
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	1770	1583
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	1835	291	1253	1076	139	873
RTOR Reduction (vph)	0	110	0	0	0	0
Lane Group Flow (vph)	1835	181	1253	1076	139	873
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	49.0	49.0	31.5	86.0	10.0	108.0
Effective Green, g (s)	49.0	49.0	31.5	86.0	10.0	108.0
Actuated g/C Ratio	0.45	0.45	0.29	0.80	0.09	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1606	718	1001	2818	164	1583
v/s Ratio Prot	c0.52		c0.36	0.30	0.08	
v/s Ratio Perm		0.11				c0.55
v/c Ratio	1.14	0.25	1.25	0.38	0.85	0.55
Uniform Delay, d1	29.5	18.2	38.2	3.2	48.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	72.2	0.1	121.6	0.0	30.2	1.4
Delay (s)	101.7	18.3	159.9	3.3	78.4	1.4
Level of Service	F	B	F	A	E	A
Approach Delay (s)	90.2			87.5	12.0	
Approach LOS	F			F	B	

Intersection Summary				
HCM Average Control Delay	74.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	280	180	150	120	710	130	770
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	25.0	25.0	26.0	8.0	22.0	8.0	22.0
Total Split (s)	44.0	44.0	26.0	23.0	36.0	24.0	37.0
Total Split (%)	33.8%	33.8%	20.0%	17.7%	27.7%	18.5%	28.5%
Maximum Green (s)	39.0	39.0	21.0	18.0	30.0	19.0	31.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	180	100	150	80	120	710	170	130	770	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			810			850	
Travel Time (s)		28.3			11.8			15.8			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	205	0	375	0	136	1000	0	148	932	0
v/c Ratio		0.89	0.39		0.79		0.72	0.61		0.65	0.53	
Control Delay		67.8	9.6		62.5		61.3	37.5		38.0	16.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.8	9.6		62.5		61.3	37.5		38.0	16.0	
Queue Length 50th (ft)		331	17		151		115	287		84	71	
Queue Length 95th (ft)		421	72		196		m167	m343		160	197	
Internal Link Dist (ft)		1164			439			730			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		553	600		566		245	1635		259	1751	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.74	0.34		0.66		0.56	0.61		0.57	0.53	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	280	180	100	150	80	120	710	170	130	770	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.96		1.00	0.97		1.00	0.99	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1842	1583		3359		1770	4938		1770	5039	
Flt Permitted		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1842	1583		3359		1770	4938		1770	5039	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	91	318	205	114	170	91	136	807	193	148	875	57
RTOR Reduction (vph)	0	0	133	0	24	0	0	27	0	0	5	0
Lane Group Flow (vph)	0	409	72	0	351	0	136	973	0	148	927	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		32.6	32.6		17.5		13.9	42.2		16.7	45.0	
Effective Green, g (s)		32.6	32.6		17.5		13.9	42.2		16.7	45.0	
Actuated g/C Ratio		0.25	0.25		0.13		0.11	0.32		0.13	0.35	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		462	397		452		189	1603		227	1744	
v/s Ratio Prot		c0.22			c0.10		c0.08	c0.20		c0.08	0.18	
v/s Ratio Perm			0.05									
v/c Ratio		0.89	0.18		0.78		0.72	0.61		0.65	0.53	
Uniform Delay, d1		46.9	38.2		54.4		56.2	36.9		53.9	34.1	
Progression Factor		1.00	1.00		1.00		0.80	0.97		0.47	0.41	
Incremental Delay, d2		17.6	0.1		7.5		8.2	1.3		4.6	1.1	
Delay (s)		64.5	38.3		61.8		53.3	37.1		29.7	15.1	
Level of Service		E	D		E		D	D		C	B	
Approach Delay (s)		55.7			61.8			39.0			17.1	
Approach LOS		E			E			D			B	

Intersection Summary			
HCM Average Control Delay	37.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

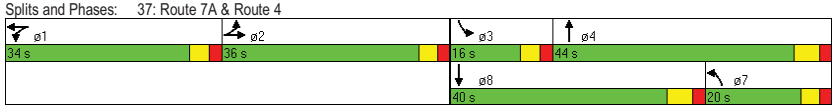
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	210	280	470	430	160	640	110	810
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.0	29.0	27.0	27.0	13.0	25.0	13.0	29.0
Total Split (s)	36.0	36.0	34.0	34.0	20.0	44.0	16.0	40.0
Total Split (%)	27.7%	27.7%	26.2%	26.2%	15.4%	33.8%	12.3%	30.8%
Maximum Green (s)	31.0	31.0	29.0	29.0	15.0	38.0	11.0	34.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 126 (97%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	280	90	470	430	100	160	640	340	110	810	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		827			967			716			810	
Travel Time (s)		18.8			22.0			13.9			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)				30%								
Lane Group Flow (vph)	228	402	0	358	729	0	174	1066	0	120	1087	0
v/c Ratio	0.56	0.95		1.00	0.98		0.89	0.70		0.83	0.79	
Control Delay	49.8	80.4		97.3	78.3		96.9	39.2		72.5	32.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.8	80.4		97.3	78.3		96.9	39.2		72.5	32.1	
Queue Length 50th (ft)	169	325		334	333		146	268		103	332	
Queue Length 95th (ft)	256	#522		#558	#473		#275	322		m#200	374	
Internal Link Dist (ft)		747			887			636			730	
Turn Bay Length (ft)				250			250			200		
Base Capacity (vph)	418	433		359	742		204	1524		150	1369	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.55	0.93		1.00	0.98		0.85	0.70		0.80	0.79	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	280	90	470	430	100	160	640	340	110	810	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.96		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1777		1610	3280		1770	4821		1770	4940	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	1777		1610	3280		1770	4821		1770	4940	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	228	304	98	511	467	109	174	696	370	120	880	207
RTOR Reduction (vph)	0	9	0	0	10	0	0	73	0	0	30	0
Lane Group Flow (vph)	228	393	0	358	719	0	174	993	0	120	1057	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	30.3	30.3		29.0	29.0		14.4	39.1		10.6	35.3	
Effective Green, g (s)	30.3	30.3		29.0	29.0		14.4	39.1		10.6	35.3	
Actuated g/C Ratio	0.23	0.23		0.22	0.22		0.11	0.30		0.08	0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	408	414		359	732		196	1450		144	1341	
v/s Ratio Prot	0.13	c0.22		c0.22	0.22		c0.10	0.21		0.07	c0.21	
v/s Ratio Perm												
v/c Ratio	0.56	0.95		1.00	0.98		0.89	0.69		0.83	0.79	
Uniform Delay, d1	44.0	49.1		50.5	50.2		57.0	40.0		58.8	43.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.58	0.65	
Incremental Delay, d2	0.9	30.8		46.4	28.6		34.0	2.7		27.7	4.2	
Delay (s)	44.9	79.9		96.8	78.8		91.0	42.7		61.8	32.7	
Level of Service	D	E		F	E		F	D		E	C	
Approach Delay (s)		67.2			84.8			49.5			35.6	
Approach LOS		E			F			D			D	

Intersection Summary				
HCM Average Control Delay	57.3	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	85.6%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	110	220	100	930	1400	120
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	124	247	112	1045	1573	135
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1030	
pX, platoon unblocked	0.78	0.78	0.78			
vC, conflicting volume	2388	854	1708			
vC1, stage 1 conf vol	1640					
vC2, stage 2 conf vol	747					
vCu, unblocked vol	2215	250	1344			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	18	58	72			
cM capacity (veh/h)	150	585	397			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	371	112	522	522	1049	659
Volume Left	124	112	0	0	0	0
Volume Right	247	0	0	0	0	135
cSH	298	397	1700	1700	1700	1700
Volume to Capacity	1.25	0.28	0.31	0.31	0.62	0.39
Queue Length 95th (ft)	430	29	0	0	0	0
Control Delay (s)	171.6	17.6	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	171.6	1.7			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay	20.3			
Intersection Capacity Utilization	77.7%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	220	200	150	40
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	32.0	36.0	36.0
Total Split (%)	24.4%	35.6%	40.0%	40.0%
Maximum Green (s)	18.0	28.0	32.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 78.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	520	200	20	150	40	390	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		350			827			400			205	
Travel Time (s)		8.0			18.8			9.1			4.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	596	0	0	787	0	160	458	0	0	0	0
v/c Ratio		0.77			1.09dl		0.22	0.50				
Control Delay		20.5			33.7		18.5	5.4				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		20.5			33.7		18.5	5.4				
Queue Length 50th (ft)		59			186		50	13				
Queue Length 95th (ft)		121			276		112	88				
Internal Link Dist (ft)		270			747			320			125	
Turn Bay Length (ft)												
Base Capacity (vph)		1020			1235		733	909				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.58			0.64		0.22	0.50				

Intersection Summary

Area Type: Other
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	520	200	20	150	40	390	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.91			1.00		1.00	0.86				
Flt Protected		1.00			0.97		0.95	1.00				
Satd. Flow (prot)		3224			3405		1770	1610				
Flt Permitted		1.00			0.97		0.95	1.00				
Satd. Flow (perm)		3224			3405		1770	1610				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	234	351	553	213	21	160	43	415	0	0	0
RTOR Reduction (vph)	0	299	0	0	2	0	0	243	0	0	0	0
Lane Group Flow (vph)	0	297	0	0	785	0	160	215	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		11.5			22.3		32.5	32.5				
Effective Green, g (s)		11.5			22.3		32.5	32.5				
Actuated g/C Ratio		0.15			0.28		0.42	0.42				
Clearance Time (s)		4.0			4.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		474			970		735	668				
v/s Ratio Prot		c0.09			c0.23		0.09	c0.13				
v/s Ratio Perm												
v/c Ratio		0.63			1.09dl		0.22	0.32				
Uniform Delay, d1		31.4			26.0		14.7	15.5				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		1.9			4.8		0.7	1.3				
Delay (s)		33.2			30.8		15.4	16.7				
Level of Service		C			C		B	B				
Approach Delay (s)		33.2			30.8			16.4			0.0	
Approach LOS		C			C			B			A	

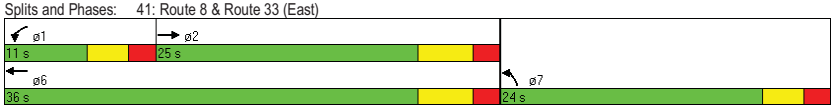
Intersection Summary				
HCM Average Control Delay	27.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	82.0%	ICU Level of Service	E	
Analysis Period (min)	15			

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	740	90	590	220
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	6.0	2.5	2.0	2.5
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	25.0	11.0	36.0	24.0
Total Split (%)	41.7%	18.3%	60.0%	40.0%
Maximum Green (s)	19.0	6.0	30.0	19.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.0	6.0	5.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 54.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	740	130	90	590	220	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2670			2651	2228	
Travel Time (s)	52.0			51.6	43.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1024	0	106	694	435	0
v/c Ratio	0.84		0.54	0.40	0.81	
Control Delay	25.7		39.3	9.4	30.4	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	25.7		39.3	9.4	30.4	
Queue Length 50th (ft)	174		37	72	119	
Queue Length 95th (ft)	231		#94	101	#238	
Internal Link Dist (ft)	2590			2571	2148	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	1328		208	2109	673	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.77		0.51	0.33	0.65	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	740	130	90	590	220	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	5.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.98		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3426		1770	3539	1710	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	3426		1770	3539	1710	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	871	153	106	694	259	176
RTOR Reduction (vph)	23	0	0	0	43	0
Lane Group Flow (vph)	1001	0	106	694	392	0
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	18.8		4.4	28.2	15.6	
Effective Green, g (s)	18.8		4.4	28.2	15.6	
Actuated g/C Ratio	0.34		0.08	0.51	0.28	
Clearance Time (s)	6.0		5.0	6.0	5.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	1175		142	1821	487	
v/s Ratio Prot	c0.29		c0.06	0.20	c0.23	
v/s Ratio Perm						
v/c Ratio	0.85		0.75	0.38	0.81	
Uniform Delay, d1	16.7		24.7	8.0	18.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	5.9		16.9	0.0	8.9	
Delay (s)	22.6		41.6	8.1	27.1	
Level of Service	C		D	A	C	
Approach Delay (s)	22.6			12.5	27.1	
Approach LOS	C			B	C	

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	54.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

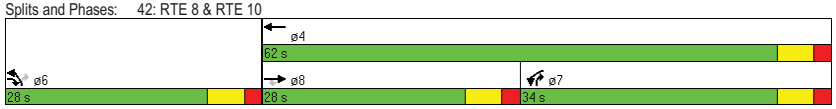
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	680	650	950	510	560	780
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	28.0	34.0	62.0	28.0	34.0
Total Split (%)	31.1%	31.1%	37.8%	68.9%	31.1%	37.8%
Maximum Green (s)	22.0	22.0	28.0	56.0	22.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	680	650	950	510	560	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			433	789	
Travel Time (s)	14.8			8.4	15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	723	691	1011	543	596	830
v/c Ratio	0.84	0.79	0.96	0.25	0.71	0.48
Control Delay	43.1	23.7	46.5	6.7	36.5	9.8
Queue Delay	2.1	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	23.7	46.5	6.7	36.5	9.8
Queue Length 50th (ft)	206	286	291	50	160	124
Queue Length 95th (ft)	#298	451	#420	62	218	169
Internal Link Dist (ft)	682			353	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	857	877	1058	2181	839	1747
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	53	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.79	0.96	0.25	0.71	0.48

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	680	650	950	510	560	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	723	691	1011	543	596	830
RTOR Reduction (vph)	0	7	0	0	0	15
Lane Group Flow (vph)	723	684	1011	543	596	815
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	22.0	44.0	28.0	56.0	22.0	50.0
Effective Green, g (s)	22.0	44.0	28.0	56.0	22.0	50.0
Actuated g/C Ratio	0.24	0.49	0.31	0.62	0.24	0.56
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	857	871	1058	2181	839	1734
v/s Ratio Prot	0.21	c0.19	c0.30	0.15	0.17	0.15
v/s Ratio Perm		0.24				0.15
v/c Ratio	0.84	0.79	0.96	0.25	0.71	0.47
Uniform Delay, d1	32.4	19.1	30.4	7.6	31.1	12.0
Progression Factor	1.00	1.00	0.92	0.84	1.00	1.00
Incremental Delay, d2	9.9	4.4	16.2	0.2	2.4	0.1
Delay (s)	42.3	23.4	44.1	6.6	33.5	12.1
Level of Service	D	C	D	A	C	B
Approach Delay (s)	33.1			31.0	21.0	
Approach LOS	C			C	C	

Intersection Summary				
HCM Average Control Delay	28.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1360	60	1380	80	50
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	7.0	7.0
Minimum Split (s)	26.0	16.0	26.0	13.0	13.0
Total Split (s)	59.0	16.0	75.0	15.0	15.0
Total Split (%)	65.6%	17.8%	83.3%	16.7%	16.7%
Maximum Green (s)	53.0	10.0	69.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1360	50	60	1380	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	220
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	433			505	486	
Travel Time (s)	8.4			9.8	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1485	0	63	1453	84	53
v/c Ratio	0.63		0.32	0.51	0.53	0.28
Control Delay	6.2		41.9	4.2	51.1	15.1
Queue Delay	0.5		0.0	0.0	0.0	0.0
Total Delay	6.7		41.9	4.2	51.1	15.1
Queue Length 50th (ft)	110		34	132	46	0
Queue Length 95th (ft)	141		73	174	92	34
Internal Link Dist (ft)	353			425	406	
Turn Bay Length (ft)			200			220
Base Capacity (vph)	2360		195	2869	177	206
Starvation Cap Reductn	427		0	0	0	0
Spillback Cap Reductn	0		0	171	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.77		0.32	0.54	0.47	0.26

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1360	50	60	1380	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3486		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3486		1752	3505	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1432	53	63	1453	84	53
RTOR Reduction (vph)	3	0	0	0	0	49
Lane Group Flow (vph)	1482	0	63	1453	84	4
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	57.3		8.0	71.3	6.7	6.7
Effective Green, g (s)	57.3		8.0	71.3	6.7	6.7
Actuated g/C Ratio	0.64		0.09	0.79	0.07	0.07
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2219		156	2777	132	118
v/s Ratio Prot	c0.43		0.04	c0.41	c0.05	
v/s Ratio Perm						0.00
v/c Ratio	0.67		0.40	0.52	0.64	0.03
Uniform Delay, d1	10.3		38.7	3.3	40.5	38.6
Progression Factor	0.46		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2		0.6	0.1	7.2	0.0
Delay (s)	5.9		39.4	3.4	47.6	38.7
Level of Service	A		D	A	D	D
Approach Delay (s)	5.9			4.9	44.2	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

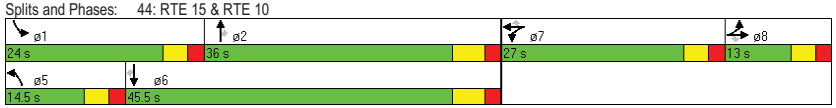
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	90	110	370	80	430	100	820	460	430	1070	120
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	10.0	10.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.5	16.0	16.0	11.5	36.0	36.0
Total Split (s)	13.0	13.0	13.0	27.0	27.0	27.0	14.5	36.0	36.0	24.0	45.5	45.5
Total Split (%)	13.0%	13.0%	13.0%	27.0%	27.0%	27.0%	14.5%	36.0%	36.0%	24.0%	45.5%	45.5%
Maximum Green (s)	8.0	8.0	8.0	22.0	22.0	22.0	9.5	30.0	30.0	19.0	39.5	39.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	90	110	370	80	430	100	820	460	430	1070	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		611			3186			3059			773	
Travel Time (s)		11.9			62.1			59.6			15.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	92	112	125	420	91	489	114	932	523	489	1216	136
v/c Ratio	0.71	0.82	0.53	1.09	0.22	0.81	0.73	0.88	0.62	1.45	0.85	0.19
Control Delay	74.0	87.8	16.7	110.8	33.8	23.5	77.9	28.9	4.5	248.8	34.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.0	87.8	16.7	110.8	33.8	23.5	77.9	28.9	4.5	248.8	34.7	4.4
Queue Length 50th (ft)	61	75	0	~303	48	93	77	221	21	~428	368	1
Queue Length 95th (ft)	#138	#169	52	#473	89	#245	m107	#325	41	#605	447	35
Internal Link Dist (ft)		531			3106			2979			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	132	138	239	385	406	605	168	1062	841	338	1424	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.81	0.52	1.09	0.22	0.81	0.68	0.88	0.62	1.45	0.85	0.19

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	90	110	370	80	430	100	820	460	430	1070	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1649	1728	1553	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1649	1728	1553	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	102	125	420	91	489	114	932	523	489	1216	136
RTOR Reduction (vph)	0	0	115	0	0	261	0	0	366	0	0	80
Lane Group Flow (vph)	92	112	10	420	91	228	114	932	157	489	1216	56
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	7.9	7.9	7.9	22.0	22.0	22.0	8.9	30.0	30.0	19.1	40.2	40.2
Effective Green, g (s)	7.9	7.9	7.9	22.0	22.0	22.0	8.9	30.0	30.0	19.1	40.2	40.2
Actuated g/C Ratio	0.08	0.08	0.08	0.22	0.22	0.22	0.09	0.30	0.30	0.19	0.40	0.40
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	130	137	123	385	406	345	158	1062	475	338	1423	636
v/s Ratio Prot	0.06	c0.06		c0.24	0.05		0.06	0.26		c0.28	c0.34	
v/s Ratio Perm			0.01			0.15			0.10			0.04
v/c Ratio	0.71	0.82	0.08	1.09	0.22	0.66	0.72	0.88	0.33	1.45	0.85	0.09
Uniform Delay, d1	44.9	45.3	42.7	39.0	32.0	35.6	44.3	33.3	27.2	40.5	27.2	18.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.37	0.63	0.82	1.00	1.00	1.00
Incremental Delay, d2	13.4	28.7	0.1	72.5	0.1	3.7	8.7	7.0	1.2	217.0	6.7	0.3
Delay (s)	58.3	74.0	42.8	111.5	32.1	39.3	69.2	28.0	23.6	257.5	34.0	18.8
Level of Service	E	E	D	F	C	D	E	C	C	F	C	B
Approach Delay (s)		57.8			69.0			29.5			92.2	
Approach LOS		E			E			C			F	

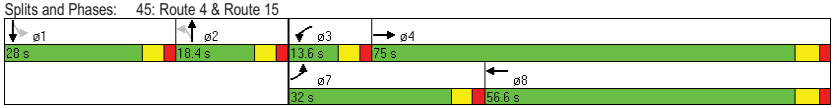
Intersection Summary				
HCM Average Control Delay	64.2	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.01			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	87.0%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	240	1320	30	820	20	10	40	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	16.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	32.0	75.0	13.6	56.6	18.4	18.4	28.0	28.0
Total Split (%)	23.7%	55.6%	10.1%	41.9%	13.6%	13.6%	20.7%	20.7%
Maximum Green (s)	26.5	69.0	8.1	50.6	12.9	12.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 135
Actuated Cycle Length: 118.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	1320	60	30	820	70	20	10	30	40	10	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		749			563			294			294	
Travel Time (s)		14.6			11.0			5.7			5.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	282	1624	0	35	1047	0	0	71	0	0	224	0
v/c Ratio	0.84	0.91		0.28	0.78			0.51			0.88	
Control Delay	69.6	36.2		64.7	37.6			50.3			62.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	69.6	36.2		64.7	37.6			50.3			62.5	
Queue Length 50th (ft)	220	593		28	387			34			109	
Queue Length 95th (ft)	#341	697		63	471			81			#222	
Internal Link Dist (ft)		669			483			214			214	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	406	2103		124	1537			181			308	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.69	0.77		0.28	0.68			0.39			0.73	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	240	1320	60	30	820	70	20	10	30	40	10	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3516		1770	3498			1710			1660	
Flt Permitted	0.95	1.00		0.95	1.00			0.80			0.72	
Satd. Flow (perm)	1770	3516		1770	3498			1391			1209	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	282	1553	71	35	965	82	24	12	35	47	12	165
RTOR Reduction (vph)	0	2	0	0	4	0	0	27	0	0	76	0
Lane Group Flow (vph)	282	1622	0	35	1043	0	0	44	0	0	148	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	22.5	59.8		8.2	45.5			9.6			17.6	
Effective Green, g (s)	22.5	59.8		8.2	45.5			9.6			17.6	
Actuated g/C Ratio	0.19	0.51		0.07	0.39			0.08			0.15	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	338	1786		123	1352			113			181	
v/s Ratio Prot	c0.16	c0.46		0.02	0.30							
v/s Ratio Perm								c0.03			c0.12	
v/c Ratio	0.83	0.91		0.28	0.77			0.39			0.82	
Uniform Delay, d1	45.8	26.4		52.0	31.6			51.3			48.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	15.4	7.0		0.5	2.5			0.8			23.1	
Delay (s)	61.2	33.4		52.4	34.1			52.1			71.6	
Level of Service	E	C		D	C			D			E	
Approach Delay (s)		37.5			34.7			52.1			71.6	
Approach LOS		D			C			D			E	

Intersection Summary

HCM Average Control Delay	39.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	117.7	Sum of lost time (s)	22.5
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

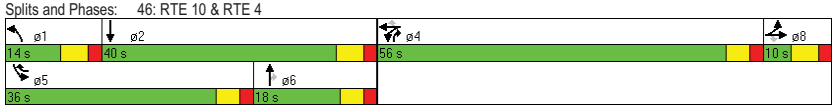
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	20	10	20	640	10	250	410	690	420
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	9.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.0	9.5	13.5	16.0
Total Split (s)	10.0	10.0	56.0	36.0	14.0	18.0	56.0	36.0	40.0
Total Split (%)	8.3%	8.3%	46.7%	30.0%	11.7%	15.0%	46.7%	30.0%	33.3%
Maximum Green (s)	4.0	4.0	50.5	30.5	8.0	12.5	50.5	30.5	34.0
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		17.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 112.3
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	600	20	640	10	250	410	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			734			914	
Travel Time (s)		7.3			12.6			14.3			17.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	11	0	705	727	11	284	466	784	500	0
v/c Ratio		0.69	0.16		0.94	0.64	0.09	0.76	0.49	0.89	0.70	
Control Delay		103.6	33.0		54.2	7.5	54.3	64.6	14.2	55.0	38.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		103.6	33.0		54.2	7.5	54.3	64.6	14.2	55.0	38.0	
Queue Length 50th (ft)		36	0		516	123	8	114	170	303	313	
Queue Length 95th (ft)		#103	19		#737	179	27	#169	247	#395	#572	
Internal Link Dist (ft)		295			565			654			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		67	68		819	1167	129	404	1006	956	711	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.69	0.16		0.86	0.62	0.09	0.70	0.46	0.82	0.70	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	600	20	640	10	250	410	690	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1777	1583	1770	3539	1583	3433	1850	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1777	1583	1770	3539	1583	3433	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	23	23	11	682	23	727	11	284	466	784	477	23
RTOR Reduction (vph)	0	0	11	0	0	48	0	0	35	0	1	0
Lane Group Flow (vph)	0	46	0	0	705	679	11	284	431	784	499	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		3.0	3.0		47.3	76.0	1.5	16.9	64.2	28.7	43.1	
Effective Green, g (s)		3.0	3.0		47.3	76.0	1.5	16.9	64.2	28.7	43.1	
Actuated g/C Ratio		0.03	0.03		0.40	0.64	0.01	0.14	0.54	0.24	0.36	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		46	40		710	1016	22	505	932	832	673	
v/s Ratio Prot		c0.03			c0.40	0.16	0.01	0.08	0.18	c0.23	c0.27	
v/s Ratio Perm			0.00			0.27			0.09			
v/c Ratio		1.00	0.01		0.99	0.67	0.50	0.56	0.46	0.94	0.74	
Uniform Delay, d1		57.7	56.2		35.4	13.3	58.1	47.3	16.6	44.0	32.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		132.7	0.0		31.8	1.3	6.4	0.9	0.1	18.4	3.9	
Delay (s)		190.4	56.3		67.2	14.6	64.4	48.2	16.7	62.5	36.6	
Level of Service		F	E		E	B	E	D	B	E	D	
Approach Delay (s)		164.5			40.5			29.1			52.4	
Approach LOS		F			D			C			D	

Intersection Summary				
HCM Average Control Delay	44.4	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	118.4	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	85.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1180	1030	60
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	32.0	32.0	13.0	22.0	33.0	33.0
Total Split (s)	43.0	43.0	15.0	87.0	72.0	72.0
Total Split (%)	33.1%	33.1%	11.5%	66.9%	55.4%	55.4%
Maximum Green (s)	38.0	38.0	10.0	81.0	66.0	66.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 103 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1180	1030	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	784			300	778	
Travel Time (s)	21.4			5.8	15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	116	21	1242	1084	63
v/c Ratio	0.81	0.44	0.19	0.49	0.46	0.06
Control Delay	71.0	50.4	74.1	1.5	13.1	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	50.4	74.1	1.5	13.1	10.6
Queue Length 50th (ft)	197	87	15	9	243	19
Queue Length 95th (ft)	273	137	m30	20	355	46
Internal Link Dist (ft)	704			220	698	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	463	414	135	2551	2339	1046
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.28	0.16	0.49	0.46	0.06

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1180	1030	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	116	21	1242	1084	63
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	242	116	21	1242	1084	63
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	24.4	24.4	4.9	94.6	84.7	84.7
Effective Green, g (s)	24.4	24.4	4.9	94.6	84.7	84.7
Actuated g/C Ratio	0.19	0.19	0.04	0.73	0.65	0.65
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	297	266	66	2551	2284	1022
v/s Ratio Prot	c0.15		0.01	c0.35	0.31	
v/s Ratio Perm		0.08				0.04
v/c Ratio	0.81	0.44	0.32	0.49	0.47	0.06
Uniform Delay, d1	50.6	46.7	60.9	7.5	11.4	8.2
Progression Factor	1.00	1.00	1.21	0.11	1.00	1.00
Incremental Delay, d2	14.9	0.4	0.9	0.6	0.7	0.1
Delay (s)	65.5	47.1	74.8	1.4	12.1	8.3
Level of Service	E	D	E	A	B	A
Approach Delay (s)	59.6			2.6	11.9	
Approach LOS	E			A	B	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	110	30	1040	80	1000
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	25.0	25.0	28.0	13.5	22.0
Total Split (s)	27.0	27.0	83.0	20.0	103.0
Total Split (%)	20.8%	20.8%	63.8%	15.4%	79.2%
Maximum Green (s)	22.0	22.0	77.0	15.0	97.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 61 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6 & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	1040	160	80	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		553			1337
Travel Time (s)	16.0		10.8			26.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	34	1379	0	92	1149
v/c Ratio	0.66	0.17	0.59		0.60	0.41
Control Delay	71.8	17.2	6.6		61.2	10.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	71.8	17.2	6.6		61.2	10.4
Queue Length 50th (ft)	104	0	153		77	258
Queue Length 95th (ft)	159	29	144		127	415
Internal Link Dist (ft)	506		473			1257
Turn Bay Length (ft)					200	
Base Capacity (vph)	300	296	2351		202	2831
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.42	0.11	0.59		0.46	0.41

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	110	30	1040	160	80	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3435		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3435		1752	3505
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	126	34	1195	184	92	1149
RTOR Reduction (vph)	0	30	7	0	0	0
Lane Group Flow (vph)	126	4	1372	0	92	1149
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	14.0	14.0	88.7		11.3	105.0
Effective Green, g (s)	14.0	14.0	88.7		11.3	105.0
Actuated g/C Ratio	0.11	0.11	0.68		0.09	0.81
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	191	170	2344		152	2831
v/s Ratio Prot	c0.07		c0.40		c0.05	0.33
v/s Ratio Perm		0.00				
v/c Ratio	0.66	0.02	0.59		0.61	0.41
Uniform Delay, d1	55.7	51.9	10.9		57.2	3.6
Progression Factor	1.00	1.00	0.47		0.81	2.60
Incremental Delay, d2	6.1	0.0	1.0		4.2	0.4
Delay (s)	61.9	51.9	6.2		50.7	9.7
Level of Service	E	D	A		D	A
Approach Delay (s)	59.7		6.2			12.7
Approach LOS	E		A			B

Intersection Summary				
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	40	30	1170	1000
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	26.0	13.0	22.0	30.0
Total Split (s)	31.0	17.0	99.0	82.0
Total Split (%)	23.8%	13.1%	76.2%	63.1%
Maximum Green (s)	26.0	12.0	93.0	76.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 83 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1170	1000	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2042			2039	7256	
Travel Time (s)	39.8			39.7	141.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	33	1300	1133	0
v/c Ratio	0.61		0.29	0.44	0.42	
Control Delay	45.7		69.3	2.1	3.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	45.7		69.3	2.1	3.2	
Queue Length 50th (ft)	48		28	34	140	
Queue Length 95th (ft)	107		m58	55	81	
Internal Link Dist (ft)	1962			1959	7176	
Turn Bay Length (ft)			125			
Base Capacity (vph)	378		162	2934	2706	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.29		0.20	0.44	0.42	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1170	1000	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	1.00	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1678		1752	3505	3495	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1678		1752	3505	3495	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	67	33	1300	1111	22
RTOR Reduction (vph)	49	0	0	0	1	0
Lane Group Flow (vph)	62	0	33	1300	1132	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	10.2		5.1	108.8	98.7	
Effective Green, g (s)	10.2		5.1	108.8	98.7	
Actuated g/C Ratio	0.08		0.04	0.84	0.76	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	132		69	2933	2654	
v/s Ratio Prot	c0.04		0.02	c0.37	0.32	
v/s Ratio Perm						
v/c Ratio	0.47		0.48	0.44	0.43	
Uniform Delay, d1	57.3		61.1	2.7	5.6	
Progression Factor	1.00		1.09	0.58	0.47	
Incremental Delay, d2	1.0		1.7	0.4	0.5	
Delay (s)	58.3		68.2	2.0	3.1	
Level of Service	E		E	A	A	
Approach Delay (s)	58.3			3.7	3.1	
Approach LOS	E			A	A	

Intersection Summary			
HCM Average Control Delay	5.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

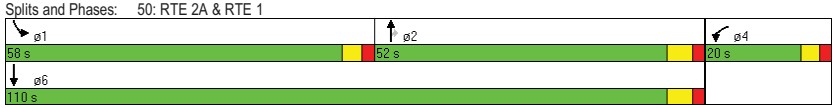
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	650	170	940	300
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	20.0		33.0	33.0	9.0	21.0
Total Split (s)	20.0	0.0	52.0	52.0	58.0	110.0
Total Split (%)	15.4%	0.0%	40.0%	40.0%	44.6%	84.6%
Maximum Green (s)	15.0		46.0	46.0	53.0	104.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 33 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	650	170	940	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	763		960			531
Travel Time (s)	14.9		18.7			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	588	765	200	1106	353
v/c Ratio	0.62	0.37	0.55	0.27	0.83	0.12
Control Delay	74.6	0.7	32.9	5.5	34.5	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	0.7	32.9	5.5	34.5	1.4
Queue Length 50th (ft)	78	0	264	5	440	8
Queue Length 95th (ft)	125	0	322	48	389	13
Internal Link Dist (ft)	683		880			451
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	204	1583	1395	738	1395	2910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.37	0.55	0.27	0.79	0.12

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	500	650	170	940	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3471	1553	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3471	1553	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	94	588	765	200	1106	353
RTOR Reduction (vph)	0	0	0	114	0	0
Lane Group Flow (vph)	94	588	765	86	1106	353
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	11.1	130.0	52.2	52.2	50.7	107.9
Effective Green, g (s)	11.1	130.0	52.2	52.2	50.7	107.9
Actuated g/C Ratio	0.09	1.00	0.40	0.40	0.39	0.83
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	151	1583	1394	624	1326	2909
v/s Ratio Prot	c0.05		c0.22		c0.33	0.10
v/s Ratio Perm		0.37		0.06		
v/c Ratio	0.62	0.37	0.55	0.14	0.83	0.12
Uniform Delay, d1	57.4	0.0	29.9	24.6	35.8	2.1
Progression Factor	1.00	1.00	1.00	1.00	0.79	0.57
Incremental Delay, d2	5.6	0.7	1.6	0.5	5.0	0.1
Delay (s)	63.1	0.7	31.4	25.1	33.5	1.3
Level of Service	E	A	C	C	C	A
Approach Delay (s)	9.3		30.1			25.7
Approach LOS	A		C			C

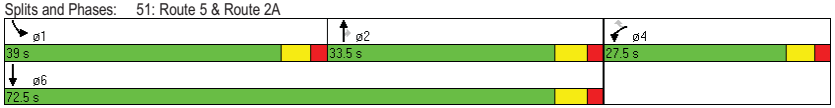
Intersection Summary				
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	27.5	27.5	33.5	33.5	39.0	72.5
Total Split (%)	27.5%	27.5%	33.5%	33.5%	39.0%	72.5%
Maximum Green (s)	22.0	22.0	27.5	27.5	33.5	66.5
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 73.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1099		864			879
Travel Time (s)	21.4		16.8			17.1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	172	290	75	387	462
v/c Ratio	0.26	0.51	0.22	0.12	0.80	0.18
Control Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	11.8	17.5	5.6	37.7	3.3
Queue Length 50th (ft)	23	0	44	0	160	26
Queue Length 95th (ft)	61	56	91	29	264	44
Internal Link Dist (ft)	1019		784			799
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	534	598	1334	644	813	3215
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.29	0.22	0.12	0.48	0.14

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	270	70	360	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	172	290	75	387	462
RTOR Reduction (vph)	0	152	0	47	0	0
Lane Group Flow (vph)	54	20	290	28	387	462
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.5	8.5	27.8	27.8	20.1	53.4
Effective Green, g (s)	8.5	8.5	27.8	27.8	20.1	53.4
Actuated g/C Ratio	0.12	0.12	0.38	0.38	0.27	0.73
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	205	183	1340	600	485	2575
v/s Ratio Prot	c0.03		c0.08		c0.22	0.13
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.26	0.11	0.22	0.05	0.80	0.18
Uniform Delay, d1	29.6	29.1	15.4	14.4	24.8	3.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.4	0.1	8.3	0.0
Delay (s)	29.8	29.2	15.8	14.6	33.1	3.1
Level of Service	C	C	B	B	C	A
Approach Delay (s)	29.3		15.5			16.8
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	73.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	33.0	33.0	49.0	49.0	38.0	87.0
Total Split (%)	27.5%	27.5%	40.8%	40.8%	31.7%	72.5%
Maximum Green (s)	27.5	27.5	43.0	43.0	32.5	81.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 58.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1682		1244			1258
Travel Time (s)	32.8		24.2			24.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	113	320	144	227	567
v/c Ratio	0.48	0.29	0.62	0.27	0.57	0.51
Control Delay	28.7	8.0	25.4	5.4	27.9	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.7	8.0	25.4	5.4	27.9	8.5
Queue Length 50th (ft)	49	0	91	0	66	90
Queue Length 95th (ft)	131	40	210	38	166	195
Internal Link Dist (ft)	1602		1164			1178
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	880	844	1448	1262	1039	1863
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.13	0.22	0.11	0.22	0.30

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	310	140	220	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	113	320	144	227	567
RTOR Reduction (vph)	0	91	0	103	0	0
Lane Group Flow (vph)	165	22	320	41	227	567
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.2	11.2	16.2	16.2	13.1	34.8
Effective Green, g (s)	11.2	11.2	16.2	16.2	13.1	34.8
Actuated g/C Ratio	0.19	0.19	0.28	0.28	0.23	0.61
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	345	308	525	446	403	1128
v/s Ratio Prot	c0.09		c0.17		0.13	c0.30
v/s Ratio Perm		0.01		0.03		
v/c Ratio	0.48	0.07	0.61	0.09	0.56	0.50
Uniform Delay, d1	20.6	18.9	17.9	15.2	19.7	6.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	1.4	0.0	1.1	0.1
Delay (s)	20.9	18.9	19.3	15.3	20.7	6.6
Level of Service	C	B	B	B	C	A
Approach Delay (s)	20.1		18.0			10.6
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	17.5
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	360	80	70	30	30	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	434	96	84	36	36	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	84				1048	84
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	84				1048	84
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	71				80	85
cM capacity (veh/h)	1512				180	975

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	530	84	36	36	145
Volume Left	434	0	0	36	0
Volume Right	0	0	36	0	145
cSH	1512	1700	1700	180	975
Volume to Capacity	0.29	0.05	0.02	0.20	0.15
Queue Length 95th (ft)	30	0	0	18	13
Control Delay (s)	7.3	0.0	0.0	30.0	9.3
Lane LOS	A			D	A
Approach Delay (s)	7.3	0.0		13.5	
Approach LOS				B	

Intersection Summary				
Average Delay	7.6			
Intersection Capacity Utilization	40.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	30	40	10	20	30
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	14	41	54	14	27	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	155	61			68	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	155	61			68	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	96			98	
cM capacity (veh/h)	821	1004			1534	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	54	68	68
Volume Left	14	0	27
Volume Right	41	14	0
cSH	951	1700	1534
Volume to Capacity	0.06	0.04	0.02
Queue Length 95th (ft)	5	0	1
Control Delay (s)	9.0	0.0	3.0
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	3.0
Approach LOS	A		

Intersection Summary				
Average Delay		3.7		
Intersection Capacity Utilization		19.4%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	170	130	130	120	60	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	254	194	194	179	90	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			448		918	351
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			448		918	351
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			83		64	83
cM capacity (veh/h)			1113		249	693

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	448	373	209
Volume Left	0	194	90
Volume Right	194	0	119
cSH	1700	1113	393
Volume to Capacity	0.26	0.17	0.53
Queue Length 95th (ft)	0	16	75
Control Delay (s)	0.0	5.5	24.1
Lane LOS		A	C
Approach Delay (s)	0.0	5.5	24.1
Approach LOS			C

Intersection Summary				
Average Delay		6.9		
Intersection Capacity Utilization		48.6%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	210	30	20	200	380
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	22.0	22.0	10.0	43.0	43.0
Total Split (%)	29.3%	29.3%	13.3%	57.3%	57.3%
Maximum Green (s)	16.5	16.5	4.5	37.0	37.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 58
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	200	380	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	454	
Travel Time (s)	16.3			14.6	8.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	247	35	24	235	788	0
v/c Ratio	0.61	0.09	0.16	0.25	0.85	
Control Delay	30.2	9.9	34.5	10.0	23.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	30.2	9.9	34.5	10.0	23.7	
Queue Length 50th (ft)	70	0	7	34	159	
Queue Length 95th (ft)	166	20	32	95	#466	
Internal Link Dist (ft)	758			671	374	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	536	504	146	1265	1215	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.07	0.16	0.19	0.65	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	210	30	20	200	380	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1754	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1754	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	247	35	24	235	447	341
RTOR Reduction (vph)	0	27	0	0	37	0
Lane Group Flow (vph)	247	8	24	235	751	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	13.2	13.2	1.4	29.4	29.4	
Effective Green, g (s)	13.2	13.2	1.4	29.4	29.4	
Actuated g/C Ratio	0.22	0.22	0.02	0.48	0.48	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	383	343	41	898	845	
v/s Ratio Prot	c0.14		c0.01	0.13	c0.43	
v/s Ratio Perm		0.00				
v/c Ratio	0.64	0.02	0.59	0.26	0.89	
Uniform Delay, d1	21.8	18.8	29.5	9.4	14.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.8	0.0	13.0	0.1	10.9	
Delay (s)	24.6	18.8	42.5	9.4	25.2	
Level of Service	C	B	D	A	C	
Approach Delay (s)	23.8			12.5	25.2	
Approach LOS	C			B	C	

Intersection Summary			
HCM Average Control Delay	22.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	100	200	80	70	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	52	104	208	83	73	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	292				458	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	292				458	250
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				86	92
cM capacity (veh/h)	1270				538	789

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	156	292	135
Volume Left	52	0	73
Volume Right	0	83	62
cSH	1270	1700	630
Volume to Capacity	0.04	0.17	0.21
Queue Length 95th (ft)	3	0	20
Control Delay (s)	2.9	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	2.9	0.0	12.3
Approach LOS			B

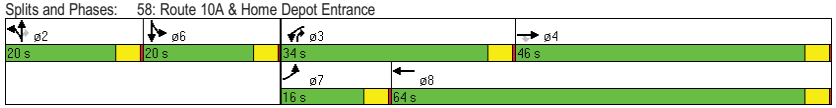
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	80	930	730	400	810	320	30	730	80	40
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	46.0	46.0	34.0	64.0	20.0	20.0	34.0	20.0	20.0
Total Split (%)	13.3%	38.3%	38.3%	28.3%	53.3%	16.7%	16.7%	28.3%	16.7%	16.7%
Maximum Green (s)	12.0	42.0	42.0	30.0	60.0	16.0	16.0	30.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 113
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	730	400	810	50	320	30	730	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1852			1228			703			493	
Travel Time (s)		42.1			23.9			13.7			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	1011	793	435	934	0	348	33	793	87	163	0
v/c Ratio	0.59	0.77	1.16	0.48	0.46		0.79	0.14	1.11	0.54	0.68	
Control Delay	67.0	36.6	115.0	37.7	16.6		61.6	46.1	92.8	62.0	36.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	67.0	36.6	115.0	37.7	16.6		61.6	46.1	92.8	62.0	36.6	
Queue Length 50th (ft)	62	341	~621	139	211		127	22	~493	62	47	
Queue Length 95th (ft)	119	458	#919	201	309		#191	55	#914	115	118	
Internal Link Dist (ft)		1772			1148			623			413	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	188	1319	685	914	2016		487	264	713	251	318	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.46	0.77	1.16	0.48	0.46		0.71	0.13	1.11	0.35	0.51	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

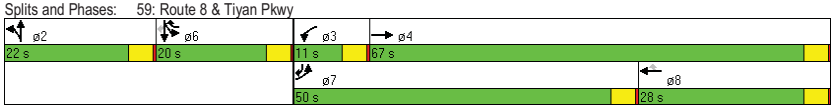
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	930	730	400	810	50	320	30	730	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3509		3433	1863	1583	1770	1657	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3509		3433	1863	1583	1770	1657	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	1011	793	435	880	54	348	33	793	87	43	120
RTOR Reduction (vph)	0	0	94	0	3	0	0	0	88	0	88	0
Lane Group Flow (vph)	87	1011	699	435	931	0	348	33	705	87	75	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	8.2	42.9	42.9	30.1	64.8		14.5	14.5	44.6	10.2	10.2	
Effective Green, g (s)	8.2	42.9	42.9	30.1	64.8		14.5	14.5	44.6	10.2	10.2	
Actuated g/C Ratio	0.07	0.38	0.38	0.26	0.57		0.13	0.13	0.39	0.09	0.09	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	128	1335	597	909	2000		438	238	621	159	149	
v/s Ratio Prot	0.05	0.29		0.13	0.27		0.10	0.02	c0.30	c0.05	0.05	
v/s Ratio Perm			c0.44						0.14			
v/c Ratio	0.68	0.76	1.17	0.48	0.47		0.79	0.14	1.14	0.55	0.50	
Uniform Delay, d1	51.5	30.9	35.4	35.2	14.3		48.2	44.1	34.5	49.5	49.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.7	2.2	93.8	0.1	0.1		9.0	0.1	79.4	2.1	1.0	
Delay (s)	62.2	33.1	129.2	35.3	14.4		57.1	44.2	114.0	51.6	50.3	
Level of Service	E	C	F	D	B		E	D	F	D	D	
Approach Delay (s)		74.7			21.0			95.2			50.7	
Approach LOS		E			C			F			D	

Intersection Summary				
HCM Average Control Delay	62.9	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.09			
Actuated Cycle Length (s)	113.7	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	85.3%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	940	1060	40	780	190	80	60	380	90	970
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	50.0	67.0	11.0	28.0	20.0	22.0	22.0	20.0	20.0	50.0
Total Split (%)	41.7%	55.8%	9.2%	23.3%	16.7%	18.3%	18.3%	16.7%	16.7%	41.7%
Maximum Green (s)	46.0	63.0	7.0	24.0	16.0	18.0	18.0	16.0	16.0	46.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 112.5
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	940	1060	110	40	780	190	80	60	50	380	90	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2791			2670			614			1053	
Travel Time (s)		54.4			52.0			14.0			20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										39%		
Lane Group Flow (vph)	1022	1272	0	43	848	207	87	119	0	252	259	1054
v/c Ratio	0.73	0.62		0.44	1.12	0.30	0.53	0.64		1.05	1.06	1.03
Control Delay	32.2	18.0		66.2	113.0	3.3	60.4	52.3		120.3	121.3	56.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	32.2	18.0		66.2	113.0	3.3	60.4	52.3		120.3	121.3	56.4
Queue Length 50th (ft)	314	313		30	~372	0	61	63		~209	~216	~745
Queue Length 95th (ft)	425	431		71	#533	34	113	124		#402	#413	#1066
Internal Link Dist (ft)		2711			2590			534			973	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1405	2040		110	756	697	283	303		239	244	1022
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.73	0.62		0.39	1.12	0.30	0.31	0.39		1.05	1.06	1.03

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	940	1060	110	40	780	190	80	60	50	380	90	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	3433	3489		1770	3539	1583	1770	1736		1681	1716	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	3433	3489		1770	3539	1583	1770	1736		1681	1716	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1022	1152	120	43	848	207	87	65	54	413	98	1054
RTOR Reduction (vph)	0	6	0	0	0	132	0	26	0	0	0	101
Lane Group Flow (vph)	1022	1266	0	43	848	75	87	93	0	252	259	953
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Effective Green, g (s)	46.0	65.6		5.3	24.9	40.9	10.4	10.4		16.0	16.0	62.0
Actuated g/C Ratio	0.41	0.58		0.05	0.22	0.36	0.09	0.09		0.14	0.14	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1394	2020		83	778	571	162	159		237	242	922
v/s Ratio Prot	0.30	0.36		0.02	c0.24	0.02	0.05	c0.05		0.15	0.15	c0.42
v/s Ratio Perm						0.03						0.18
v/c Ratio	0.73	0.63		0.52	1.09	0.13	0.54	0.58		1.06	1.07	1.03
Uniform Delay, d1	28.5	15.8		52.8	44.2	24.3	49.2	49.4		48.6	48.6	25.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.7	0.4		2.3	59.5	0.0	1.7	3.5		76.2	77.7	38.5
Delay (s)	30.2	16.2		55.0	103.7	24.3	50.9	52.8		124.8	126.4	64.1
Level of Service	C	B		E	F	C	D	D		F	F	E
Approach Delay (s)		22.4			86.9			52.0			84.2	
Approach LOS		C			F			D			F	

Intersection Summary

HCM Average Control Delay	56.0	HCM Level of Service		E		
HCM Volume to Capacity ratio	1.00					
Actuated Cycle Length (s)	113.3	Sum of lost time (s)		12.0		
Intersection Capacity Utilization	97.8%	ICU Level of Service		F		
Analysis Period (min)	15					

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	20	240	2060	50	2190
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	23.0	23.0	99.0	8.0	107.0
Total Split (%)	17.7%	17.7%	76.2%	6.2%	82.3%
Maximum Green (s)	19.0	19.0	95.0	4.0	103.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	240	2060	1160	50	2190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1181		1114			966
Travel Time (s)	26.8		21.7			18.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	261	3500	0	54	2380
v/c Ratio	0.09	0.95	1.01dr		0.87	0.59
Control Delay	69.2	70.5	6.9		144.4	3.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	69.2	70.5	6.9		144.4	3.3
Queue Length 50th (ft)	19	188	82		~45	108
Queue Length 95th (ft)	m18	m172	m54		m#85	m106
Internal Link Dist (ft)	1101		1034			886
Turn Bay Length (ft)					300	
Base Capacity (vph)	259	283	3559		62	4013
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.08	0.92	0.98		0.87	0.59

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	240	2060	1160	50	2190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4764		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4764		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	261	2239	1261	54	2380
RTOR Reduction (vph)	0	52	78	0	0	0
Lane Group Flow (vph)	22	209	3422	0	54	2380
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	18.4	18.4	95.0		4.6	103.6
Effective Green, g (s)	18.4	18.4	95.0		4.6	103.6
Actuated g/C Ratio	0.14	0.14	0.73		0.04	0.80
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	251	224	3481		62	4013
v/s Ratio Prot	0.01		c0.72		c0.03	0.47
v/s Ratio Perm		c0.13				
v/c Ratio	0.09	0.94	1.01dr		0.87	0.59
Uniform Delay, d1	48.5	55.2	16.7		62.4	5.1
Progression Factor	1.43	1.54	0.23		1.25	0.54
Incremental Delay, d2	0.0	7.3	2.1		59.2	0.5
Delay (s)	69.2	92.3	6.0		137.5	3.3
Level of Service	E	F	A		F	A
Approach Delay (s)	90.5		6.0			6.2
Approach LOS	F		A			A

Intersection Summary				
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	260	285	5	5	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	283	310	5	5	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	315				617	312
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	315				617	312
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	99				99	97
cM capacity (veh/h)	1223				449	728

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	11	283	315	27
Volume Left	11	0	0	5
Volume Right	0	0	5	22
cSH	1223	1700	1700	910
Volume to Capacity	0.01	0.17	0.19	0.03
Queue Length 95th (ft)	1	0	0	2
Control Delay (s)	8.0	0.0	0.0	10.7
Lane LOS	A			B
Approach Delay (s)	0.3		0.0	10.7
Approach LOS				B

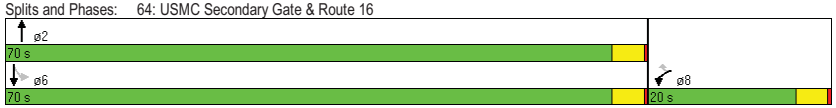
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	25.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	30	30	1300	80	1320
Turn Type		Perm		Perm	
Protected Phases	8		2		6
Permitted Phases		8		6	
Detector Phase	8	8	2	6	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	70.0	70.0	70.0
Total Split (%)	22.2%	22.2%	77.8%	77.8%	77.8%
Maximum Green (s)	16.0	16.0	66.0	66.0	66.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 47.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 64: USMC Secondary Gate & Route 16



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	30	30	1300	60	80	1320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	967		2141			819
Travel Time (s)	18.8		41.7			16.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	33	1478	0	87	1435
v/c Ratio	0.15	0.14	0.50		0.36	0.48
Control Delay	26.0	12.5	3.0		7.4	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	26.0	12.5	3.0		7.4	2.9
Queue Length 50th (ft)	9	0	70		7	66
Queue Length 95th (ft)	37	23	126		33	121
Internal Link Dist (ft)	887		2061			739
Turn Bay Length (ft)	200				200	
Base Capacity (vph)	660	611	3447		285	3472
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.05	0.05	0.43		0.31	0.41

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	30	30	1300	60	80	1320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3482		1752	3505
Flt Permitted	0.95	1.00	1.00		0.16	1.00
Satd. Flow (perm)	1770	1583	3482		288	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	33	1413	65	87	1435
RTOR Reduction (vph)	0	31	3	0	0	0
Lane Group Flow (vph)	33	2	1475	0	87	1435
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	3.2	3.2	37.9		37.9	37.9
Effective Green, g (s)	3.2	3.2	37.9		37.9	37.9
Actuated g/C Ratio	0.07	0.07	0.77		0.77	0.77
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	115	103	2688		222	2705
v/s Ratio Prot	c0.02		c0.42			0.41
v/s Ratio Perm		0.00			0.30	
v/c Ratio	0.29	0.02	0.55		0.39	0.53
Uniform Delay, d1	21.9	21.5	2.2		1.8	2.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.5	0.0	0.1		0.4	0.1
Delay (s)	22.4	21.5	2.3		2.2	2.3
Level of Service	C	C	A		A	A
Approach Delay (s)	21.9		2.3			2.3
Approach LOS	C		A			A

Intersection Summary				
HCM Average Control Delay	2.7	HCM Level of Service	A	
HCM Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	49.1	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	55.6%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	265	680	20	450	20	10	125	20
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	87.0	87.0	87.0	87.0	33.0	33.0	33.0	33.0
Total Split (%)	72.5%	72.5%	72.5%	72.5%	27.5%	27.5%	27.5%	27.5%
Maximum Green (s)	83.0	83.0	83.0	83.0	29.0	29.0	29.0	29.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 54
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 65: RTE 15 & USMC Main Gate

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	265	680	30	20	450	125	20	10	20	125	20	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	0		0	200		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		3186			814			580			547	
Travel Time (s)		62.1			15.9			11.3			10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	288	772	0	22	625	0	0	55	0	136	435	0
v/c Ratio	0.77	0.71		0.09	0.62			0.27		0.46	0.65	
Control Delay	23.0	11.0		5.3	9.0			20.7		29.2	9.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	23.0	11.0		5.3	9.0			20.7		29.2	9.1	
Queue Length 50th (ft)	44	110		2	77			7		31	5	
Queue Length 95th (ft)	202	328		12	239			52		133	99	
Internal Link Dist (ft)		3106			734			500			467	
Turn Bay Length (ft)	200			200						200		
Base Capacity (vph)	605	1759		415	1618			557		861	1173	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.48	0.44		0.05	0.39			0.10		0.16	0.37	

Intersection Summary	
Area Type:	Other

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	265	680	30	20	450	125	20	10	20	125	20	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97			0.95		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1736	1815		1641	1671			1728		1770	1597	
Flt Permitted	0.34	1.00		0.25	1.00			0.49		0.72	1.00	
Satd. Flow (perm)	624	1815		429	1671			856		1343	1597	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	288	739	33	22	489	136	22	11	22	136	22	413
RTOR Reduction (vph)	0	2	0	0	10	0	0	17	0	0	320	0
Lane Group Flow (vph)	288	770	0	22	615	0	0	38	0	136	115	0
Heavy Vehicles (%)	4%	4%	4%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.5	32.5		32.5	32.5			11.8		11.8	11.8	
Effective Green, g (s)	32.5	32.5		32.5	32.5			11.8		11.8	11.8	
Actuated g/C Ratio	0.62	0.62		0.62	0.62			0.23		0.23	0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	
Lane Grp Cap (vph)	388	1128		267	1038			193		303	360	
v/s Ratio Prot		0.42			0.37						0.07	
v/s Ratio Perm	c0.46			0.05				0.04		c0.10		
v/c Ratio	0.74	0.68		0.08	0.59			0.20		0.45	0.32	
Uniform Delay, d1	7.0	6.5		4.0	5.9			16.4		17.4	16.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	6.6	1.4		0.0	0.6			0.2		0.4	0.2	
Delay (s)	13.5	7.9		4.0	6.5			16.6		17.8	17.1	
Level of Service	B	A		A	A			B		B	B	
Approach Delay (s)		9.4			6.5			16.6			17.3	
Approach LOS		A			A			B			B	

Intersection Summary					
HCM Average Control Delay	10.7	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.66				
Actuated Cycle Length (s)	52.3	Sum of lost time (s)		8.0	
Intersection Capacity Utilization	80.5%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

INTERSECTION ANALYSIS

Synchro Output

Year 2030 No-Action Alternative Conditions

Weekday a.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	390	550	1140	10	10	150
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	488	688	1425	12	12	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1290				
pX, platoon unblocked						
vC, conflicting volume	1438				3094	1431
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1438				3094	1431
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	0				0	0
cM capacity (veh/h)	472				0	164

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	488	688	1438	200
Volume Left	488	0	0	12
Volume Right	0	0	12	188
cSH	472	1700	1700	0
Volume to Capacity	1.03	0.40	0.85	Err
Queue Length 95th (ft)	363	0	0	Err
Control Delay (s)	79.9	0.0	0.0	Err
Lane LOS	F			F
Approach Delay (s)	33.2		0.0	Err
Approach LOS				F

Intersection Summary				
Average Delay		Err		
Intersection Capacity Utilization		102.0%	ICU Level of Service	G
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	530	50	20	870	260	60
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	662	62	25	1088	325	75
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			725		1831	694
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			725		1831	694
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		0	83
cM capacity (veh/h)			878		82	443

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	725	1112	400
Volume Left	0	25	325
Volume Right	62	0	75
cSH	1700	878	96
Volume to Capacity	0.43	0.03	4.16
Queue Length 95th (ft)	0	2	Err
Control Delay (s)	0.0	0.9	Err
Lane LOS		A	F
Approach Delay (s)	0.0	0.9	Err
Approach LOS			F

Intersection Summary				
Average Delay	1788.0			
Intersection Capacity Utilization	86.6%	ICU Level of Service		E
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	590	890	310	10	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	12	738	1112	388	12	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1500				2069	1306
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1500				2069	1306
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	97				78	93
cM capacity (veh/h)	447				56	190

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	750	1500	25
Volume Left	12	0	12
Volume Right	0	388	12
cSH	447	1700	87
Volume to Capacity	0.03	0.88	0.29
Queue Length 95th (ft)	2	0	27
Control Delay (s)	0.9	0.0	62.6
Lane LOS	A		F
Approach Delay (s)	0.9	0.0	62.6
Approach LOS			F

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	75.7%	ICU Level of Service		D
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	180	1140	960	10	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	202	1281	1079	11	6	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		704				
pX, platoon unblocked					0.19	
vC, conflicting volume	1090				2770	1084
vC1, stage 1 conf vol					1084	
vC2, stage 2 conf vol					1685	
vCu, unblocked vol	1090				8197	1084
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	68				32	98
cM capacity (veh/h)	640				8	264

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	202	1281	1090	11
Volume Left	202	0	0	6
Volume Right	0	0	11	6
cSH	640	1700	1700	17
Volume to Capacity	0.32	0.75	0.64	0.68
Queue Length 95th (ft)	34	0	0	44
Control Delay (s)	13.2	0.0	0.0	380.6
Lane LOS	B			F
Approach Delay (s)	1.8		0.0	380.6
Approach LOS				F

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		74.4%	ICU Level of Service D
Analysis Period (min)		15	

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	1010	1170	660	110	1000
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	43.0	61.5	61.5	15.5	77.0
Total Split (%)	35.8%	51.3%	51.3%	12.9%	64.2%
Maximum Green (s)	37.5	55.5	55.5	10.0	71.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	1010	130	1170	660	110	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1310	0	1345	759	126	1149
v/c Ratio	1.22		1.56	0.83	0.85	0.55
Control Delay	144.7		284.9	23.7	97.5	16.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	144.7		284.9	23.7	97.5	16.1
Queue Length 50th (ft)	~642		~1473	295	98	267
Queue Length 95th (ft)	#738		#1654	450	#199	309
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1072		862	918	148	2094
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.22		1.56	0.83	0.85	0.55

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	1010	130	1170	660	110	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3401		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3401		1863	1583	1770	3539
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1161	149	1345	759	126	1149
RTOR Reduction (vph)	8	0	0	186	0	0
Lane Group Flow (vph)	1302	0	1345	573	126	1149
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	37.5		55.5	55.5	10.0	71.0
Effective Green, g (s)	37.5		55.5	55.5	10.0	71.0
Actuated g/C Ratio	0.31		0.46	0.46	0.08	0.59
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1063		862	732	148	2094
v/s Ratio Prot	c0.38		c0.72		c0.07	0.32
v/s Ratio Perm				0.36		
v/c Ratio	1.22		1.56	0.78	0.85	0.55
Uniform Delay, d1	41.2		32.2	27.2	54.3	14.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	109.6		257.8	8.2	35.5	1.0
Delay (s)	150.8		290.1	35.4	89.8	15.9
Level of Service	F		F	D	F	B
Approach Delay (s)	150.8		198.2			23.2
Approach LOS	F		F			C

Intersection Summary

HCM Average Control Delay	137.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	117.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	410	540	40	1380	1900	220
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	477	628	47	1605	2209	256
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3233	1233	2465			
vC1, stage 1 conf vol	2337					
vC2, stage 2 conf vol	895					
vCu, unblocked vol	3233	1233	2465			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	75			
cM capacity (veh/h)	56	169	185			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	1105	47	802	802	1473	992
Volume Left	477	47	0	0	0	0
Volume Right	628	0	0	0	0	256
cSH	90	185	1700	1700	1700	1700
Volume to Capacity	12.30	0.25	0.47	0.47	0.87	0.58
Queue Length 95th (ft)	Err	24	0	0	0	0
Control Delay (s)	Err	30.8	0.0	0.0	0.0	0.0
Lane LOS	F	D				
Approach Delay (s)	Err	0.9			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay	2115.9			
Intersection Capacity Utilization	122.1%	ICU Level of Service	H	
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	170	70	1030	740	160	410
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	15.0	0.0	60.0	0.0	15.0	75.0
Total Split (%)	16.7%	0.0%	66.7%	0.0%	16.7%	83.3%
Maximum Green (s)	11.0		54.0		9.5	69.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 88
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	170	70	1030	740	160	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	189	78	1144	822	178	456
v/c Ratio	0.54	0.05	1.01	0.52	0.93	0.31
Control Delay	43.6	0.1	48.5	1.3	91.2	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	0.1	48.5	1.3	91.2	3.5
Queue Length 50th (ft)	52	0	~611	0	100	56
Queue Length 95th (ft)	85	0	#947	0	#229	95
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	425	1568	1132	1568	191	1461
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.05	1.01	0.52	0.93	0.31

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	170	70	1030	740	160	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	1845	1568	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	1845	1568	1770	1863
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	189	78	1144	822	178	456
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	189	78	1144	822	178	456
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	9.0	88.0	54.0	88.0	9.5	69.0
Effective Green, g (s)	9.0	88.0	54.0	88.0	9.5	69.0
Actuated g/C Ratio	0.10	1.00	0.61	1.00	0.11	0.78
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	348	1568	1132	1568	191	1461
v/s Ratio Prot	0.06		c0.62		c0.10	0.24
v/s Ratio Perm		0.05		c0.52		
v/c Ratio	0.54	0.05	1.01	0.52	0.93	0.31
Uniform Delay, d1	37.5	0.0	17.0	0.0	38.9	2.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.1	29.4	1.3	45.4	0.6
Delay (s)	38.5	0.1	46.4	1.3	84.4	3.3
Level of Service	D	A	D	A	F	A
Approach Delay (s)	27.3		27.5			26.0
Approach LOS	C		C			C

Intersection Summary

HCM Average Control Delay		27.2	HCM Level of Service		C
HCM Volume to Capacity ratio		0.92			
Actuated Cycle Length (s)		88.0	Sum of lost time (s)		11.5
Intersection Capacity Utilization		80.8%	ICU Level of Service		D
Analysis Period (min)		15			

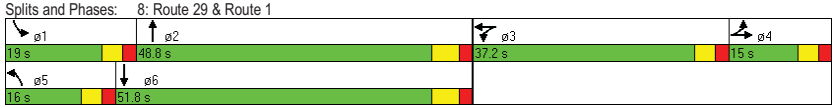
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	600	30	70	1420	160	980
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	600	30	80	70	1420	290	160	980	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				40%								
Lane Group Flow (vph)	0	87	0	387	376	0	75	1839	0	172	1119	0
v/c Ratio		0.58		0.92	0.89		0.57	1.35		0.81	0.70	
Control Delay		39.4		71.2	65.1		76.7	186.0		79.1	31.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		71.2	65.1		76.7	186.0		79.1	31.1	
Queue Length 50th (ft)		25		301	281		62	~1020		128	381	
Queue Length 95th (ft)		77		#478	#451		m68	m#1120		#256	501	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	452		162	1358		220	1591	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.86	0.83		0.46	1.35		0.78	0.70	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	600	30	80	70	1420	290	160	980	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.97		1.00	0.97		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1652		1752	3416		1752	3474	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1652		1752	3416		1752	3474	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	645	32	86	75	1527	312	172	1054	65
RTOR Reduction (vph)	0	51	0	0	9	0	0	13	0	0	3	0
Lane Group Flow (vph)	0	36	0	387	367	0	75	1826	0	172	1116	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		30.1	30.1		7.9	47.2		14.6	53.9	
Effective Green, g (s)		7.1		30.1	30.1		7.9	47.2		14.6	53.9	
Actuated g/C Ratio		0.06		0.25	0.25		0.07	0.39		0.12	0.45	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		422	414		115	1344		213	1560	
v/s Ratio Prot		c0.02		c0.23	0.22		0.04	c0.53		c0.10	0.32	
v/s Ratio Perm												
v/c Ratio		0.36		0.92	0.89		0.65	1.36		0.81	0.72	
Uniform Delay, d1		54.3		43.7	43.3		54.7	36.4		51.3	26.8	
Progression Factor		1.00		1.00	1.00		1.31	0.65		1.00	1.00	
Incremental Delay, d2		0.8		24.0	19.3		4.0	163.3		18.7	2.8	
Delay (s)		55.1		67.8	62.6		75.5	186.9		70.0	29.7	
Level of Service		E		E	E		E	F		E	C	
Approach Delay (s)		55.1			65.2			182.5			35.0	
Approach LOS		E			E			F			D	

Intersection Summary				
HCM Average Control Delay	110.8	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.07			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	97.2%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	200	20	40	50	50	10	40	330	20	10	300	230
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	220	22	44	55	55	11	44	363	22	11	330	253
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	978	951	456	995	1066	374	582			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	978	951	456	995	1066	374	582			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	91	93	70	74	98	96			99		
cM capacity (veh/h)	173	246	604	186	210	673	987			1168		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	286	121	429	593
Volume Left	220	55	44	11
Volume Right	44	11	22	253
cSH	200	211	987	1168
Volume to Capacity	1.43	0.57	0.04	0.01
Queue Length 95th (ft)	426	79	3	1
Control Delay (s)	264.6	42.8	1.4	0.3
Lane LOS	F	E	A	A
Approach Delay (s)	264.6	42.8	1.4	0.3
Approach LOS	F	E		

Intersection Summary				
Average Delay	57.1			
Intersection Capacity Utilization	68.9%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	310	430	1390	180	1640
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	430	1390	150	180	1640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	337	467	1674	0	196	1783
v/c Ratio	0.87	0.86	0.95		0.83	0.74
Control Delay	66.9	36.2	29.2		75.3	13.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	66.9	36.2	29.2		75.3	13.3
Queue Length 50th (ft)	251	169	~681		159	318
Queue Length 95th (ft)	347	299	m#863		m#247	371
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	467	603	1768		247	2408
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.72	0.77	0.95		0.79	0.74

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	430	1390	150	180	1640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3454		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3454		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	467	1511	163	196	1783
RTOR Reduction (vph)	0	196	6	0	0	0
Lane Group Flow (vph)	337	271	1668	0	196	1783
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	26.6	26.6	61.2		16.2	82.4
Effective Green, g (s)	26.6	26.6	61.2		16.2	82.4
Actuated g/C Ratio	0.22	0.22	0.51		0.13	0.69
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	388	348	1762		237	2407
v/s Ratio Prot	c0.19		c0.48		0.11	c0.51
v/s Ratio Perm		0.17				
v/c Ratio	0.87	0.78	0.95		0.83	0.74
Uniform Delay, d1	45.0	43.9	27.8		50.5	12.0
Progression Factor	1.00	1.00	0.56		1.07	0.89
Incremental Delay, d2	17.7	9.6	11.1		15.2	1.6
Delay (s)	62.7	53.5	26.8		69.2	12.2
Level of Service	E	D	C		E	B
Approach Delay (s)	57.4		26.8			17.9
Approach LOS	E		C			B

Intersection Summary				
HCM Average Control Delay	28.4	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	83.7%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	180	400	160	300	180
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	137	247	548	219	411	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1849	534	658			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1849	534	658			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	55	41			
cM capacity (veh/h)	33	544	925			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	384	767	658
Volume Left	137	548	0
Volume Right	247	0	247
cSH	84	925	1700
Volume to Capacity	4.59	0.59	0.39
Queue Length 95th (ft)	Err	100	0
Control Delay (s)	Err	13.1	0.0
Lane LOS	F	B	
Approach Delay (s)	Err	13.1	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	2126.5		
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1210	420	1730	360	2210	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1210	420	0	1730	380	360	2210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1315	457	0	2293	0	391	2402
v/c Ratio	3.46	0.15		1.35		0.74	1.88
Control Delay	1124.0	8.8		185.3		47.4	418.2
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	1124.0	8.8		185.3		47.4	418.2
Queue Length 50th (ft)	~1859	57		~848		272	~1415
Queue Length 95th (ft)	m#1951	m50		#913		390	#1562
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	380	3022		1703		531	1280
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	3.46	0.15		1.35		0.74	1.88

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1210	420	0	1730	380	360	2210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.97		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4900		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4900		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1315	457	0	1880	413	391	2402
RTOR Reduction (vph)	0	0	0	29	0	0	456
Lane Group Flow (vph)	1315	457	0	2264	0	391	1946
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	380	3022		1674		531	825
v/s Ratio Prot	c0.75	0.09		c0.46		0.22	
v/s Ratio Perm							c0.71
v/c Ratio	3.46	0.15		1.35		0.74	2.36
Uniform Delay, d1	47.0	10.6		39.5		37.7	42.0
Progression Factor	0.51	0.82		0.69		1.00	1.00
Incremental Delay, d2	1109.7	0.0		162.0		4.6	615.4
Delay (s)	1133.5	8.7		189.1		42.3	657.4
Level of Service	F	A		F		D	F
Approach Delay (s)		843.4		189.1		571.3	
Approach LOS		F		F		F	

Intersection Summary				
HCM Average Control Delay	513.8	HCM Level of Service	F
HCM Volume to Capacity ratio	2.24		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	143.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1040	850	2660	410	670
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1040	250	850	2660	410	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1372	0	904	2830	436	713
v/c Ratio	0.15	1.01		1.26	0.80	0.71	0.82
Control Delay	58.5	65.6		149.3	12.4	35.7	21.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	58.5	65.6		149.3	12.4	35.7	21.4
Queue Length 50th (ft)	8	~296		~900	356	96	421
Queue Length 95th (ft)	m25	m#429		m307	m230	m75	m226
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1354		715	3545	765	905
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	1.01		1.26	0.80	0.57	0.79

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1040	250	850	2660	410	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4889		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4889		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1106	266	904	2830	436	713
RTOR Reduction (vph)	0	33	0	0	0	0	585
Lane Group Flow (vph)	11	1339	0	904	2830	436	128
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	28.5		53.0	80.5	21.5	21.5
Effective Green, g (s)	1.0	28.5		53.0	80.5	21.5	21.5
Actuated g/C Ratio	0.01	0.24		0.44	0.67	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1161		774	3378	609	281
v/s Ratio Prot	0.01	c0.27		c0.52	0.56	c0.13	
v/s Ratio Perm							0.08
v/c Ratio	0.73	1.15		1.17	0.84	0.72	0.45
Uniform Delay, d1	59.4	45.8		33.5	14.8	46.4	44.0
Progression Factor	0.98	0.90		0.87	0.88	0.70	5.12
Incremental Delay, d2	87.0	78.4		77.0	0.2	1.6	0.2
Delay (s)	145.3	119.8		106.3	13.2	34.2	225.5
Level of Service	F	F		F	B	C	F
Approach Delay (s)		120.0			35.8	152.9	
Approach LOS		F			D	F	

Intersection Summary

HCM Average Control Delay	75.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	310	120	240	1020	10	2170
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	310	120	240	1020	10	2170	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	344	133	267	1133	11	3300	0
v/c Ratio	1.00	0.48	0.96	0.28	0.18	1.10	
Control Delay	103.4	14.5	91.9	3.7	61.0	65.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	103.4	14.5	91.9	3.7	61.0	65.5	
Queue Length 50th (ft)	~140	0	218	61	9	~617	
Queue Length 95th (ft)	#239	60	#385	102	m13	#1120	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	278	277	3995	60	2996	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.00	0.48	0.96	0.28	0.18	1.10	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	310	120	240	1020	10	2170	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4832	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4832	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	344	133	267	1133	11	2411	889
RTOR Reduction (vph)	0	120	0	0	0	55	0
Lane Group Flow (vph)	344	13	267	1133	11	3245	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Effective Green, g (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Actuated g/C Ratio	0.10	0.10	0.16	0.76	0.01	0.61	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	277	3827	12	2939	
v/s Ratio Prot	c0.10		c0.15	0.22	0.01	c0.67	
v/s Ratio Perm		0.01					
v/c Ratio	1.00	0.08	0.96	0.30	0.92	1.10	
Uniform Delay, d1	54.0	49.0	50.2	4.5	59.6	23.5	
Progression Factor	1.00	1.00	1.03	1.00	1.00	0.59	
Incremental Delay, d2	49.3	0.1	38.1	0.2	163.1	50.6	
Delay (s)	103.3	49.1	89.9	4.6	222.6	64.4	
Level of Service	F	D	F	A	F	E	
Approach Delay (s)	88.2			20.9		64.9	
Approach LOS	F			C		E	

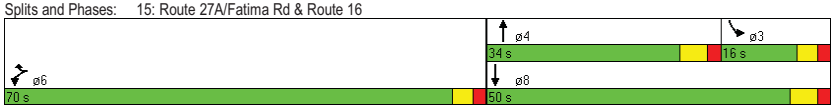
Intersection Summary				
HCM Average Control Delay	55.2	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.07			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	95.3%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	670	280	940	80	1220
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	670	280	940	220	80	1220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	798	333	1381	0	95	1452
v/c Ratio	0.90	0.35	1.02		0.59	0.71
Control Delay	35.9	1.9	55.2		42.4	17.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	35.9	1.9	55.2		42.4	17.4
Queue Length 50th (ft)	557	7	~435		67	234
Queue Length 95th (ft)	631	6	m#462		m69	m205
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	989	1359		161	2039
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.83	0.34	1.02		0.59	0.71

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	670	280	940	220	80	1220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4893		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4893		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	798	333	1119	262	95	1452
RTOR Reduction (vph)	0	143	31	0	0	0
Lane Group Flow (vph)	798	190	1350	0	95	1452
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	60.4	60.4	32.6		11.0	48.6
Effective Green, g (s)	60.4	60.4	32.6		11.0	48.6
Actuated g/C Ratio	0.50	0.50	0.27		0.09	0.41
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	891	797	1329		161	2040
v/s Ratio Prot	c0.45	0.12	c0.28		0.05	c0.29
v/s Ratio Perm						
v/c Ratio	0.90	0.24	1.02		0.59	0.71
Uniform Delay, d1	26.9	16.8	43.7		52.3	29.8
Progression Factor	0.84	0.31	0.72		0.68	0.54
Incremental Delay, d2	11.0	0.1	22.7		1.5	0.8
Delay (s)	33.7	5.3	54.1		37.3	16.8
Level of Service	C	A	D		D	B
Approach Delay (s)	25.3		54.1			18.1
Approach LOS	C		D			B

Intersection Summary

HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		

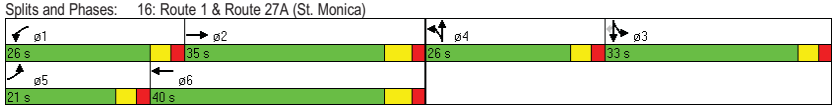
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	150	580	160	1120	140	130	30	240	460
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	580	110	160	1120	10	140	130	120	30	240	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	758	0	176	1242	0	154	275	0	33	264	505
v/c Ratio	0.79	0.43		0.75	0.68		0.54	0.90		0.10	0.79	0.85
Control Delay	86.4	12.0		86.2	24.3		66.5	80.7		39.3	63.3	26.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	86.4	12.0		86.2	24.3		66.5	80.7		39.3	63.3	26.3
Queue Length 50th (ft)	107	113		145	143		125	202		22	196	97
Queue Length 95th (ft)	m#198	151		m213	m261		m151	m236		48	275	232
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	234	1744		307	1840		310	331		413	435	658
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.71	0.43		0.57	0.68		0.50	0.83		0.08	0.61	0.77

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	580	110	160	1120	10	140	130	120	30	240	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4915		1752	5029		1770	1729		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4915		1752	5029		1770	1729		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	165	637	121	176	1231	11	154	143	132	33	264	505
RTOR Reduction (vph)	0	19	0	0	1	0	0	29	0	0	0	309
Lane Group Flow (vph)	165	739	0	176	1241	0	154	246	0	33	264	196
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	14.3	42.1		16.0	43.8		19.3	19.3		21.6	21.6	21.6
Effective Green, g (s)	14.3	42.1		16.0	43.8		19.3	19.3		21.6	21.6	21.6
Actuated g/C Ratio	0.12	0.35		0.13	0.36		0.16	0.16		0.18	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	209	1724		234	1836		285	278		319	335	285
v/s Ratio Prot	0.09	0.15		c0.10	c0.25		0.09	c0.14		0.02	c0.14	
v/s Ratio Perm												0.12
v/c Ratio	0.79	0.43		0.75	0.68		0.54	0.89		0.10	0.79	0.69
Uniform Delay, d1	51.4	29.8		50.1	32.1		46.3	49.3		41.1	47.0	46.0
Progression Factor	1.21	0.36		1.41	0.66		1.34	1.38		1.00	1.00	1.00
Incremental Delay, d2	15.6	0.7		9.3	1.6		0.7	18.6		0.1	10.8	5.4
Delay (s)	77.9	11.6		80.1	22.8		62.7	86.5		41.2	57.8	51.4
Level of Service	E	B		F	C		E	F		D	E	D
Approach Delay (s)		23.4			29.9			78.0			53.1	
Approach LOS		C			C			E			D	

Intersection Summary				
HCM Average Control Delay	39.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0	
Intersection Capacity Utilization	71.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	40	150	30	30	20	60	350	20	20	250	130
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	102	45	170	34	34	23	68	398	23	23	284	148

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	102	216	91	68	420	307	148
Volume Left (vph)	102	0	34	68	0	23	0
Volume Right (vph)	0	170	23	0	23	0	148
Hadj (s)	0.53	-0.52	-0.04	0.53	0.00	0.07	-0.67
Departure Headway (s)	7.9	6.8	7.7	7.2	6.7	6.8	6.1
Degree Utilization, x	0.22	0.41	0.20	0.14	0.78	0.58	0.25
Capacity (veh/h)	429	487	418	480	526	502	564
Control Delay (s)	11.9	13.2	12.6	10.1	28.0	17.7	9.9
Approach Delay (s)	12.8		12.6	25.5		15.2	
Approach LOS	B		B	D		C	

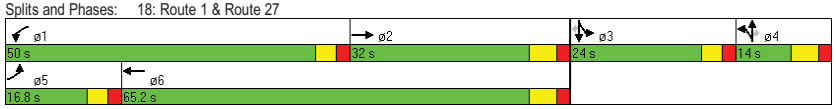
Intersection Summary				
Delay	18.2			
HCM Level of Service	C			
Intersection Capacity Utilization	63.0%	ICU Level of Service		B
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	70	740	870	1350	130	150	840	310	50
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	740	90	870	1350	30	130	150	840	50	310	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	902	0	946	1500	0	141	163	913	0	391	54
v/c Ratio	0.57	0.83		1.44	0.56		1.19	1.31	0.88		1.33	0.21
Control Delay	89.5	39.6		234.9	13.7		140.6	188.2	14.8		211.6	36.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	89.5	39.6		234.9	13.7		140.6	188.2	14.8		211.6	36.0
Queue Length 50th (ft)	62	240		~994	201		~134	~166	125		~394	26
Queue Length 95th (ft)	m109	298		m#1176	m248		m#152	m#184	m88		#589	65
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	172	1084		657	2675		118	124	1035		293	260
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.44	0.83		1.44	0.56		1.19	1.31	0.88		1.33	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	740	90	870	1350	30	130	150	840	50	310	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4946		1752	5019		1770	1863	2745		1850	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4946		1752	5019		1770	1863	2745		1850	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	804	98	946	1467	33	141	163	913	54	337	54
RTOR Reduction (vph)	0	13	0	0	2	0	0	0	852	0	0	13
Lane Group Flow (vph)	76	889	0	946	1498	0	141	163	61	0	391	41
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.07	0.22		0.38	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	118	1072		657	2631		118	124	183		293	247
v/s Ratio Prot	0.04	c0.18		c0.54	0.30		0.08	c0.09			c0.21	
v/s Ratio Perm									0.02			0.03
v/c Ratio	0.64	0.83		1.44	0.57		1.19	1.31	0.33		1.33	0.17
Uniform Delay, d1	54.5	44.9		37.5	19.4		56.0	56.0	53.5		50.5	43.7
Progression Factor	1.40	0.73		0.98	0.67		0.93	0.93	4.90		1.00	1.00
Incremental Delay, d2	8.1	7.0		204.5	0.7		95.4	146.8	0.0		172.0	0.1
Delay (s)	84.7	39.9		241.2	13.6		147.6	199.1	261.9		222.5	43.8
Level of Service	F	D		F	B		F	F	F		F	D
Approach Delay (s)		43.4			101.6			240.3			200.8	
Approach LOS		D			F			F			F	

Intersection Summary				
HCM Average Control Delay	132.3	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.25			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	115.3%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1120	660	1780	580	580
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1120	490	660	1780	580	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1712	0	702	1894	617	617
v/c Ratio	0.18	1.20		1.02	0.53	1.03	0.78
Control Delay	78.3	119.2		41.8	2.5	92.3	11.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	78.3	119.2		41.8	2.5	92.3	11.6
Queue Length 50th (ft)	9	~543		~585	56	~262	0
Queue Length 95th (ft)	m9	m#631		m#557	m59	#379	124
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1427		686	3575	601	786
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.18	1.20		1.02	0.53	1.03	0.78

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1120	490	660	1780	580	580
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.95		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4806		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4806		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1191	521	702	1894	617	617
RTOR Reduction (vph)	0	69	0	0	0	0	509
Lane Group Flow (vph)	11	1643	0	702	1894	617	108
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	30.0		51.0	81.2	21.0	21.0
Effective Green, g (s)	0.8	30.0		51.0	81.2	21.0	21.0
Actuated g/C Ratio	0.01	0.25		0.42	0.68	0.18	0.18
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1202		745	3408	601	277
v/s Ratio Prot	0.01	c0.34		c0.40	0.38	c0.18	
v/s Ratio Perm							0.07
v/c Ratio	0.92	1.37		0.94	0.56	1.03	0.39
Uniform Delay, d1	59.6	45.0		33.1	10.1	49.5	43.8
Progression Factor	1.32	0.63		0.63	0.28	1.00	1.00
Incremental Delay, d2	136.8	167.6		2.9	0.1	43.7	0.3
Delay (s)	215.6	196.1		23.6	2.9	93.2	44.2
Level of Service	F	F		C	A	F	D
Approach Delay (s)		196.2			8.5	68.7	
Approach LOS		F			A	E	

Intersection Summary

HCM Average Control Delay	80.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	340	1240	20	1980	50	10	30	400
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	1240	0	20	1980	120	50	50	10	170	30	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	358	1305	0	21	2210	0	0	106	11	0	211	421
v/c Ratio	1.82	0.47		0.24	1.01			0.81	0.09		0.99	1.15
Control Delay	402.8	5.4		65.8	42.4			95.0	26.6		110.4	119.0
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	402.8	5.4		65.8	42.4			95.0	26.6		110.4	119.0
Queue Length 50th (ft)	~428	65		17	~557			82	0		165	~239
Queue Length 95th (ft)	m#421	m63		m23	#751			#179	19		#324	#442
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2780		92	2192			136	129		214	366
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.82	0.47		0.23	1.01			0.78	0.09		0.99	1.15

Intersection Summary

Area Type: CBD
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	1240	0	20	1980	120	50	50	10	170	30	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4494			1636	1425		1608	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4494			1636	1425		1608	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	358	1305	0	21	2084	126	53	53	11	179	32	421
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	10	0	0	176
Lane Group Flow (vph)	358	1305	0	21	2204	0	0	106	1	0	211	245
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	197	2666		37	2187			131	114		214	190
v/s Ratio Prot	c0.23	0.29		0.01	c0.49			c0.06			0.13	
v/s Ratio Perm									0.00			c0.17
v/c Ratio	1.82	0.49		0.57	1.01			0.81	0.01		0.99	1.29
Uniform Delay, d1	52.5	14.3		58.0	30.8			54.3	50.8		51.9	52.0
Progression Factor	1.16	0.40		1.12	0.76			1.00	1.00		1.00	1.00
Incremental Delay, d2	369.6	0.1		8.1	18.1			28.1	0.0		56.9	164.0
Delay (s)	430.4	5.7		73.1	41.6			82.4	50.8		108.8	216.0
Level of Service	F	A		E	D			F	D		F	F
Approach Delay (s)		97.1			41.9			79.4			180.2	
Approach LOS		F			D			E			F	

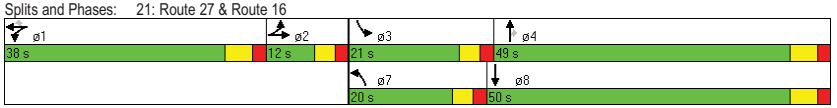
Intersection Summary				
HCM Average Control Delay	81.4	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.16			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	98.6%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	140	350	740	760	270	620	820	600	190	1360
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	350	330	740	760	270	620	820	600	190	1360	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		3085			2934			862			2992	
Travel Time (s)		70.1			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	161	781	0	851	874	310	713	943	690	218	1735	0
v/c Ratio	1.56	2.34		0.93	1.76	0.58	3.26	0.75	0.69	0.94	0.95	
Control Delay	323.1	628.8		45.3	371.4	14.9	1044.5	38.3	6.4	88.0	43.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	323.1	628.8		45.3	371.4	14.9	1044.5	38.3	6.4	88.0	43.1	
Queue Length 50th (ft)	~177	~460		348	~1029	100	~973	334	4	173	331	
Queue Length 95th (ft)	#302	#561		m300	m#837	m81	#1161	394	68	m#283	#402	
Internal Link Dist (ft)		3005			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	334		915	497	539	219	1259	1000	234	1830	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.56	2.34		0.93	1.76	0.58	3.26	0.75	0.69	0.93	0.95	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	350	330	740	760	270	620	820	600	190	1360	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3282		3433	1863	1583	1752	3505	1568	1752	4961	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3282		3433	1863	1583	1752	3505	1568	1752	4961	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	161	402	379	851	874	310	713	943	690	218	1563	172
RTOR Reduction (vph)	0	142	0	0	0	117	0	0	437	0	11	0
Lane Group Flow (vph)	161	639	0	851	874	193	713	943	253	218	1724	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.1	43.1	15.9	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.1	43.1	15.9	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.36	0.36	0.13	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	191		915	497	422	219	1259	563	232	1819	
v/s Ratio Prot	0.09	c0.19		0.25	c0.47		c0.41	0.27		0.12	c0.35	
v/s Ratio Perm						0.12			0.16			
v/c Ratio	1.56	3.34		0.93	1.76	0.46	3.26	0.75	0.45	0.94	0.95	
Uniform Delay, d1	56.5	56.5		42.9	44.0	36.7	52.5	33.7	29.4	51.6	36.9	
Progression Factor	0.78	0.63		0.86	0.87	0.73	1.00	1.00	1.00	1.05	0.94	
Incremental Delay, d2	291.0	1066.9		6.8	344.3	0.1	1026.8	4.1	2.6	31.2	8.4	
Delay (s)	334.9	1102.5		43.9	382.6	27.0	1079.3	37.8	32.0	85.3	43.1	
Level of Service	F	F		D	F	C	F	D	C	F	D	
Approach Delay (s)		971.3			186.8			352.6			47.8	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	304.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	130.1%	ICU Level of Service	H
Analysis Period (min)	15		

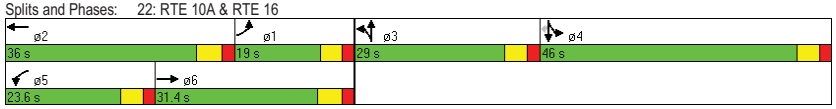
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	530	270	270	100	1010	760	20	10	990
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	15.5	15.5	15.5	15.5
Total Split (s)	19.0	31.4	0.0	23.6	36.0	29.0	29.0	46.0	46.0
Total Split (%)	14.6%	24.2%	0.0%	18.2%	27.7%	22.3%	22.3%	35.4%	35.4%
Maximum Green (s)	13.5	25.4		18.1	30.0	23.5	23.5	40.5	40.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Minimum Gap (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		5			5	5	5	5	5

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 131
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	530	270	270	100	1010	30	760	20	40	20	10	990
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1270			779			868			1242	
Travel Time (s)		24.7			15.2			16.9			24.2	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							46%					
Lane Group Flow (vph)	654	333	333	123	1284	0	507	505	0	0	37	1222
v/c Ratio	1.81	0.42	0.21	0.63	1.59		1.65	1.64			0.07	1.89
Control Delay	405.7	46.3	0.3	70.0	304.2		340.3	335.1			33.0	430.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	405.7	46.3	0.3	70.0	304.2		340.3	335.1			33.0	430.3
Queue Length 50th (ft)	~429	127	0	100	~813		~656	~654			22	~1442
Queue Length 95th (ft)	#482	165	0	151	#863		#764	#765			46	#1527
Internal Link Dist (ft)		1190			699			788			1162	
Turn Bay Length (ft)	350		450	350								
Base Capacity (vph)	362	793	1583	244	809		307	308			552	646
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.81	0.42	0.21	0.50	1.59		1.65	1.64			0.07	1.89

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	530	270	270	100	1010	30	760	20	40	20	10	990
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.97	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3524		1665	1656			1784	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96			0.97	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3524		1665	1656			1784	1568
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	654	333	333	123	1247	37	938	25	49	25	12	1222
RTOR Reduction (vph)	0	0	0	0	2	0	0	3	0	0	0	161
Lane Group Flow (vph)	654	333	333	123	1282	0	507	502	0	0	37	1061
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Effective Green, g (s)	13.9	29.4	131.1	14.5	30.0		24.2	24.2			40.5	40.5
Actuated g/C Ratio	0.11	0.22	1.00	0.11	0.23		0.18	0.18			0.31	0.31
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	3.5	4.0		3.5	4.0		3.5	3.5			3.5	3.5
Lane Grp Cap (vph)	364	794	1583	196	806		307	306			551	484
v/s Ratio Prot	c0.19	0.09		0.07	c0.36		c0.30	0.30			0.02	
v/s Ratio Perm			0.21									c0.68
v/c Ratio	1.80	0.42	0.21	0.63	1.59		1.65	1.64			0.07	2.19
Uniform Delay, d1	58.6	43.5	0.0	55.7	50.5		53.4	53.4			32.0	45.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	369.3	0.5	0.3	6.4	271.9		307.3	302.2			0.1	543.2
Delay (s)	427.9	44.0	0.3	62.2	322.4		360.8	355.7			32.0	588.5
Level of Service	F	D	A	E	F		F	F			C	F
Approach Delay (s)		223.2			299.7			358.2			572.1	
Approach LOS		F			F			F			F	

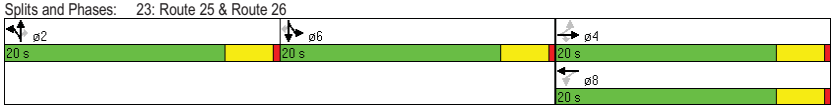
Intersection Summary				
HCM Average Control Delay	360.0	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.85			
Actuated Cycle Length (s)	131.1	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	127.1%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	220	10	150	10	10	440	510	10	20	510	500
Turn Type	Perm		Perm	Perm		Split		Perm	Split		Perm
Protected Phases		4			8	2	2		6	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 58
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	10	150	10	10	70	440	510	10	20	510	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		636			405			396			486	
Travel Time (s)		12.4			7.9			7.7			9.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	261	170	0	102	0	500	580	11	23	580	568
v/c Ratio		0.80	0.33		0.23		1.02	1.13	0.02	0.05	1.13	0.67
Control Delay		40.4	5.5		8.2		72.6	104.5	11.5	16.8	104.5	6.7
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		40.4	5.5		8.2		72.6	104.5	11.5	16.8	104.5	6.7
Queue Length 50th (ft)		85	0		6		~206	~258	1	6	~258	1
Queue Length 95th (ft)		#178	36		35		#354	#415	11	20	#415	62
Internal Link Dist (ft)		556			325			316			406	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		379	561		499		489	515	443	489	515	845
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.69	0.30		0.20		1.02	1.13	0.02	0.05	1.13	0.67

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	10	150	10	10	70	440	510	10	20	510	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.89		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1778	1583		1657		1770	1863	1583	1770	1863	1583
Flt Permitted		0.73	1.00		0.96		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1369	1583		1594		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	250	11	170	11	11	80	500	580	11	23	580	568
RTOR Reduction (vph)	0	0	129	0	61	0	0	0	6	0	0	407
Lane Group Flow (vph)	0	261	41	0	41	0	500	580	5	23	580	161
Turn Type	Perm		Perm	Perm			Split		Perm	Split		Perm
Protected Phases		4			8		2	2		6	6	
Permitted Phases	4		4	8					2			6
Actuated Green, G (s)		13.9	13.9		13.9		16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)		13.9	13.9		13.9		16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio		0.24	0.24		0.24		0.28	0.28	0.28	0.28	0.28	0.28
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		329	380		383		489	515	437	489	515	437
v/s Ratio Prot							0.28	c0.31		0.01	c0.31	
v/s Ratio Perm		c0.19	0.03		0.03				0.00			0.10
v/c Ratio		0.79	0.11		0.11		1.02	1.13	0.01	0.05	1.13	0.37
Uniform Delay, d1		20.7	17.2		17.2		20.9	20.9	15.2	15.4	20.9	16.9
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		11.6	0.0		0.0		46.5	79.2	0.0	0.2	79.2	2.4
Delay (s)		32.2	17.2		17.2		67.5	100.1	15.3	15.5	100.1	19.2
Level of Service		C	B		B		E	F	B	B	F	B
Approach Delay (s)		26.3			17.2			84.3			59.2	
Approach LOS		C			B			F			E	

Intersection Summary			
HCM Average Control Delay	62.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	260	10	340	10	10	10	260	600	10	20	420	280
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	302	12	395	12	12	12	302	698	12	23	488	326
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1855	1849	488	1843	1837	698	488			709		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1855	1849	488	1843	1837	698	488			709		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	78	32	1	78	97	72			97		
cM capacity (veh/h)	35	52	579	12	53	441	1070			885		

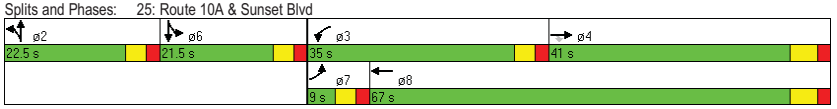
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	302	407	35	302	698	12	23	488	326
Volume Left	302	0	12	302	0	0	23	0	0
Volume Right	0	395	12	0	0	12	0	0	326
cSH	35	597	28	1070	1700	1700	885	1700	1700
Volume to Capacity	8.53	0.68	1.24	0.28	0.41	0.01	0.03	0.29	0.19
Queue Length 95th (ft)	Err	132	101	29	0	0	2	0	0
Control Delay (s)	Err	25.5	457.3	9.7	0.0	0.0	9.2	0.0	0.0
Lane LOS	F	D	F	A			A		
Approach Delay (s)	4276.5		457.3	2.9			0.3		
Approach LOS	F		F						

Intersection Summary					
Average Delay	1177.2				
Intersection Capacity Utilization	67.6%	ICU Level of Service		C	
Analysis Period (min)	15				

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	730	10	360	2150	30	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	41.0	41.0	35.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	34.2%	34.2%	29.2%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	35.0	35.0	30.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 105.1
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	730	10	360	2150	50	30	10	280	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		180	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1155			892			650			525	
Travel Time (s)		26.3			20.3			14.8			11.9	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	880	12	434	2650	0	36	349	0	0	48	0
v/c Ratio	0.18	0.80	0.02	0.88	0.84		0.12	0.64			0.38	
Control Delay	58.4	40.7	13.3	58.5	20.6		41.5	11.4			48.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	58.4	40.7	13.3	58.5	20.6		41.5	11.4			48.2	
Queue Length 50th (ft)	8	296	0	288	482		22	7			24	
Queue Length 95th (ft)	27	348	13	#435	626		50	64			58	
Internal Link Dist (ft)		1075			812			570			445	
Turn Bay Length (ft)	180		180	420								
Base Capacity (vph)	68	1187	539	509	3143		297	548			288	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.18	0.74	0.02	0.85	0.84		0.12	0.64			0.17	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	730	10	360	2150	50	30	10	280	20	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	3539	1583	1770	5068		1770	1593			1756	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	1770	3539	1583	1770	5068		1770	1593			1756	
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	12	880	12	434	2590	60	36	12	337	24	12	12
RTOR Reduction (vph)	0	0	8	0	2	0	0	283	0	0	11	0
Lane Group Flow (vph)	12	880	4	434	2648	0	36	66	0	0	37	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.7	36.6	36.6	29.2	65.1		17.6	17.6			5.7	
Effective Green, g (s)	0.7	36.6	36.6	29.2	65.1		17.6	17.6			5.7	
Actuated g/C Ratio	0.01	0.33	0.33	0.27	0.59		0.16	0.16			0.05	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	11	1176	526	469	2997		283	255			91	
v/s Ratio Prot	0.01	0.25		c0.25	c0.52		0.02	c0.04			c0.02	
v/s Ratio Perm			0.00									
v/c Ratio	1.09	0.75	0.01	0.93	0.88		0.13	0.26			0.40	
Uniform Delay, d1	54.7	32.7	24.6	39.4	19.3		39.7	40.5			50.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	304.6	2.3	0.0	23.8	3.4		0.9	2.4			1.1	
Delay (s)	359.3	35.0	24.6	63.2	22.6		40.6	43.0			51.6	
Level of Service	F	C	C	E	C		D	D			D	
Approach Delay (s)		39.1			28.3			42.7			51.6	
Approach LOS		D			C			D			D	

Intersection Summary					
HCM Average Control Delay	32.1	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.72				
Actuated Cycle Length (s)	110.1	Sum of lost time (s)		15.0	
Intersection Capacity Utilization	78.9%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	250	1220	140	1780	130	40	100	390	30	150
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	39.0	12.0	33.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	24.0	63.0	22.0	61.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (%)	20.0%	52.5%	18.3%	50.8%	12.5%	12.5%	12.5%	16.7%	16.7%	16.7%
Maximum Green (s)	19.0	57.0	17.0	55.0	10.0	10.0	10.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1220	280	140	1780	430	130	40	100	390	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	150		150	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3056			1501			676			669	
Travel Time (s)		59.5			29.2			18.4			18.2	
Confl. Peds. (#/hr)						1			160			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							35%			46%		
Lane Group Flow (vph)	272	1630	0	152	2402	0	92	92	109	229	228	163
v/c Ratio	0.98	0.65		0.75	1.04		0.72	0.70	0.55	1.09	1.08	0.48
Control Delay	63.2	17.4		70.0	44.7		83.4	80.7	20.7	137.3	132.8	12.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	17.4		70.0	44.7		83.4	80.7	20.7	137.3	132.8	12.3
Queue Length 50th (ft)	221	207		122	~723		73	73	0	~210	~207	0
Queue Length 95th (ft)	m187	m177		m134	#817		#152	#149	57	#380	#376	63
Internal Link Dist (ft)		2976			1421			596			589	
Turn Bay Length (ft)	630			350			150		150	360		250
Base Capacity (vph)	277	2512		248	2303		140	144	206	210	212	341
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.65		0.61	1.04		0.66	0.64	0.53	1.09	1.08	0.48

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

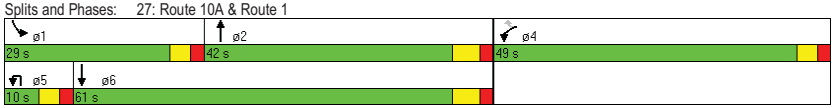
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1220	280	140	1780	430	130	40	100	390	30	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.81	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4895		1752	4876		1681	1724	1276	1681	1697	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4895		1752	4876		1681	1724	1276	1681	1697	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	1326	304	152	1935	467	141	43	109	424	33	163
RTOR Reduction (vph)	0	29	0	0	34	0	0	0	101	0	0	143
Lane Group Flow (vph)	272	1601	0	152	2368	0	92	92	8	229	228	20
Confl. Peds. (#/hr)						1			160			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	19.0	60.8		14.0	55.8		9.2	9.2	9.2	15.0	15.0	15.0
Effective Green, g (s)	19.0	60.8		14.0	55.8		9.2	9.2	9.2	15.0	15.0	15.0
Actuated g/C Ratio	0.16	0.51		0.12	0.46		0.08	0.08	0.08	0.12	0.12	0.12
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	277	2480		204	2267		129	132	98	210	212	198
v/s Ratio Prot	c0.16	c0.33		0.09	c0.49		c0.05	0.05		c0.14	0.13	
v/s Ratio Perm									0.01			0.01
v/c Ratio	0.98	0.65		0.75	1.04		0.71	0.70	0.09	1.09	1.08	0.10
Uniform Delay, d1	50.3	21.7		51.3	32.1		54.1	54.0	51.5	52.5	52.5	46.5
Progression Factor	1.00	0.80		1.18	0.56		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	0.1		5.4	26.1		14.4	12.2	0.1	88.3	83.3	0.1
Delay (s)	62.4	17.4		65.8	43.9		68.5	66.2	51.6	140.8	135.8	46.6
Level of Service	E	B		E	D		E	E	D	F	F	D
Approach Delay (s)		23.9			45.2			61.5			114.2	
Approach LOS		C			D			E			F	

Intersection Summary				
HCM Average Control Delay	46.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0	
Intersection Capacity Utilization	97.0%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	1170	740	20	1210	340	1640
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	35.0	35.0	9.0	33.0	12.0	22.0
Total Split (s)	49.0	49.0	10.0	42.0	29.0	61.0
Total Split (%)	40.8%	40.8%	8.3%	35.0%	24.2%	50.8%
Maximum Green (s)	44.0	44.0	5.0	36.0	24.0	55.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		5		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 76 (63%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1170	740	20	1210	480	340	1640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1896			1896			3056
Travel Time (s)	36.9			36.9			59.5
Confl. Peds. (#/hr)					11		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1315	831	22	1899	0	382	1843
v/c Ratio	1.04	1.01	0.30	1.27		1.09	0.74
Control Delay	75.2	56.2	71.4	149.6		102.7	8.8
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	75.2	56.2	71.4	149.6		102.7	8.8
Queue Length 50th (ft)	~569	~451	16	~365		~325	257
Queue Length 95th (ft)	#690	#709	m35	m#436		m#328	m244
Internal Link Dist (ft)	1816			1816			2976
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	1259	820	75	1494		350	2476
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.04	1.01	0.29	1.27		1.09	0.74

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	1170	740	20	1210	480	340	1640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00	0.96		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4785		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4785		1752	5036
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	1315	831	22	1360	539	382	1843
RTOR Reduction (vph)	0	239	0	60	0	0	0
Lane Group Flow (vph)	1315	592	22	1840	0	382	1843
Confl. Peds. (#/hr)					11		
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	44.0	44.0	3.0	36.0		24.0	57.0
Effective Green, g (s)	44.0	44.0	3.0	36.0		24.0	57.0
Actuated g/C Ratio	0.37	0.37	0.02	0.30		0.20	0.48
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	1259	580	45	1436		350	2392
v/s Ratio Prot	c0.38		0.01	c0.38		c0.22	0.37
v/s Ratio Perm		0.37					
v/c Ratio	1.04	1.02	0.49	1.28		1.09	0.77
Uniform Delay, d1	38.0	38.0	57.7	42.0		48.0	26.1
Progression Factor	1.00	1.00	1.12	0.53		1.10	0.32
Incremental Delay, d2	37.8	42.5	2.5	131.0		53.8	0.7
Delay (s)	75.8	80.5	67.1	153.4		106.7	9.1
Level of Service	E	F	E	F		F	A
Approach Delay (s)	77.6			152.4			25.9
Approach LOS	E			F			C

Intersection Summary

HCM Average Control Delay	82.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	280	1460	10	2140	360	220
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	20.0	20.0
Total Split (s)	24.0	81.0	9.0	66.0	30.0	30.0
Total Split (%)	20.0%	67.5%	7.5%	55.0%	25.0%	25.0%
Maximum Green (s)	19.0	75.0	4.0	60.0	25.0	25.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 90 (75%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	280	1460	10	2140	340	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2658		1896		2759	
Travel Time (s)		51.8		36.9		75.2	
Confl. Peds. (#/hr)					4		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	308	1604	11	2726	0	396	242
v/c Ratio	1.11	0.46	0.18	1.10		1.07	0.57
Control Delay	102.4	13.6	52.3	73.3		113.0	27.8
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	102.4	13.6	52.3	73.3		113.0	27.8
Queue Length 50th (ft)	~264	291	8	~873		~341	86
Queue Length 95th (ft)	m#325	m411	m10	m#890		#538	174
Internal Link Dist (ft)		2578		1816		2679	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	277	3450	60	2473		369	422
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.11	0.46	0.18	1.10		1.07	0.57

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

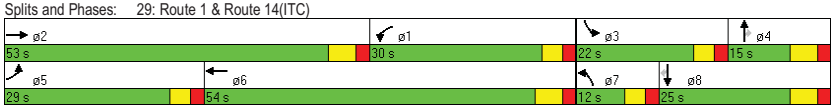
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	280	1460	10	2140	340	360	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4911		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4911		1770	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	308	1604	11	2352	374	396	242
RTOR Reduction (vph)	0	0	0	18	0	0	92
Lane Group Flow (vph)	308	1604	11	2708	0	396	150
Confl. Peds. (#/hr)					4		
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	19.0	78.2	0.8	60.0		25.0	25.0
Effective Green, g (s)	19.0	78.2	0.8	60.0		25.0	25.0
Actuated g/C Ratio	0.16	0.65	0.01	0.50		0.21	0.21
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	277	3282	12	2456		369	330
v/s Ratio Prot	c0.18	0.32	c0.01	c0.55		c0.22	0.09
v/s Ratio Perm							
v/c Ratio	1.11	0.49	0.92	1.10		1.07	0.46
Uniform Delay, d1	50.5	10.7	59.6	30.0		47.5	41.5
Progression Factor	0.70	1.47	0.86	0.76		1.00	1.00
Incremental Delay, d2	67.2	0.2	139.5	49.7		67.7	0.4
Delay (s)	102.3	15.8	190.9	72.6		115.2	41.9
Level of Service	F	B	F	E		F	D
Approach Delay (s)		29.8		73.1		87.4	
Approach LOS		C		E		F	

Intersection Summary				
HCM Average Control Delay	59.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	430	1130	190	1430	50	140	70	530	110	470
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	15.0	15.0	12.0	18.0	18.0
Total Split (s)	29.0	53.0	30.0	54.0	12.0	15.0	15.0	22.0	25.0	25.0
Total Split (%)	24.2%	44.2%	25.0%	45.0%	10.0%	12.5%	12.5%	18.3%	20.8%	20.8%
Maximum Green (s)	24.0	47.0	25.0	48.0	7.0	9.0	9.0	17.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1130	150	190	1430	600	50	140	70	530	110	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		2690			2658			634			1131	
Travel Time (s)		52.4			51.8			14.4			25.7	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	518	1542	0	229	2446	0	60	169	84	639	133	566
v/c Ratio	1.48	0.80		0.60	1.22		0.34	0.67	0.44	1.31	0.40	0.94
Control Delay	258.1	19.0		21.9	115.3		59.9	67.6	18.7	196.4	49.1	41.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	258.1	19.0		21.9	115.3		59.9	67.6	18.7	196.4	49.1	41.3
Queue Length 50th (ft)	~536	327		138	~824		23	67	0	~328	94	157
Queue Length 95th (ft)	#671	123		m131	m#702		42	97	42	#396	145	#307
Internal Link Dist (ft)		2610			2578			554			1051	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1952		379	2005		200	265	195	486	331	600
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.48	0.79		0.60	1.22		0.30	0.64	0.43	1.31	0.40	0.94

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1130	150	190	1430	600	50	140	70	530	110	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4947		1752	4813		3433	3539	1562	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4947		1752	4813		3433	3539	1562	3433	1863	1583
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	518	1361	181	229	1723	723	60	169	84	639	133	566
RTOR Reduction (vph)	0	14	0	0	64	0	0	0	77	0	0	319
Lane Group Flow (vph)	518	1528	0	229	2382	0	60	169	7	639	133	247
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	24.0	45.5		25.9	47.4		5.3	9.6	9.6	17.0	21.3	21.3
Effective Green, g (s)	24.0	45.5		25.9	47.4		5.3	9.6	9.6	17.0	21.3	21.3
Actuated g/C Ratio	0.20	0.38		0.22	0.39		0.04	0.08	0.08	0.14	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1876		378	1901		152	283	125	486	331	281
v/s Ratio Prot	c0.30	0.31		0.13	c0.50		0.02	0.05		c0.19	0.07	
v/s Ratio Perm									0.00			c0.16
v/c Ratio	1.48	0.81		0.61	1.25		0.39	0.60	0.05	1.31	0.40	0.88
Uniform Delay, d1	48.0	33.5		42.4	36.3		55.8	53.3	51.0	51.5	43.7	48.1
Progression Factor	0.78	0.50		0.49	0.30		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	227.8	3.2		0.2	114.4		0.6	2.3	0.1	155.7	0.3	24.5
Delay (s)	265.5	19.9		20.8	125.5		56.4	55.6	51.1	207.2	44.0	72.6
Level of Service	F	B		C	F		E	E	D	F	D	E
Approach Delay (s)		81.7			116.5			54.5			134.1	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	105.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	103.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	470	1580	60	1750	60	150	10	520
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	18.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	20.0	12.0	12.0	12.0
Total Split (s)	36.0	70.0	14.0	48.0	20.0	16.0	16.0	16.0
Total Split (%)	30.0%	58.3%	11.7%	40.0%	16.7%	13.3%	13.3%	13.3%
Maximum Green (s)	31.0	64.0	9.0	42.0	15.0	11.0	11.0	11.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	10	10	10

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 83 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1580	10	60	1750	100	20	60	10	150	10	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2690			238			2279	
Travel Time (s)		25.0			52.4			6.5			62.2	
Confl. Peds. (#/hr)												24
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										47%		
Lane Group Flow (vph)	553	1871	0	71	2177	0	0	107	0	93	95	612
v/c Ratio	1.22	0.63		0.61	1.13			0.63		0.60	0.61	1.04
Control Delay	148.5	14.2		61.8	79.7			66.3		69.5	70.0	59.6
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	148.5	14.2		61.8	79.7			66.3		69.5	70.0	59.6
Queue Length 50th (ft)	~521	379		58	~701			78		73	75	~138
Queue Length 95th (ft)	#683	405		m52	m#583			126		126	#130	#298
Internal Link Dist (ft)		1204			2610			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	453	2981		131	1921			230		154	155	588
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.22	0.63		0.54	1.13			0.47		0.60	0.61	1.04

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	1580	10	60	1750	100	20	60	10	150	10	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5031		1752	4995			1814		1681	1696	1503
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5031		1752	4995			1814		1681	1696	1503
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	553	1859	12	71	2059	118	24	71	12	176	12	612
RTOR Reduction (vph)	0	0	0	0	5	0	0	4	0	0	0	451
Lane Group Flow (vph)	553	1871	0	71	2172	0	0	103	0	93	95	161
Confl. Peds. (#/hr)												24
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	31.0	70.1		6.9	46.0			11.0		11.0	11.0	11.0
Effective Green, g (s)	31.0	70.1		6.9	46.0			11.0		11.0	11.0	11.0
Actuated g/C Ratio	0.26	0.58		0.06	0.38			0.09		0.09	0.09	0.09
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	453	2939		101	1915			166		154	155	138
v/s Ratio Prot	c0.32	0.37		0.04	c0.43			c0.06		0.06	0.06	
v/s Ratio Perm												c0.11
v/c Ratio	1.22	0.64		0.70	1.13			0.62		0.60	0.61	1.17
Uniform Delay, d1	44.5	16.5		55.5	37.0			52.5		52.4	52.5	54.5
Progression Factor	0.95	0.79		1.09	0.42			1.00		1.00	1.00	1.00
Incremental Delay, d2	111.2	0.6		1.6	61.1			5.1		4.5	5.0	129.5
Delay (s)	153.4	13.7		62.4	76.7			57.6		56.9	57.4	184.0
Level of Service	F	B		E	E			E		E	E	F
Approach Delay (s)		45.6			76.2			57.6			154.2	
Approach LOS		D			E			E			F	

Intersection Summary				
HCM Average Control Delay	73.7	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.11			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	90.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1370	140	1480	40	240	10	170	10	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	10.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Total Split (s)	12.0	62.0	22.0	72.0	72.0	21.0	21.0	21.0	15.0	15.0
Total Split (%)	10.0%	51.7%	18.3%	60.0%	60.0%	17.5%	17.5%	17.5%	12.5%	12.5%
Maximum Green (s)	7.0	56.0	17.0	66.0	66.0	16.0	16.0	16.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	C-Max	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		17.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 6 (Easterly Adelup) &

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1370	340	140	1480	40	240	10	170	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		722			5590			835			321	
Travel Time (s)		14.1			108.9			19.0			10.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	11	1839	0	151	1591	43	134	135	183	0	22	11
v/c Ratio	0.14	0.64		0.74	0.63	0.04	0.73	0.73	0.54		0.24	0.12
Control Delay	58.5	19.4		88.3	1.6	0.1	73.5	73.3	13.2		60.2	28.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	58.5	19.4		88.3	1.6	0.1	73.5	73.3	13.2		60.2	28.9
Queue Length 50th (ft)	8	355		109	0	0	106	107	0		17	0
Queue Length 95th (ft)	28	465		m145	0	m0	175	177	67		44	20
Internal Link Dist (ft)		642			5510			755			241	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	102	2870		248	2524	1140	224	226	370		152	142
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.11	0.64		0.61	0.63	0.04	0.60	0.60	0.49		0.14	0.08

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1370	340	140	1480	40	240	10	170	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (prot)	1752	4886		1752	3505	1568	1681	1692	1583		1817	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.98	1.00
Satd. Flow (perm)	1752	4886		1752	3505	1568	1681	1692	1583		1817	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	1473	366	151	1591	43	258	11	183	11	11	11
RTOR Reduction (vph)	0	29	0	0	0	13	0	0	163	0	0	11
Lane Group Flow (vph)	11	1810	0	151	1591	30	134	135	20	0	22	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Effective Green, g (s)	1.3	67.9		13.9	80.5	80.5	13.1	13.1	13.1		4.1	4.1
Actuated g/C Ratio	0.01	0.57		0.12	0.67	0.67	0.11	0.11	0.11		0.03	0.03
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	19	2765		203	2351	1052	184	185	173		62	54
v/s Ratio Prot	0.01	0.37		c0.09	c0.45		0.08	c0.08			c0.01	
v/s Ratio Perm						0.02			0.01			0.00
v/c Ratio	0.58	0.65		0.74	0.68	0.03	0.73	0.73	0.12		0.35	0.01
Uniform Delay, d1	59.1	18.0		51.3	11.9	6.6	51.7	51.7	48.2		56.7	56.0
Progression Factor	1.00	1.00		1.46	0.07	0.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	23.8	1.2		7.9	1.0	0.0	11.5	11.5	0.1		1.3	0.0
Delay (s)	82.9	19.2		82.6	1.8	0.1	63.2	63.3	48.3		57.9	56.0
Level of Service	F	B		F	A	A	E	E	D		E	E
Approach Delay (s)		19.6			8.6			57.2			57.3	
Approach LOS		B			A			E			E	

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

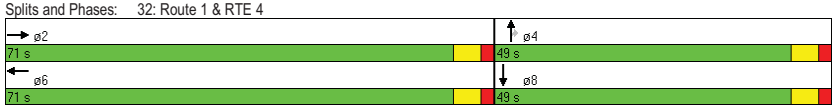
c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1460	2110	390	700	430
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	71.0	71.0	49.0	49.0	49.0
Total Split (%)	59.2%	59.2%	40.8%	40.8%	40.8%
Maximum Green (s)	65.0	65.0	43.0	43.0	43.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	14.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 33 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 32: Route 1 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1460	80	0	2110	10	0	390	700	0	430	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			489			921			385	
Travel Time (s)		7.7			9.5			17.9			7.5	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1656	0	0	2280	0	0	796	376	0	462	0
v/c Ratio		0.56			0.76			0.82	0.83		0.43	
Control Delay		3.3			10.1			18.4	23.1		33.9	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		3.3			10.1			18.4	23.1		33.9	
Queue Length 50th (ft)		28			286			113	100		149	
Queue Length 95th (ft)		46			471			m126	m125		183	
Internal Link Dist (ft)		313			409			841			305	
Turn Bay Length (ft)												
Base Capacity (vph)		2979			2997			1142	530		1268	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.56			0.76			0.70	0.71		0.36	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1460	80	0	2110	10	0	390	700	0	430	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		4997			5032			3149	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		4997			5032			3149	1441		3539	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1570	86	0	2269	11	0	419	753	0	462	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	15	15	0	0	0
Lane Group Flow (vph)	0	1652	0	0	2280	0	0	781	361	0	462	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		71.5			71.5			36.5	36.5		36.5	
Effective Green, g (s)		71.5			71.5			36.5	36.5		36.5	
Actuated g/C Ratio		0.60			0.60			0.30	0.30		0.30	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		2977			2998			958	438		1076	
v/s Ratio Prot		0.33			c0.45			0.25			0.13	
v/s Ratio Perm									c0.25			
v/c Ratio		0.55			0.76			0.82	0.83		0.43	
Uniform Delay, d1		14.6			17.9			38.6	38.8		33.4	
Progression Factor		0.18			0.46			0.35	0.32		1.00	
Incremental Delay, d2		0.6			1.4			3.6	8.1		0.1	
Delay (s)		3.2			9.5			17.2	20.6		33.5	
Level of Service		A			A			B	C		C	
Approach Delay (s)		3.2			9.5			18.3			33.5	
Approach LOS		A			A			B			C	

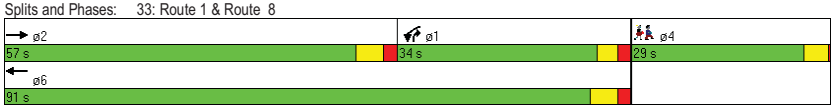
Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1630	440	2020	830	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	28.0	33.0	28.0	29.0
Total Split (s)	57.0	34.0	91.0	34.0	29.0
Total Split (%)	47.5%	28.3%	75.8%	28.3%	24%
Maximum Green (s)	51.0	29.0	85.0	29.0	25.0
Yellow Time (s)	4.0	3.0	4.0	3.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.0	6.0	5.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	C-Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 33: Route 1 & Route 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1630	440	440	2020	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	490			1938	458	
Travel Time (s)	9.5			37.8	8.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2436	0	518	2376	0	976
v/c Ratio	0.74		0.63	0.68		0.85
Control Delay	16.0		17.5	9.9		22.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	16.0		17.5	9.9		22.7
Queue Length 50th (ft)	556		128	340		153
Queue Length 95th (ft)	361		m103	m284		211
Internal Link Dist (ft)	410			1858	378	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3274		822	3505		1154
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.74		0.63	0.68		0.85

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1630	440	440	2020	0	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0		5.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4875		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4875		3400	3505		2787
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1918	518	518	2376	0	976
RTOR Reduction (vph)	24	0	0	0	0	481
Lane Group Flow (vph)	2412	0	518	2376	0	495
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	80.0		29.0	120.0		29.0
Effective Green, g (s)	80.0		29.0	120.0		29.0
Actuated g/C Ratio	0.67		0.24	1.00		0.24
Clearance Time (s)	6.0		5.0	6.0		5.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3250		822	3505		674
v/s Ratio Prot	c0.49		0.15	c0.68		0.18
v/s Ratio Perm						
v/c Ratio	0.74		0.63	0.68		0.73
Uniform Delay, d1	13.2		40.7	0.0		42.0
Progression Factor	1.13		0.42	1.00		1.00
Incremental Delay, d2	1.3		0.1	0.1		3.6
Delay (s)	16.2		17.1	0.1		45.5
Level of Service	B		B	A		D
Approach Delay (s)	16.2			3.1	45.5	
Approach LOS	B			A	D	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	280	700	880	750	120
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	12	333	833	1048	893	143
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1210	458	
pX, platoon unblocked						
vC, conflicting volume	3083	446	893			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3083	446	893			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	40	0			
cM capacity (veh/h)	0	559	755			

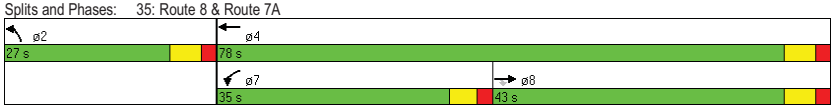
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	333	833	524	524	446	446	143
Volume Left	12	0	833	0	0	0	0	0
Volume Right	0	333	0	0	0	0	0	143
cSH	0	559	755	1700	1700	1700	1700	1700
Volume to Capacity	Err	0.60	1.10	0.31	0.31	0.26	0.26	0.08
Queue Length 95th (ft)	Err	97	580	0	0	0	0	0
Control Delay (s)	Err	20.5	86.9	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	C	F					
Approach Delay (s)	Err		38.5			0.0		
Approach LOS	F							

Intersection Summary			
Average Delay		Err	
Intersection Capacity Utilization		72.8%	ICU Level of Service C
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1010	80	690	1390	220	680
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	20.5	31.0	16.0	
Total Split (s)	43.0	43.0	35.0	78.0	27.0	0.0
Total Split (%)	41.0%	41.0%	33.3%	74.3%	25.7%	0.0%
Maximum Green (s)	37.0	37.0	29.5	72.0	21.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	5	5			5	

Intersection Summary
Cycle Length: 105
Actuated Cycle Length: 103.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1010	80	690	1390	220	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1210			1375	661	
Travel Time (s)	23.6			26.8	12.9	
Confl. Peds. (#/hr)		5				5
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1217	96	831	1675	265	819
v/c Ratio	0.96	0.16	0.88	0.69	0.76	0.52
Control Delay	50.4	7.3	48.7	12.0	54.3	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.3	48.7	12.0	54.3	1.3
Queue Length 50th (ft)	420	4	272	313	169	0
Queue Length 95th (ft)	#541	34	#337	398	234	0
Internal Link Dist (ft)	1130			1295	581	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1273	615	985	2477	381	1562
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.16	0.84	0.68	0.70	0.52

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1010	80	690	1390	220	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1555	3433	3539	1770	1562
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1555	3433	3539	1770	1562
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	1217	96	831	1675	265	819
RTOR Reduction (vph)	0	56	0	0	0	0
Lane Group Flow (vph)	1217	40	831	1675	265	819
Confl. Peds. (#/hr)		5				5
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	37.1	37.1	28.3	70.9	20.3	103.2
Effective Green, g (s)	37.1	37.1	28.3	70.9	20.3	103.2
Actuated g/C Ratio	0.36	0.36	0.27	0.69	0.20	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1272	559	941	2431	348	1562
v/s Ratio Prot	c0.34		c0.24	0.47	c0.15	
v/s Ratio Perm		0.03				0.52
v/c Ratio	0.96	0.07	0.88	0.69	0.76	0.52
Uniform Delay, d1	32.3	21.7	35.9	9.6	39.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.0	0.1	10.1	0.9	10.0	1.3
Delay (s)	48.3	21.8	46.0	10.5	49.2	1.3
Level of Service	D	C	D	B	D	A
Approach Delay (s)	46.3			22.3	13.0	
Approach LOS	D			C	B	

Intersection Summary

HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	103.2	Sum of lost time (s)	17.5
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

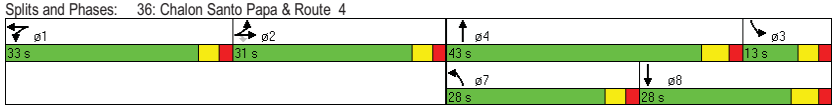
c Critical Lane Group

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	160	90	270	170	840	70	420
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	26.0	12.0	28.0	12.0	28.0
Total Split (s)	31.0	31.0	33.0	28.0	43.0	13.0	28.0
Total Split (%)	25.8%	25.8%	27.5%	23.3%	35.8%	10.8%	23.3%
Maximum Green (s)	26.0	26.0	28.0	23.0	37.0	8.0	22.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 70 (58%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	160	90	160	270	310	170	840	120	70	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			780			850	
Travel Time (s)		28.3			11.8			15.2			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	284	102	0	841	0	193	1091	0	80	591	0
v/c Ratio		0.85	0.27		0.97		0.76	0.63		0.68	0.44	
Control Delay		69.1	9.3		62.2		38.3	20.1		62.7	18.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		69.1	9.3		62.2		38.3	20.1		62.7	18.1	
Queue Length 50th (ft)		213	0		291		111	252		63	47	
Queue Length 95th (ft)		297	43		#405		m114	m346		#135	160	
Internal Link Dist (ft)		1164			439			700			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		396	423		874		339	1727		118	1347	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.72	0.24		0.96		0.57	0.63		0.68	0.44	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

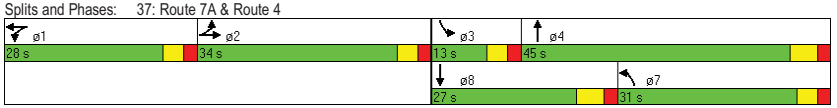
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	160	90	160	270	310	170	840	120	70	420	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.94		1.00	0.98		1.00	0.97	
Flt Protected		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1830	1583		3282		1770	4990		1770	4938	
Flt Permitted		0.98	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1830	1583		3282		1770	4990		1770	4938	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	102	182	102	182	307	352	193	955	136	80	477	114
RTOR Reduction (vph)	0	0	83	0	109	0	0	14	0	0	30	0
Lane Group Flow (vph)	0	284	19	0	732	0	193	1077	0	80	561	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		22.1	22.1		27.7		17.2	41.2		8.0	32.0	
Effective Green, g (s)		22.1	22.1		27.7		17.2	41.2		8.0	32.0	
Actuated g/C Ratio		0.18	0.18		0.23		0.14	0.34		0.07	0.27	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		337	292		758		254	1713		118	1317	
v/s Ratio Prot		c0.16			c0.22		c0.11	c0.22		c0.05	0.11	
v/s Ratio Perm			0.01									
v/c Ratio		0.84	0.06		0.97		0.76	0.63		0.68	0.43	
Uniform Delay, d1		47.3	40.4		45.7		49.4	33.0		54.7	36.4	
Progression Factor		1.00	1.00		1.00		0.56	0.58		0.63	0.48	
Incremental Delay, d2		16.5	0.0		24.1		6.1	0.9		11.1	1.0	
Delay (s)		63.8	40.4		69.8		33.8	20.0		45.8	18.4	
Level of Service		E	D		E		C	B		D	B	
Approach Delay (s)		57.6			69.8			22.0			21.6	
Approach LOS		E			E			C			C	

Intersection Summary				
HCM Average Control Delay	38.9	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	75.7%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	180	370	270	520	380	990	50	380
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.5	29.5	28.0	28.0	13.0	28.0	13.0	21.0
Total Split (s)	34.0	34.0	28.0	28.0	31.0	45.0	13.0	27.0
Total Split (%)	28.3%	28.3%	23.3%	23.3%	25.8%	37.5%	10.8%	22.5%
Maximum Green (s)	29.0	29.0	23.0	23.0	26.0	39.0	8.0	21.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 10 (8%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	370	20	270	520	40	380	990	400	50	380	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	215		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		609			967			740			780	
Travel Time (s)		13.8			22.0			14.4			15.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)				10%								
Lane Group Flow (vph)	200	433	0	270	652	0	422	1544	0	56	689	0
v/c Ratio	0.47	0.97		0.87	1.01		1.10	0.88		0.47	0.74	
Control Delay	43.1	80.3		75.1	85.7		119.4	42.6		53.5	31.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.1	80.3		75.1	85.7		119.4	42.6		53.5	31.1	
Queue Length 50th (ft)	133	332		225	~282		~371	404		42	152	
Queue Length 95th (ft)	208	#540		#392	#417		#571	#505		m77	m193	
Internal Link Dist (ft)		529			887			660			700	
Turn Bay Length (ft)				215			250			200		
Base Capacity (vph)	428	448		309	646		384	1746		118	934	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.97		0.87	1.01		1.10	0.88		0.47	0.74	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	370	20	270	520	40	380	990	400	50	380	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1849		1610	3348		1770	4866		1770	4790	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1849		1610	3348		1770	4866		1770	4790	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	200	411	22	300	578	44	422	1100	444	56	422	267
RTOR Reduction (vph)	0	2	0	0	4	0	0	60	0	0	97	0
Lane Group Flow (vph)	200	431	0	270	648	0	422	1484	0	56	592	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	29.0	29.0		23.0	23.0		27.0	40.6		6.4	20.0	
Effective Green, g (s)	29.0	29.0		23.0	23.0		27.0	40.6		6.4	20.0	
Actuated g/C Ratio	0.24	0.24		0.19	0.19		0.22	0.34		0.05	0.17	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	428	447		309	642		398	1646		94	798	
v/s Ratio Prot	0.11	c0.23		0.17	c0.19		c0.24	c0.31		0.03	c0.12	
v/s Ratio Perm												
v/c Ratio	0.47	0.97		0.87	1.01		1.06	0.90		0.60	0.74	
Uniform Delay, d1	38.9	45.0		47.1	48.5		46.5	37.8		55.5	47.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.77	0.68	
Incremental Delay, d2	0.3	33.2		22.2	37.8		62.0	8.4		5.6	5.3	
Delay (s)	39.2	78.2		69.3	86.3		108.5	46.2		48.6	37.8	
Level of Service	D	E		E	F		F	D		D	D	
Approach Delay (s)		65.9			81.3			59.6			38.6	
Approach LOS		E			F			E			D	

Intersection Summary

HCM Average Control Delay	61.6	HCM Level of Service		E	
HCM Volume to Capacity ratio	1.05				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		27.0	
Intersection Capacity Utilization	88.6%	ICU Level of Service		E	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	160	180	150	1770	610	40
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	182	205	170	2011	693	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1031	
pX, platoon unblocked	0.90	0.90	0.90			
vC, conflicting volume	2062	369	739			
vC1, stage 1 conf vol	716					
vC2, stage 2 conf vol	1347					
vCu, unblocked vol	1954	66	478			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	77	82			
cM capacity (veh/h)	160	882	969			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	386	170	1006	1006	462	277
Volume Left	182	170	0	0	0	0
Volume Right	205	0	0	0	0	45
cSH	283	969	1700	1700	1700	1700
Volume to Capacity	1.37	0.18	0.59	0.59	0.27	0.16
Queue Length 95th (ft)	504	16	0	0	0	0
Control Delay (s)	221.0	9.5	0.0	0.0	0.0	0.0
Lane LOS	F	A				
Approach Delay (s)	221.0	0.7			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay		26.3		
Intersection Capacity Utilization		75.5%	ICU Level of Service	D
Analysis Period (min)		15		

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	70	320	220	70
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	20.0	20.0
Total Split (s)	21.0	35.0	34.0	34.0
Total Split (%)	23.3%	38.9%	37.8%	37.8%
Maximum Green (s)	16.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.5	3.5
All-Red Time (s)	2.0	2.0	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 77
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route - 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	540	320	220	220	70	610	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		345			618			271			199	
Travel Time (s)		7.8			14.0			6.2			3.9	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	364	0	0	1270	0	259	800	0	0	0	0
v/c Ratio		0.67			0.94		0.46	0.92				
Control Delay		19.6			39.2		24.0	26.4				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		19.6			39.2		24.0	26.4				
Queue Length 50th (ft)		33			~343		97	131				
Queue Length 95th (ft)		66			#484		162	#351				
Internal Link Dist (ft)		265			538			191			119	
Turn Bay Length (ft)												
Base Capacity (vph)		857			1350		702	956				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.42			0.94		0.37	0.84				

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	70	200	540	320	220	220	70	610	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.90			0.97		1.00	0.87				
Flt Protected		0.99			0.98		0.95	1.00				
Satd. Flow (prot)		3176			3347		1770	1612				
Flt Permitted		0.99			0.98		0.95	1.00				
Satd. Flow (perm)		3176			3347		1770	1612				
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	47	82	235	635	376	259	259	82	718	0	0	0
RTOR Reduction (vph)	0	210	0	0	23	0	0	359	0	0	0	0
Lane Group Flow (vph)	0	154	0	0	1247	0	259	441	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		8.0			30.5		24.2	24.2				
Effective Green, g (s)		8.0			30.5		24.2	24.2				
Actuated g/C Ratio		0.10			0.40		0.32	0.32				
Clearance Time (s)		5.0			5.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		331			1331		558	509				
v/s Ratio Prot		c0.05			c0.37		0.15	c0.27				
v/s Ratio Perm												
v/c Ratio		0.46			0.94		0.46	0.87				
Uniform Delay, d1		32.3			22.2		21.1	24.7				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		0.4			12.3		0.2	13.9				
Delay (s)		32.7			34.4		21.3	38.6				
Level of Service		C			C		C	D				
Approach Delay (s)		32.7			34.4			34.4			0.0	
Approach LOS		C			C			C			A	

Intersection Summary

HCM Average Control Delay	34.2	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.85				
Actuated Cycle Length (s)	76.7	Sum of lost time (s)		14.0	
Intersection Capacity Utilization	94.2%	ICU Level of Service		F	
Analysis Period (min)	15				

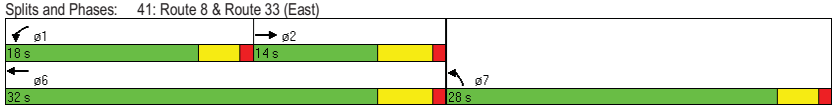
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	400	340	1060	330
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	7.0	4.0	7.0	4.0
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	14.0	18.0	32.0	28.0
Total Split (%)	23.3%	30.0%	53.3%	46.7%
Maximum Green (s)	9.0	14.0	27.0	24.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	5.0	4.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	4.0	2.0	4.0	2.0
Minimum Gap (s)	2.0	0.5	2.0	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 62.6
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	400	200	340	1060	330	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2965			2384	2961	
Travel Time (s)	57.8			46.4	57.7	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	698	0	395	1233	768	0
v/c Ratio	0.99		0.99	0.74	1.07	
Control Delay	54.1		72.3	16.6	75.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	54.1		72.3	16.6	75.9	
Queue Length 50th (ft)	~139		141	186	~287	
Queue Length 95th (ft)	160		#353	231	#573	
Internal Link Dist (ft)	2885			2304	2881	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	707		398	1662	715	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.99		0.99	0.74	1.07	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	400	200	340	1060	330	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		4.0	5.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.95		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3362		1770	3539	1695	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	3362		1770	3539	1695	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	465	233	395	1233	384	384
RTOR Reduction (vph)	101	0	0	0	61	0
Lane Group Flow (vph)	597	0	395	1233	707	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	11.3		14.1	29.4	24.1	
Effective Green, g (s)	11.3		14.1	29.4	24.1	
Actuated g/C Ratio	0.18		0.23	0.47	0.39	
Clearance Time (s)	5.0		4.0	5.0	4.0	
Vehicle Extension (s)	4.0		2.0	4.0	2.0	
Lane Grp Cap (vph)	608		399	1665	654	
v/s Ratio Prot	c0.18		c0.22	0.35	c0.42	
v/s Ratio Perm						
v/c Ratio	0.98		0.99	0.74	1.08	
Uniform Delay, d1	25.5		24.1	13.5	19.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	31.9		41.8	1.9	58.9	
Delay (s)	57.4		65.9	15.4	78.1	
Level of Service	E		E	B	E	
Approach Delay (s)	57.4			27.6	78.1	
Approach LOS	E			C	E	

Intersection Summary				
HCM Average Control Delay	46.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	13.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	500	310	800	660	770	1360
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	36.0	36.0	64.0	36.0	36.0
Total Split (%)	28.0%	36.0%	36.0%	64.0%	36.0%	36.0%
Maximum Green (s)	22.0	30.0	30.0	58.0	30.0	30.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	500	310	800	660	770	1360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			454	789	
Travel Time (s)	14.8			8.8	15.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	549	341	879	725	846	1495
v/c Ratio	0.65	0.37	0.86	0.34	0.88	0.83
Control Delay	39.1	11.9	37.9	9.2	45.9	17.8
Queue Delay	1.6	0.0	0.1	0.0	0.0	4.9
Total Delay	40.7	11.9	38.1	9.2	45.9	22.7
Queue Length 50th (ft)	170	102	277	98	258	340
Queue Length 95th (ft)	231	160	#376	122	332	452
Internal Link Dist (ft)	682			374	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	842	890	1020	2104	1030	1807
Starvation Cap Reductn	0	0	6	0	0	0
Spillback Cap Reductn	143	0	0	0	0	252
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.38	0.87	0.34	0.82	0.96

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	500	310	800	660	770	1360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3433	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3433	2787
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	549	341	879	725	846	1495
RTOR Reduction (vph)	0	10	0	0	0	28
Lane Group Flow (vph)	549	331	879	725	846	1467
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	24.0	52.0	30.0	60.0	28.0	58.0
Effective Green, g (s)	24.0	52.0	30.0	60.0	28.0	58.0
Actuated g/C Ratio	0.24	0.52	0.30	0.60	0.28	0.58
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	841	909	1020	2103	961	1784
v/s Ratio Prot	c0.16	0.10	0.26	0.21	0.25	c0.25
v/s Ratio Perm		0.11				0.28
v/c Ratio	0.65	0.36	0.86	0.34	0.88	0.82
Uniform Delay, d1	34.2	14.2	33.0	10.1	34.4	16.9
Progression Factor	1.00	1.00	0.87	0.84	1.00	1.00
Incremental Delay, d2	3.9	0.1	6.6	0.4	9.2	3.0
Delay (s)	38.2	14.3	35.2	8.9	43.6	19.9
Level of Service	D	B	D	A	D	B
Approach Delay (s)	29.0			23.3	28.5	
Approach LOS	C			C	C	

Intersection Summary

HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1560	130	1120	150	110
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	8.0	8.0
Minimum Split (s)	26.0	16.0	26.0	14.0	14.0
Total Split (s)	63.0	17.0	80.0	20.0	20.0
Total Split (%)	63.0%	17.0%	80.0%	20.0%	20.0%
Maximum Green (s)	57.0	11.0	74.0	14.0	14.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	Min	Max	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 52 (52%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1560	180	130	1120	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	200
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	454			482	431	
Travel Time (s)	8.8			9.4	8.4	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2023	0	151	1302	174	128
v/c Ratio	1.00		0.78	0.49	0.78	0.41
Control Delay	33.4		71.1	5.8	65.7	11.4
Queue Delay	40.7		0.0	0.0	0.0	0.0
Total Delay	74.1		71.1	5.8	65.7	11.4
Queue Length 50th (ft)	~590		95	151	107	0
Queue Length 95th (ft)	#790		#184	176	#183	46
Internal Link Dist (ft)	374			402	351	
Turn Bay Length (ft)			200			200
Base Capacity (vph)	2023		193	2642	248	332
Starvation Cap Reductn	198		0	0	0	0
Spillback Cap Reductn	0		0	112	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.11		0.78	0.51	0.70	0.39

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1560	180	130	1120	150	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3451		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3451		1752	3505	1770	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	1814	209	151	1302	174	128
RTOR Reduction (vph)	8	0	0	0	0	112
Lane Group Flow (vph)	2015	0	151	1302	174	16
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	58.4		11.0	75.4	12.6	12.6
Effective Green, g (s)	58.4		11.0	75.4	12.6	12.6
Actuated g/C Ratio	0.58		0.11	0.75	0.13	0.13
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2015		193	2643	223	199
v/s Ratio Prot	c0.58		c0.09	0.37	c0.10	
v/s Ratio Perm						0.01
v/c Ratio	1.00		0.78	0.49	0.78	0.08
Uniform Delay, d1	20.8		43.3	4.8	42.4	38.6
Progression Factor	0.78		1.00	1.00	1.00	1.00
Incremental Delay, d2	15.5		17.1	0.7	14.9	0.1
Delay (s)	31.8		60.5	5.5	57.3	38.7
Level of Service	C		E	A	E	D
Approach Delay (s)	31.8			11.2	49.4	
Approach LOS	C			B	D	

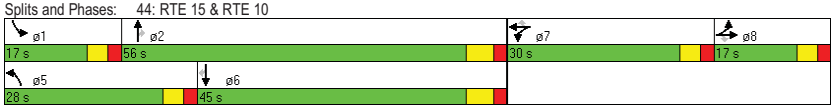
Intersection Summary				
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	60	170	360	80	330	260	1420	460	170	860	130
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	15.0	15.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	8.0	21.0	21.0	8.0	36.0	36.0
Total Split (s)	17.0	17.0	17.0	30.0	30.0	30.0	28.0	56.0	56.0	17.0	45.0	45.0
Total Split (%)	14.2%	14.2%	14.2%	25.0%	25.0%	25.0%	23.3%	46.7%	46.7%	14.2%	37.5%	37.5%
Maximum Green (s)	12.0	12.0	12.0	25.0	25.0	25.0	23.0	50.0	50.0	12.0	39.0	39.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	60	170	360	80	330	260	1420	460	170	860	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		549			1964			2453			773	
Travel Time (s)		10.7			38.3			47.8			15.1	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)	37%											
Lane Group Flow (vph)	156	158	191	404	90	371	292	1596	517	191	966	146
v/c Ratio	0.93	0.93	0.58	1.11	0.23	0.76	0.91	1.08	0.60	1.08	0.82	0.24
Control Delay	108.3	106.6	14.7	123.3	41.5	31.7	82.9	71.7	4.5	141.0	43.5	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.3	106.6	14.7	123.3	41.5	31.7	82.9	71.7	4.5	141.0	43.5	6.9
Queue Length 50th (ft)	128	129	0	~357	58	128	215	~732	12	~165	364	6
Queue Length 95th (ft)	#264	#264	68	#546	105	243	m#303	#841	m30	#310	442	51
Internal Link Dist (ft)		469			1884			2373			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	167	170	329	365	384	485	339	1475	856	177	1185	620
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.93	0.58	1.11	0.23	0.76	0.86	1.08	0.60	1.08	0.82	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	60	170	360	80	330	260	1420	460	170	860	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1703	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1703	1568	1752	1845	1568	1770	3539	1583	1770	3539	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	247	67	191	404	90	371	292	1596	517	191	966	146
RTOR Reduction (vph)	0	0	172	0	0	158	0	0	196	0	0	90
Lane Group Flow (vph)	156	158	19	404	90	213	292	1596	321	191	966	56
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	12.0	12.0	12.0	25.0	25.0	25.0	21.8	50.0	50.0	12.0	40.2	40.2
Effective Green, g (s)	12.0	12.0	12.0	25.0	25.0	25.0	21.8	50.0	50.0	12.0	40.2	40.2
Actuated g/C Ratio	0.10	0.10	0.10	0.21	0.21	0.21	0.18	0.42	0.42	0.10	0.34	0.34
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	2.0	4.0	4.0
Lane Grp Cap (vph)	167	170	157	365	384	327	322	1475	660	177	1186	530
v/s Ratio Prot	c0.09	0.09		c0.23	0.05		c0.17	c0.45		0.11	0.27	
v/s Ratio Perm			0.01			0.14			0.20			0.04
v/c Ratio	0.93	0.93	0.12	1.11	0.23	0.65	0.91	1.08	0.49	1.08	0.81	0.11
Uniform Delay, d1	53.6	53.6	49.2	47.5	39.5	43.5	48.1	35.0	25.6	54.0	36.5	27.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.19	0.69	0.24	1.00	1.00	1.00
Incremental Delay, d2	49.8	47.7	0.1	79.1	0.1	3.5	22.2	46.6	1.9	90.3	6.2	0.4
Delay (s)	103.4	101.3	49.3	126.6	39.6	47.0	79.5	70.6	8.0	144.3	42.7	27.9
Level of Service	F	F	D	F	D	D	E	E	A	F	D	C
Approach Delay (s)		82.3			83.4			58.3			55.9	
Approach LOS		F			F			E			E	

Intersection Summary

HCM Average Control Delay	64.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		

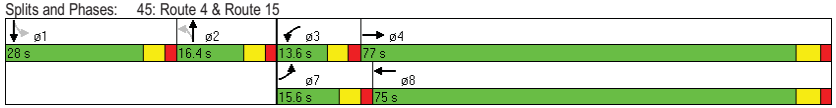
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	150	660	10	1690	40	10	60	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	15.6	77.0	13.6	75.0	16.4	16.4	28.0	28.0
Total Split (%)	11.6%	57.0%	10.1%	55.6%	12.1%	12.1%	20.7%	20.7%
Maximum Green (s)	10.1	71.0	8.1	69.0	10.9	10.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.5	4.0	3.5	4.0	3.5	3.5	0.5	0.5
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.8
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	660	10	10	1690	40	40	10	40	60	10	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		641			548			338			351	
Travel Time (s)		12.5			10.7			6.6			6.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	761	0	11	1965	0	0	101	0	0	409	0
v/c Ratio	1.29	0.41		0.10	1.09			0.88			1.20	
Control Delay	221.8	20.0		62.5	81.5			103.4			146.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	221.8	20.0		62.5	81.5			103.4			146.3	
Queue Length 50th (ft)	~189	204		9	~1020			69			~331	
Queue Length 95th (ft)	#329	246		29	#1113			#174			#520	
Internal Link Dist (ft)		561			468			258			271	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	132	1863		106	1807			116			341	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.29	0.41		0.10	1.09			0.87			1.20	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

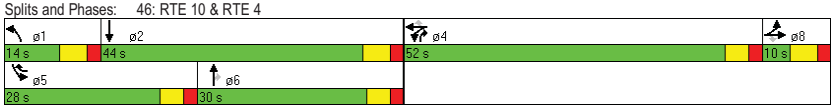
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	660	10	10	1690	40	40	10	40	60	10	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3532		1770	3527			1713			1646	
Flt Permitted	0.95	1.00		0.95	1.00			0.67			0.83	
Satd. Flow (perm)	1770	3532		1770	3527			1175			1376	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	170	750	11	11	1920	45	45	11	45	68	11	330
RTOR Reduction (vph)	0	1	0	0	1	0	0	21	0	0	112	0
Lane Group Flow (vph)	170	760	0	11	1964	0	0	80	0	0	297	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	10.1	71.1		8.0	69.0			10.7			22.5	
Effective Green, g (s)	10.1	71.1		8.0	69.0			10.7			22.5	
Actuated g/C Ratio	0.07	0.53		0.06	0.51			0.08			0.17	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	3.5	4.0		3.5	4.0			3.5			0.5	
Lane Grp Cap (vph)	133	1863		105	1805			93			230	
v/s Ratio Prot	c0.10	0.22		0.01	c0.56							
v/s Ratio Perm								c0.07			c0.22	
v/c Ratio	1.28	0.41		0.10	1.09			0.86			1.29	
Uniform Delay, d1	62.4	19.2		60.0	32.9			61.3			56.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	170.8	0.2		0.5	49.5			50.9			160.2	
Delay (s)	233.1	19.4		60.5	82.4			112.2			216.4	
Level of Service	F	B		E	F			F			F	
Approach Delay (s)		58.4			82.3			112.2			216.4	
Approach LOS		E			F			F			F	

Intersection Summary					
HCM Average Control Delay	92.7	HCM Level of Service		F	
HCM Volume to Capacity ratio	1.12				
Actuated Cycle Length (s)	134.8	Sum of lost time (s)		22.5	
Intersection Capacity Utilization	93.3%	ICU Level of Service		F	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	30	10	10	850	10	660	1130	660	220
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	10.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.5	9.5	13.5	16.0
Total Split (s)	10.0	10.0	52.0	28.0	14.0	30.0	52.0	28.0	44.0
Total Split (%)	8.3%	8.3%	43.3%	23.3%	11.7%	25.0%	43.3%	23.3%	36.7%
Maximum Green (s)	4.0	4.0	46.5	22.5	8.0	24.5	46.5	22.5	38.0
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		20.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	440	10	850	10	660	1130	660	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			759			914	
Travel Time (s)		7.3			12.6			14.8			17.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	11	0	489	924	11	717	1228	717	261	0
v/c Ratio		1.08	0.17		0.71	0.99	0.09	0.99	1.19	1.11	0.35	
Control Delay		193.8	33.9		38.0	43.4	54.6	79.4	117.7	115.7	26.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		193.8	33.9		38.0	43.4	54.6	79.4	117.7	115.7	26.8	
Queue Length 50th (ft)		~58	0		316	425	8	294	~1133	~328	129	
Queue Length 95th (ft)		#153	20		446	#589	28	#424	#1399	#448	238	
Internal Link Dist (ft)		295			565			679			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		61	63		688	932	118	723	1032	644	756	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		1.08	0.17		0.71	0.99	0.09	0.99	1.19	1.11	0.35	

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	30	10	440	10	850	10	660	1130	660	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1776	1583	1770	3539	1583	3433	1839	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	33	11	478	11	924	11	717	1228	717	239	22
RTOR Reduction (vph)	0	0	11	0	0	23	0	0	25	0	2	0
Lane Group Flow (vph)	0	66	0	0	489	901	11	717	1203	717	259	0
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		4.0	4.0		46.5	69.0	1.6	29.3	75.8	22.5	49.2	
Effective Green, g (s)		4.0	4.0		46.5	69.0	1.6	29.3	75.8	22.5	49.2	
Actuated g/C Ratio		0.03	0.03		0.37	0.55	0.01	0.23	0.61	0.18	0.39	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		58	51		662	875	23	831	1031	619	725	
v/s Ratio Prot		c0.04			0.28	0.19	0.01	0.20	c0.43	c0.21	0.14	
v/s Ratio Perm			0.00			0.38			0.33			
v/c Ratio		1.14	0.01		0.74	1.03	0.48	0.86	1.17	1.16	0.36	
Uniform Delay, d1		60.4	58.5		33.9	27.9	61.2	45.8	24.5	51.1	26.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		160.9	0.0		3.7	38.3	5.6	8.9	85.7	88.4	0.1	
Delay (s)		221.3	58.5		37.6	66.2	66.8	54.7	110.2	139.5	26.8	
Level of Service		F	E		D	E	E	D	F	F	C	
Approach Delay (s)		198.0			56.3			89.6			109.4	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	85.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	124.8	Sum of lost time (s)	17.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1400	1310	280
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	24.0	24.0	13.0	22.0	33.0	33.0
Total Split (s)	24.0	24.0	21.0	96.0	75.0	75.0
Total Split (%)	20.0%	20.0%	17.5%	80.0%	62.5%	62.5%
Maximum Green (s)	19.0	19.0	16.0	90.0	69.0	69.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 85 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1400	1310	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	438			286	526	
Travel Time (s)	11.9			5.6	10.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	45	125	1591	1489	318
v/c Ratio	0.45	0.40	0.68	0.53	0.60	0.29
Control Delay	63.7	62.4	55.8	10.3	11.8	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	62.4	55.8	10.3	11.8	8.8
Queue Length 50th (ft)	43	34	95	350	298	88
Queue Length 95th (ft)	83	69	m134	654	424	155
Internal Link Dist (ft)	358			206	446	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	251	224	234	3016	2469	1105
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.53	0.53	0.60	0.29

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	50	40	110	1400	1310	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	57	45	125	1591	1489	318
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	57	45	125	1591	1489	318
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	8.0	8.0	12.5	101.0	83.5	83.5
Effective Green, g (s)	8.0	8.0	12.5	101.0	83.5	83.5
Actuated g/C Ratio	0.07	0.07	0.10	0.84	0.70	0.70
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	106	94	183	2950	2439	1091
v/s Ratio Prot	c0.04		c0.07	0.45	c0.42	
v/s Ratio Perm		0.03				0.20
v/c Ratio	0.54	0.48	0.68	0.54	0.61	0.29
Uniform Delay, d1	54.2	54.0	51.8	2.8	9.7	7.0
Progression Factor	1.00	1.00	0.79	3.21	1.00	1.00
Incremental Delay, d2	2.6	1.4	6.5	0.6	1.1	0.7
Delay (s)	56.8	55.4	47.4	9.4	10.8	7.6
Level of Service	E	E	D	A	B	A
Approach Delay (s)	56.2			12.2	10.2	
Approach LOS	E			B	B	

Intersection Summary				
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	100	100	1410	80	1240
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	23.0	23.0	28.0	13.0	22.0
Total Split (s)	26.0	26.0	74.0	20.0	94.0
Total Split (%)	21.7%	21.7%	61.7%	16.7%	78.3%
Maximum Green (s)	21.0	21.0	68.0	15.0	88.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6(V.Cementary) & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	100	1410	90	80	1240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		550			1355
Travel Time (s)	16.0		10.7			26.4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	108	1613	0	86	1333
v/c Ratio	0.59	0.42	0.67		0.55	0.47
Control Delay	64.2	13.8	10.3		85.7	1.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	64.2	13.8	10.3		85.7	1.2
Queue Length 50th (ft)	82	0	392		72	17
Queue Length 95th (ft)	137	53	619		m116	19
Internal Link Dist (ft)	506		470			1275
Turn Bay Length (ft)					200	
Base Capacity (vph)	310	366	2420		219	2822
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.35	0.30	0.67		0.39	0.47

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	100	100	1410	90	80	1240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3473		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3473		1752	3505
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	108	108	1516	97	86	1333
RTOR Reduction (vph)	0	97	3	0	0	0
Lane Group Flow (vph)	108	11	1610	0	86	1333
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	12.4	12.4	82.5		9.1	96.6
Effective Green, g (s)	12.4	12.4	82.5		9.1	96.6
Actuated g/C Ratio	0.10	0.10	0.69		0.08	0.80
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	183	164	2388		133	2822
v/s Ratio Prot	c0.06		c0.46		c0.05	0.38
v/s Ratio Perm		0.01				
v/c Ratio	0.59	0.07	0.67		0.65	0.47
Uniform Delay, d1	51.4	48.6	10.9		53.9	3.7
Progression Factor	1.00	1.00	0.74		1.44	0.19
Incremental Delay, d2	3.4	0.1	1.3		6.4	0.5
Delay (s)	54.7	48.6	9.5		84.1	1.2
Level of Service	D	D	A		F	A
Approach Delay (s)	51.7		9.5			6.2
Approach LOS	D		A			A

Intersection Summary

HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	20	220	1470	1290
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	20.0	13.0	22.0	30.0
Total Split (s)	20.0	31.0	100.0	69.0
Total Split (%)	16.7%	25.8%	83.3%	57.5%
Maximum Green (s)	15.0	26.0	94.0	63.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 115 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1470	1290	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2159			1944	7258	
Travel Time (s)	42.1			37.9	141.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	6%	6%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	237	1581	1484	0
v/c Ratio	0.38		0.79	0.52	0.66	
Control Delay	35.0		54.9	3.1	12.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	35.0		54.9	3.1	12.3	
Queue Length 50th (ft)	16		156	95	265	
Queue Length 95th (ft)	58		m177	m295	281	
Internal Link Dist (ft)	2079			1864	7178	
Turn Bay Length (ft)			125			
Base Capacity (vph)	230		385	3049	2250	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.23		0.62	0.52	0.66	

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	20	30	220	1470	1290	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1616		1752	3505	3470	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1616		1752	3505	3470	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	32	237	1581	1387	97
RTOR Reduction (vph)	30	0	0	0	3	0
Lane Group Flow (vph)	24	0	237	1581	1481	0
Heavy Vehicles (%)	6%	6%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	6.8		20.5	102.2	76.7	
Effective Green, g (s)	6.8		20.5	102.2	76.7	
Actuated g/C Ratio	0.06		0.17	0.85	0.64	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	92		299	2985	2218	
v/s Ratio Prot	c0.01		c0.14	0.45	c0.43	
v/s Ratio Perm						
v/c Ratio	0.26		0.79	0.53	0.67	
Uniform Delay, d1	54.2		47.7	2.4	13.6	
Progression Factor	1.00		0.93	1.06	0.72	
Incremental Delay, d2	0.5		7.3	0.4	1.5	
Delay (s)	54.7		51.7	2.9	11.3	
Level of Service	D		D	A	B	
Approach Delay (s)	54.7			9.3	11.3	
Approach LOS	D			A	B	

Intersection Summary				
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	130	1290	310	70	560	870
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	25.0		33.0	33.0	22.0	21.0
Total Split (s)	36.0	0.0	40.0	40.0	44.0	84.0
Total Split (%)	30.0%	0.0%	33.3%	33.3%	36.7%	70.0%
Maximum Green (s)	31.0		34.0	34.0	39.0	78.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	130	1290	310	70	560	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	531		795			527
Travel Time (s)	10.3		15.5			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	153	1518	365	82	659	1024
v/c Ratio	0.70	0.96	0.22	0.10	0.74	0.37
Control Delay	66.9	16.8	20.2	5.3	32.5	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.9	16.8	20.2	5.3	32.5	6.0
Queue Length 50th (ft)	115	0	84	0	193	84
Queue Length 95th (ft)	166	#10	132	28	205	197
Internal Link Dist (ft)	451		715			447
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	457	1583	1685	796	1105	2751
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.96	0.22	0.10	0.60	0.37

Intersection Summary	
Area Type:	Other

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	130	1290	310	70	560	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3505	1568	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3505	1568	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	153	1518	365	82	659	1024
RTOR Reduction (vph)	0	0	0	43	0	0
Lane Group Flow (vph)	153	1518	365	39	659	1024
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	14.8	120.0	57.7	57.7	31.5	94.2
Effective Green, g (s)	14.8	120.0	57.7	57.7	31.5	94.2
Actuated g/C Ratio	0.12	1.00	0.48	0.48	0.26	0.79
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	218	1583	1685	754	893	2751
v/s Ratio Prot	0.09		0.10		0.19	0.29
v/s Ratio Perm		c0.96		0.03		
v/c Ratio	0.70	0.96	0.22	0.05	0.74	0.37
Uniform Delay, d1	50.5	0.0	18.1	16.6	40.5	3.9
Progression Factor	1.00	1.00	1.00	1.00	0.70	1.32
Incremental Delay, d2	8.1	14.8	0.3	0.1	3.3	0.3
Delay (s)	58.5	14.8	18.3	16.7	31.5	5.5
Level of Service	E	B	B	B	C	A
Approach Delay (s)	18.8		18.0			15.7
Approach LOS	B		B			B

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	520	840	40	220	200
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	36.0	36.0	37.0	37.0	27.0	64.0
Total Split (%)	36.0%	36.0%	37.0%	37.0%	27.0%	64.0%
Maximum Green (s)	30.5	30.5	31.0	31.0	21.5	58.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 76.3
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	520	840	40	220	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1169		1253			870
Travel Time (s)	22.8		24.4			16.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	542	875	42	229	208
v/c Ratio	0.50	0.82	0.60	0.06	0.70	0.09
Control Delay	34.5	17.3	21.6	11.4	42.5	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	17.3	21.6	11.4	42.5	5.4
Queue Length 50th (ft)	66	33	151	5	97	13
Queue Length 95th (ft)	131	154	323	31	202	40
Internal Link Dist (ft)	1089		1173			790
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	722	919	1467	670	509	2744
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.59	0.60	0.06	0.45	0.08

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	150	520	840	40	220	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	156	542	875	42	229	208
RTOR Reduction (vph)	0	380	0	14	0	0
Lane Group Flow (vph)	156	162	875	28	229	208
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	13.3	13.3	31.7	31.7	14.0	51.2
Effective Green, g (s)	13.3	13.3	31.7	31.7	14.0	51.2
Actuated g/C Ratio	0.18	0.18	0.42	0.42	0.18	0.67
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	310	277	1476	660	326	2384
v/s Ratio Prot	0.09		c0.25		c0.13	0.06
v/s Ratio Perm		c0.10		0.02		
v/c Ratio	0.50	0.58	0.59	0.04	0.70	0.09
Uniform Delay, d1	28.4	28.8	17.2	13.1	29.0	4.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	2.0	1.8	0.1	5.5	0.0
Delay (s)	28.8	30.8	18.9	13.3	34.6	4.3
Level of Service	C	C	B	B	C	A
Approach Delay (s)	30.4		18.7			20.2
Approach LOS	C		B			C

Intersection Summary				
HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	76.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	260	300	780	280	90	250
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	36.0	36.0	66.0	66.0	18.0	84.0
Total Split (%)	30.0%	30.0%	55.0%	55.0%	15.0%	70.0%
Maximum Green (s)	30.5	30.5	60.0	60.0	12.5	78.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 112.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	260	300	780	280	90	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	665		412			515
Travel Time (s)	13.0		8.0			10.0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	292	337	876	315	101	281
v/c Ratio	0.83	0.63	0.85	0.33	0.61	0.22
Control Delay	62.4	13.9	32.1	6.8	66.1	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.4	13.9	32.1	6.8	66.1	7.3
Queue Length 50th (ft)	203	36	509	40	71	65
Queue Length 95th (ft)	297	121	#889	106	133	121
Internal Link Dist (ft)	585		332			435
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	483	633	1035	965	198	1300
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.53	0.85	0.33	0.51	0.22

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	260	300	780	280	90	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	292	337	876	315	101	281
RTOR Reduction (vph)	0	222	0	86	0	0
Lane Group Flow (vph)	292	115	876	229	101	281
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	22.4	22.4	62.3	62.3	10.4	78.2
Effective Green, g (s)	22.4	22.4	62.3	62.3	10.4	78.2
Actuated g/C Ratio	0.20	0.20	0.56	0.56	0.09	0.70
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	354	316	1035	880	164	1300
v/s Ratio Prot	c0.17		c0.47		c0.06	0.15
v/s Ratio Perm		0.07		0.14		
v/c Ratio	0.82	0.37	0.85	0.26	0.62	0.22
Uniform Delay, d1	43.0	38.7	20.9	12.9	48.9	6.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.8	0.3	6.3	0.1	4.8	0.4
Delay (s)	56.8	39.0	27.1	13.0	53.7	6.4
Level of Service	E	D	C	B	D	A
Approach Delay (s)	47.2		23.4			18.9
Approach LOS	D		C			B

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	112.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	140	70	200	30	40	570
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	171	85	244	37	49	695
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	244				671	244
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	244				671	244
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				87	13
cM capacity (veh/h)	1322				367	795

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	256	244	37	49	695
Volume Left	171	0	0	49	0
Volume Right	0	0	37	0	695
cSH	1322	1700	1700	367	795
Volume to Capacity	0.13	0.14	0.02	0.13	0.87
Queue Length 95th (ft)	11	0	0	11	277
Control Delay (s)	5.8	0.0	0.0	16.3	32.1
Lane LOS	A			C	D
Approach Delay (s)	5.8	0.0		31.0	
Approach LOS				D	

Intersection Summary				
Average Delay	19.2			
Intersection Capacity Utilization	52.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	40	110	20	100	40
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	15	60	164	30	149	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	537	179			194	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	537	179			194	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	93			89	
cM capacity (veh/h)	450	864			1379	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	75	194	209
Volume Left	15	0	149
Volume Right	60	30	0
cSH	730	1700	1379
Volume to Capacity	0.10	0.11	0.11
Queue Length 95th (ft)	9	0	9
Control Delay (s)	10.5	0.0	5.9
Lane LOS	B		A
Approach Delay (s)	10.5	0.0	5.9
Approach LOS	B		

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	28.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	110	50	90	220	230	210
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	121	55	99	242	253	231
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			176		588	148
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			176		588	148
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		42	74
cM capacity (veh/h)			1400		438	898

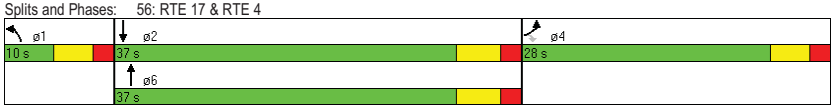
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	176	341	484
Volume Left	0	99	253
Volume Right	55	0	231
cSH	1700	1400	580
Volume to Capacity	0.10	0.07	0.83
Queue Length 95th (ft)	0	6	218
Control Delay (s)	0.0	2.7	34.8
Lane LOS		A	D
Approach Delay (s)	0.0	2.7	34.8
Approach LOS			D

Intersection Summary			
Average Delay		17.8	
Intersection Capacity Utilization		61.0%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	610	20	50	800	280
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	28.0	28.0	10.0	37.0	37.0
Total Split (%)	37.3%	37.3%	13.3%	49.3%	49.3%
Maximum Green (s)	22.5	22.5	4.5	31.0	31.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 75
Actuated Cycle Length: 73
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	610	20	50	800	280	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	456	
Travel Time (s)	16.3			14.6	8.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	782	26	64	1026	718	0
v/c Ratio	1.43	0.05	0.59	1.29	0.91	
Control Delay	228.6	8.7	57.9	164.7	37.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	228.6	8.7	57.9	164.7	37.0	
Queue Length 50th (ft)	~510	0	30	~633	280	
Queue Length 95th (ft)	#586	14	#67	#691	#386	
Internal Link Dist (ft)	758			671	376	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	547	506	109	794	787	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	1.43	0.05	0.59	1.29	0.91	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	610	20	50	800	280	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.93	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1737	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1737	
Peak-hour factor, PHF	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	782	26	64	1026	359	359
RTOR Reduction (vph)	0	17	0	0	48	0
Lane Group Flow (vph)	782	9	64	1026	670	0
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	22.6	22.6	3.5	31.1	31.1	
Effective Green, g (s)	22.6	22.6	3.5	31.1	31.1	
Actuated g/C Ratio	0.30	0.30	0.05	0.42	0.42	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	539	482	83	781	728	
v/s Ratio Prot	c0.44		c0.04	c0.55	0.39	
v/s Ratio Perm		0.01				
v/c Ratio	1.45	0.02	0.77	1.31	0.92	
Uniform Delay, d1	25.8	18.0	35.0	21.6	20.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	213.1	0.0	32.3	150.2	16.7	
Delay (s)	238.9	18.0	67.2	171.8	37.1	
Level of Service	F	B	E	F	D	
Approach Delay (s)	231.8			165.6	37.1	
Approach LOS	F			F	D	

Intersection Summary

HCM Average Control Delay	150.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	74.2	Sum of lost time (s)	17.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	110	390	120	80	150	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	131	464	143	95	179	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	238				917	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	238				917	190
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				34	94
cM capacity (veh/h)	1329				272	851

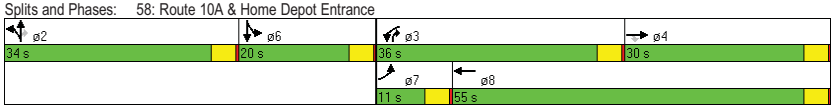
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	595	238	226
Volume Left	131	0	179
Volume Right	0	95	48
cSH	1329	1700	318
Volume to Capacity	0.10	0.14	0.71
Queue Length 95th (ft)	8	0	128
Control Delay (s)	2.6	0.0	40.0
Lane LOS	A		E
Approach Delay (s)	2.6	0.0	40.0
Approach LOS			E

Intersection Summary			
Average Delay		10.0	
Intersection Capacity Utilization		58.6%	ICU Level of Service B
Analysis Period (min)		15	

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	90	380	260	770	1260	730	50	420	20	10
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	11.0	30.0	30.0	36.0	55.0	34.0	34.0	36.0	20.0	20.0
Total Split (%)	9.2%	25.0%	25.0%	30.0%	45.8%	28.3%	28.3%	30.0%	16.7%	16.7%
Maximum Green (s)	7.0	26.0	26.0	32.0	51.0	30.0	30.0	32.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 104.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	380	260	770	1260	80	730	50	420	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1896			1155			624			394	
Travel Time (s)		43.1			22.5			12.2			9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	413	283	837	1457	0	793	54	457	22	65	0
v/c Ratio	0.81	0.47	0.59	0.86	0.89		0.85	0.11	0.43	0.21	0.44	
Control Delay	94.8	36.9	28.0	46.1	34.2		47.4	31.5	2.6	53.9	27.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	94.8	36.9	28.0	46.1	34.2		47.4	31.5	2.6	53.9	27.1	
Queue Length 50th (ft)	70	133	108	284	478		272	28	13	15	8	
Queue Length 95th (ft)	#177	189	208	#399	#669		#387	63	44	42	51	
Internal Link Dist (ft)		1816			1075			544			314	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	121	913	490	1073	1751		1006	546	1098	277	300	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.81	0.45	0.58	0.78	0.83		0.79	0.10	0.42	0.08	0.22	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	380	260	770	1260	80	730	50	420	20	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3508		3433	1863	1583	1770	1631	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3508		3433	1863	1583	1770	1631	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	413	283	837	1370	87	793	54	457	22	11	54
RTOR Reduction (vph)	0	0	83	0	4	0	0	0	176	0	51	0
Lane Group Flow (vph)	98	413	200	837	1453	0	793	54	281	22	14	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	7.1	26.1	26.1	29.7	48.7		28.2	28.2	57.9	5.1	5.1	
Effective Green, g (s)	7.1	26.1	26.1	29.7	48.7		28.2	28.2	57.9	5.1	5.1	
Actuated g/C Ratio	0.07	0.25	0.25	0.28	0.46		0.27	0.27	0.55	0.05	0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	120	879	393	970	1625		921	500	872	86	79	
v/s Ratio Prot	0.06	0.12		c0.24	c0.41		c0.23	0.03	0.09	c0.01	0.01	
v/s Ratio Perm			0.13						0.09			
v/c Ratio	0.82	0.47	0.51	0.86	0.89		0.86	0.11	0.32	0.26	0.17	
Uniform Delay, d1	48.4	33.6	34.0	35.8	25.8		36.6	29.0	12.9	48.2	48.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	31.7	0.1	0.4	7.8	6.6		8.0	0.0	0.1	0.6	0.4	
Delay (s)	80.1	33.8	34.4	43.5	32.4		44.6	29.0	13.0	48.7	48.4	
Level of Service	F	C	C	D	C		D	C	B	D	D	
Approach Delay (s)		39.7			36.5			32.9			48.5	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	36.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	105.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

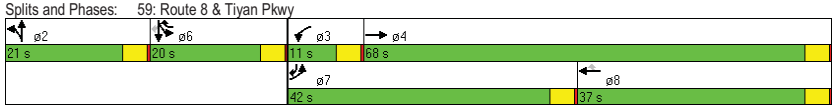
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	970	580	40	1050	480	120	90	120	50	940
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	42.0	68.0	11.0	37.0	20.0	21.0	21.0	20.0	20.0	42.0
Total Split (%)	35.0%	56.7%	9.2%	30.8%	16.7%	17.5%	17.5%	16.7%	16.7%	35.0%
Maximum Green (s)	38.0	64.0	7.0	33.0	16.0	17.0	17.0	16.0	16.0	38.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 111.5
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	970	580	80	40	1050	480	120	90	40	120	50	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2308			2965			532			1075	
Travel Time (s)		45.0			57.8			12.1			20.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										30%		
Lane Group Flow (vph)	1054	717	0	43	1141	522	130	141	0	91	93	1022
v/c Ratio	0.90	0.33		0.43	1.08	0.71	0.67	0.67		0.51	0.50	1.24
Control Delay	47.0	12.3		66.7	91.8	16.9	65.1	59.3		57.7	57.3	142.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	47.0	12.3		66.7	91.8	16.9	65.1	59.3		57.7	57.3	142.0
Queue Length 50th (ft)	370	134		30	~489	142	91	88		66	67	~871
Queue Length 95th (ft)	#555	204		72	#691	225	161	160		126	128	#1196
Internal Link Dist (ft)		2228			2885			452			995	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1175	2158		111	1052	786	271	285		242	250	827
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.90	0.33		0.39	1.08	0.66	0.48	0.49		0.38	0.37	1.24

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

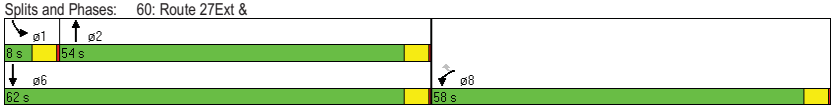
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	970	580	80	40	1050	480	120	90	40	120	50	940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (prot)	3433	3475		1770	3539	1583	1770	1778		1681	1733	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00
Satd. Flow (perm)	3433	3475		1770	3539	1583	1770	1778		1681	1733	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1054	630	87	43	1141	522	130	98	43	130	54	1022
RTOR Reduction (vph)	0	7	0	0	0	92	0	13	0	0	0	64
Lane Group Flow (vph)	1054	710	0	43	1141	430	130	128	0	91	93	958
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	38.1	69.0		4.0	34.9	46.8	12.3	12.3		11.9	11.9	50.0
Effective Green, g (s)	38.1	69.0		4.0	34.9	46.8	12.3	12.3		11.9	11.9	50.0
Actuated g/C Ratio	0.34	0.61		0.04	0.31	0.41	0.11	0.11		0.11	0.11	0.44
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1155	2118		63	1091	654	192	193		177	182	755
v/s Ratio Prot	0.31	0.20		0.02	c0.32	0.07	c0.07	0.07		0.05	0.05	c0.43
v/s Ratio Perm						0.20						0.18
v/c Ratio	0.91	0.34		0.68	1.05	0.66	0.68	0.66		0.51	0.51	1.27
Uniform Delay, d1	36.0	10.8		54.0	39.2	26.7	48.5	48.4		47.9	47.9	31.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.7	0.0		21.6	40.0	1.8	7.2	6.4		1.0	1.0	131.2
Delay (s)	46.7	10.9		75.5	79.2	28.6	55.8	54.9		49.0	48.9	162.8
Level of Service	D	B		E	E	C	E	D		D	D	F
Approach Delay (s)		32.2			63.6			55.3			145.5	
Approach LOS		C			E			E			F	

Intersection Summary				
HCM Average Control Delay	71.8	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.12			
Actuated Cycle Length (s)	113.2	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	104.4%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	610	460	790	10	2210
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	58.0	58.0	54.0	8.0	62.0
Total Split (%)	48.3%	48.3%	45.0%	6.7%	51.7%
Maximum Green (s)	54.0	54.0	50.0	4.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 18 (15%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext &



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	610	460	790	660	10	2210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1271		1087			986
Travel Time (s)	28.9		21.2			19.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	663	500	1576	0	11	2402
v/c Ratio	0.91	0.68	0.63		0.17	0.91
Control Delay	31.4	19.9	19.7		63.4	14.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	31.4	19.9	19.7		63.4	14.9
Queue Length 50th (ft)	299	157	176		8	682
Queue Length 95th (ft)	m135	m71	m193		m7	m558
Internal Link Dist (ft)	1191		1007			906
Turn Bay Length (ft)					300	
Base Capacity (vph)	797	792	2495		65	2630
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.83	0.63	0.63		0.17	0.91

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	610	460	790	660	10	2210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.93		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4692		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4692		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	663	500	859	717	11	2402
RTOR Reduction (vph)	0	85	112	0	0	0
Lane Group Flow (vph)	663	415	1464	0	11	2402
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	49.3	49.3	57.9		0.8	62.7
Effective Green, g (s)	49.3	49.3	57.9		0.8	62.7
Actuated g/C Ratio	0.41	0.41	0.48		0.01	0.52
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	727	650	2264		12	2631
v/s Ratio Prot	c0.37		0.31		0.01	c0.48
v/s Ratio Perm		0.26				
v/c Ratio	0.91	0.64	0.65		0.92	0.91
Uniform Delay, d1	33.3	28.2	23.4		59.6	26.2
Progression Factor	0.88	1.00	0.98		1.11	0.48
Incremental Delay, d2	1.8	0.1	0.9		52.1	0.6
Delay (s)	31.1	28.3	23.8		118.1	13.2
Level of Service	C	C	C		F	B
Approach Delay (s)	29.9		23.8			13.7
Approach LOS	C		C			B

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	520	5	50	10	980	480	20	480	730
Turn Type	Prot		Prot		Prot		Prot		Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	29.0	12.0	20.0	35.0	60.0	9.0	34.0	34.0
Total Split (%)	19.1%	26.4%	10.9%	18.2%	31.8%	54.5%	8.2%	30.9%	30.9%
Maximum Green (s)	17.0	25.0	8.0	16.0	31.0	56.0	5.0	30.0	30.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Walk Time (s)		5.0		5.0		5.0		5.0	5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0		0		0	0

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 96.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	520	5	120	50	10	30	980	480	10	20	480	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		200
Storage Lanes	2		0	1		0	2		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	565	135	0	54	44	0	1065	533	0	22	522	793
v/c Ratio	0.93	0.39		0.44	0.34		0.96	0.45		0.25	0.90	0.92
Control Delay	63.6	11.2		55.3	27.9		52.8	12.0		52.9	52.9	27.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	63.6	11.2		55.3	27.9		52.8	12.0		52.9	52.9	27.7
Queue Length 50th (ft)	184	3		33	7		343	146		14	318	179
Queue Length 95th (ft)	#303	54		74	41		#510	301		40	#543	#467
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	100			100			100			100		200
Base Capacity (vph)	608	511		147	303		1108	1191		92	582	865
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.93	0.26		0.37	0.15		0.96	0.45		0.24	0.90	0.92

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	520	5	120	50	10	30	980	480	10	20	480	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00		1.00	1.00		0.97	1.00		1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.89		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1594		1770	1653		3433	1857		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1594		1770	1653		3433	1857		1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	565	5	130	54	11	33	1065	522	11	22	522	793
RTOR Reduction (vph)	0	111	0	0	32	0	0	0	0	0	0	364
Lane Group Flow (vph)	565	24	0	54	12	0	1065	533	0	22	522	429
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	17.1	15.0		5.8	3.7		31.1	61.8		1.9	32.6	32.6
Effective Green, g (s)	17.1	15.0		5.8	3.7		31.1	61.8		1.9	32.6	32.6
Actuated g/C Ratio	0.17	0.15		0.06	0.04		0.31	0.61		0.02	0.32	0.32
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	584	238		102	61		1062	1142		33	604	513
v/s Ratio Prot	c0.16	0.02		0.03	c0.01		c0.31	0.29		0.01	c0.28	
v/s Ratio Perm												0.27
v/c Ratio	0.97	0.10		0.53	0.20		1.00	0.47		0.67	0.86	0.84
Uniform Delay, d1	41.4	36.9		46.0	47.0		34.7	10.4		49.0	31.9	31.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	28.7	0.1		2.3	0.6		28.3	0.1		32.9	11.9	10.8
Delay (s)	70.1	37.0		48.3	47.6		63.0	10.6		81.9	43.8	42.3
Level of Service	E	D		D	D		E	B		F	D	D
Approach Delay (s)		63.8			48.0			45.5			43.5	
Approach LOS		E			D			D			D	

Intersection Summary				
HCM Average Control Delay	48.3	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	100.5	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	86.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	10	60	50	1270	910
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	16.0	70.0	54.0
Total Split (%)	22.2%	22.2%	17.8%	77.8%	60.0%
Maximum Green (s)	16.0	16.0	12.0	66.0	50.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 83.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	10	60	50	1270	910	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	65	54	1380	1076	0
v/c Ratio	0.09	0.39	0.36	0.85	0.77	
Control Delay	36.3	17.0	42.0	12.0	14.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.3	17.0	42.0	12.0	14.5	
Queue Length 50th (ft)	6	0	27	262	319	
Queue Length 95th (ft)	20	36	60	#927	#760	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	342	358	256	1618	1398	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.03	0.18	0.21	0.85	0.77	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	10	60	50	1270	910	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	1863	1842	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	1863	1842	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	65	54	1380	989	87
RTOR Reduction (vph)	0	61	0	0	2	0
Lane Group Flow (vph)	11	4	54	1380	1074	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.6	4.6	6.0	72.3	62.3	
Effective Green, g (s)	4.6	4.6	6.0	72.3	62.3	
Actuated g/C Ratio	0.05	0.05	0.07	0.85	0.73	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	96	86	125	1587	1352	
v/s Ratio Prot	c0.01		0.03	c0.74	0.58	
v/s Ratio Perm		0.00				
v/c Ratio	0.11	0.04	0.43	0.87	0.79	
Uniform Delay, d1	38.2	38.1	37.8	3.6	7.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.1	0.9	5.2	3.1	
Delay (s)	38.4	38.1	38.7	8.8	10.3	
Level of Service	D	D	D	A	B	
Approach Delay (s)	38.2			9.9	10.3	
Approach LOS	D			A	B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	84.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		

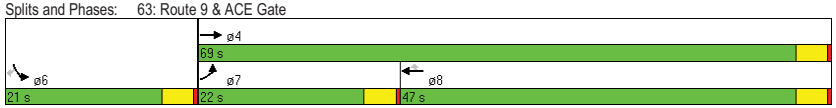
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	360	440	890	260	40	20
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	69.0	47.0	47.0	21.0	21.0
Total Split (%)	24.4%	76.7%	52.2%	52.2%	23.3%	23.3%
Maximum Green (s)	18.0	65.0	43.0	43.0	17.0	17.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 75.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Route 9 & ACE Gate



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	360	440	890	260	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	100
Storage Lanes	1			1	1	1
Taper Length (ft)	25			25	25	25
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		35	
Link Distance (ft)		1010	988		790	
Travel Time (s)		19.7	19.2		15.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	391	478	967	283	43	22
v/c Ratio	0.93	0.29	0.91	0.30	0.29	0.14
Control Delay	60.8	2.0	31.2	6.7	39.0	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.8	2.0	31.2	6.7	39.0	16.9
Queue Length 50th (ft)	193	37	423	40	21	0
Queue Length 95th (ft)	#380	74	#741	89	51	21
Internal Link Dist (ft)		930	908		710	
Turn Bay Length (ft)	150			100		100
Base Capacity (vph)	422	1648	1062	951	399	374
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.29	0.91	0.30	0.11	0.06

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	360	440	890	260	40	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1863	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	391	478	967	283	43	22
RTOR Reduction (vph)	0	0	0	50	0	21
Lane Group Flow (vph)	391	478	967	233	43	1
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	18.1	65.4	43.3	43.3	4.2	4.2
Effective Green, g (s)	18.1	65.4	43.3	43.3	4.2	4.2
Actuated g/C Ratio	0.23	0.84	0.56	0.56	0.05	0.05
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	413	1570	1040	883	96	86
v/s Ratio Prot	c0.22	0.26	c0.52		c0.02	
v/s Ratio Perm				0.15		0.00
v/c Ratio	0.95	0.30	0.93	0.26	0.45	0.01
Uniform Delay, d1	29.3	1.3	15.8	8.9	35.6	34.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	30.4	0.0	13.7	0.1	1.2	0.0
Delay (s)	59.7	1.3	29.4	9.0	36.8	34.8
Level of Service	E	A	C	A	D	C
Approach Delay (s)		27.6	24.8		36.1	
Approach LOS		C	C		D	

Intersection Summary			
HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	77.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

INTERSECTION ANALYSIS

Synchro Output

Year 2030 No-Action Alternative Conditions

Weekday p.m. Peak Hour

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	30	970	860	10	10	430
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	33	1078	956	11	11	478
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	967				2106	961
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	967				2106	961
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				79	0
cM capacity (veh/h)	713				54	311

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	33	1078	967	489
Volume Left	33	0	0	11
Volume Right	0	0	11	478
cSH	713	1700	1700	280
Volume to Capacity	0.05	0.63	0.57	1.74
Queue Length 95th (ft)	4	0	0	796
Control Delay (s)	10.3	0.0	0.0	380.2
Lane LOS	B			F
Approach Delay (s)	0.3		0.0	380.2
Approach LOS				F

Intersection Summary				
Average Delay		72.6		
Intersection Capacity Utilization		84.9%	ICU Level of Service	E
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	710	230	60	730	100	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	789	256	67	811	111	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1044		1861	917
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1044		1861	917
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			90		0	93
cM capacity (veh/h)			643		72	330

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	1044	878	133
Volume Left	0	67	111
Volume Right	256	0	22
cSH	1700	643	83
Volume to Capacity	0.61	0.10	1.61
Queue Length 95th (ft)	0	9	272
Control Delay (s)	0.0	2.9	409.7
Lane LOS		A	F
Approach Delay (s)	0.0	2.9	409.7
Approach LOS			F

Intersection Summary				
Average Delay		27.8		
Intersection Capacity Utilization		101.4%	ICU Level of Service	G
Analysis Period (min)		15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	720	760	10	170	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	800	844	11	189	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	856				1672	850
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	856				1672	850
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				0	97
cM capacity (veh/h)	784				104	360

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	811	856	200
Volume Left	11	0	189
Volume Right	0	11	11
cSH	784	1700	108
Volume to Capacity	0.01	0.50	1.85
Queue Length 95th (ft)	1	0	403
Control Delay (s)	0.4	0.0	483.3
Lane LOS	A		F
Approach Delay (s)	0.4	0.0	483.3
Approach LOS			F

Intersection Summary				
Average Delay		52.0		
Intersection Capacity Utilization		62.6%	ICU Level of Service	B
Analysis Period (min)		15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	770	1080	30	10	30
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	57	875	1227	34	11	34
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		653				
pX, platoon unblocked					0.85	
vC, conflicting volume	1261				2233	1244
vC1, stage 1 conf vol					1244	
vC2, stage 2 conf vol					989	
vCu, unblocked vol	1261				2359	1244
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	90				94	84
cM capacity (veh/h)	544				196	212

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	57	875	1261	45
Volume Left	57	0	0	11
Volume Right	0	0	34	34
cSH	544	1700	1700	283
Volume to Capacity	0.10	0.51	0.74	0.16
Queue Length 95th (ft)	9	0	0	14
Control Delay (s)	12.4	0.0	0.0	25.0
Lane LOS	B			C
Approach Delay (s)	0.8		0.0	25.0
Approach LOS				C

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		68.7%	ICU Level of Service	C
Analysis Period (min)		15		

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	620	840	660	170	1020
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	27.5	71.5	71.5	21.0	92.5
Total Split (%)	22.9%	59.6%	59.6%	17.5%	77.1%
Maximum Green (s)	22.0	65.5	65.5	15.5	86.5
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	620	150	840	660	170	1020
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	837	0	913	717	185	1109
v/c Ratio	1.33		0.90	0.64	0.84	0.43
Control Delay	196.6		37.6	6.4	81.4	7.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	196.6		37.6	6.4	81.4	7.4
Queue Length 50th (ft)	~428		609	54	141	162
Queue Length 95th (ft)	#556		#908	165	#262	198
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	630		1015	1119	229	2551
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.33		0.90	0.64	0.81	0.43

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	620	150	840	660	170	1020
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.97		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3340		1845	1568	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3340		1845	1568	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	674	163	913	717	185	1109
RTOR Reduction (vph)	18	0	0	257	0	0
Lane Group Flow (vph)	819	0	913	460	185	1109
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	22.0		66.0	66.0	15.0	86.5
Effective Green, g (s)	22.0		66.0	66.0	15.0	86.5
Actuated g/C Ratio	0.18		0.55	0.55	0.12	0.72
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	612		1015	862	221	2551
v/s Ratio Prot	c0.25		c0.49		c0.10	0.31
v/s Ratio Perm				0.29		
v/c Ratio	1.34		0.90	0.53	0.84	0.43
Uniform Delay, d1	49.0		24.0	17.2	51.3	6.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	163.1		12.4	2.4	23.7	0.5
Delay (s)	212.1		36.5	19.6	75.0	7.4
Level of Service	F		D	B	E	A
Approach Delay (s)	212.1		29.0			17.0
Approach LOS	F		C			B

Intersection Summary				
HCM Average Control Delay	65.6	HCM Level of Service		E
HCM Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		17.0
Intersection Capacity Utilization	90.2%	ICU Level of Service		E
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	190	150	480	1400	1270	430
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	198	156	500	1458	1323	448
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3276	885	1771			
vC1, stage 1 conf vol	1547					
vC2, stage 2 conf vol	1729					
vCu, unblocked vol	3276	885	1771			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	46	0			
cM capacity (veh/h)	0	288	348			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	354	500	729	729	882	889
Volume Left	198	500	0	0	0	0
Volume Right	156	0	0	0	0	448
cSH	0	348	1700	1700	1700	1700
Volume to Capacity	Err	1.44	0.43	0.43	0.52	0.52
Queue Length 95th (ft)	Err	655	0	0	0	0
Control Delay (s)	Err	241.9	0.0	0.0	0.0	0.0
Lane LOS	F	F				
Approach Delay (s)	Err	61.8			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	105.2%	ICU Level of Service		G
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	850	150	600	280	90	730
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	32.7	0.0	43.8	0.0	13.5	57.3
Total Split (%)	36.3%	0.0%	48.7%	0.0%	15.0%	63.7%
Maximum Green (s)	27.2		37.8		8.0	51.3
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 89.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	850	150	600	280	90	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1000	176	706	329	106	859
v/c Ratio	0.97	0.11	0.98	0.22	0.67	0.81
Control Delay	52.7	0.1	55.6	0.4	61.7	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	0.1	55.6	0.4	61.7	23.1
Queue Length 50th (ft)	287	0	383	0	60	362
Queue Length 95th (ft)	#376	0	#565	0	#122	478
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	1044	1583	730	1468	158	1069
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.11	0.97	0.22	0.67	0.80

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	850	150	600	280	90	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1727	1468	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1727	1468	1770	1863
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1000	176	706	329	106	859
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1000	176	706	329	106	859
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	27.0	89.5	37.5	89.5	8.0	51.0
Effective Green, g (s)	27.0	89.5	37.5	89.5	8.0	51.0
Actuated g/C Ratio	0.30	1.00	0.42	1.00	0.09	0.57
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1036	1583	724	1468	158	1062
v/s Ratio Prot	c0.29		c0.41		0.06	c0.46
v/s Ratio Perm		0.11		0.22		
v/c Ratio	0.97	0.11	0.98	0.22	0.67	0.81
Uniform Delay, d1	30.8	0.0	25.5	0.0	39.5	15.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	19.8	0.1	27.0	0.4	8.5	4.4
Delay (s)	50.6	0.1	52.6	0.4	48.0	19.7
Level of Service	D	A	D	A	D	B
Approach Delay (s)	43.0		36.0			22.8
Approach LOS	D		D			C

Intersection Summary				
HCM Average Control Delay	34.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	89.5	Sum of lost time (s)	17.5
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	310	10	10	1300	70	1580
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	1300	350	70	1580	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Shared Lane Traffic (%)				32%								
Lane Group Flow (vph)	0	66	0	232	219	0	11	1814	0	77	1747	0
v/c Ratio		0.54		0.84	0.76		0.15	0.94		0.63	0.78	
Control Delay		51.6		77.4	61.2		66.5	25.5		81.3	23.4	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		77.4	61.2		66.5	25.5		81.3	23.4	
Queue Length 50th (ft)		30		200	162		10	~261		64	502	
Queue Length 95th (ft)		78		292	249		m13	#1033		#124	#917	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	345		92	1934		138	2234	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.69	0.63		0.12	0.94		0.56	0.78	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	1300	350	70	1580	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.93		1.00	0.97		1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1610		1703	3297		1752	3502	
Flt Permitted		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1610		1703	3297		1752	3502	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	341	11	99	11	1429	385	77	1736	11
RTOR Reduction (vph)	0	29	0	0	24	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	37	0	232	195	0	11	1798	0	77	1747	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		21.4	21.4		2.6	73.6		7.9	78.9	
Effective Green, g (s)		6.1		21.4	21.4		2.6	73.6		7.9	78.9	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.57		0.06	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		277	265		34	1867		106	2125	
v/s Ratio Prot		c0.02		c0.14	0.12		0.01	c0.55		c0.04	c0.50	
v/s Ratio Perm												
v/c Ratio		0.46		0.84	0.73		0.32	0.96		0.73	0.82	
Uniform Delay, d1		60.4		52.6	51.6		62.8	26.9		60.0	20.0	
Progression Factor		1.00		1.00	1.00		1.07	0.62		1.00	1.00	
Incremental Delay, d2		1.5		18.5	8.8		1.1	9.1		18.8	3.7	
Delay (s)		61.9		71.2	60.4		68.6	25.8		78.8	23.8	
Level of Service		E		E	E		E	C		E	C	
Approach Delay (s)		61.9			65.9			26.0			26.1	
Approach LOS		E			E			C			C	

Intersection Summary

HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	50	40	20	20	10	60	150	30	10	270	180
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	168	53	42	21	21	11	63	158	32	11	284	189
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	721	716	379	768	795	174	474			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	721	716	379	768	795	174	474			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	45	84	94	92	93	99	94			99		
cM capacity (veh/h)	304	333	668	249	299	870	1083			1378		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	263	53	253	484
Volume Left	168	21	63	11
Volume Right	42	11	32	189
cSH	340	315	1083	1378
Volume to Capacity	0.77	0.17	0.06	0.01
Queue Length 95th (ft)	156	15	5	1
Control Delay (s)	44.0	18.7	2.6	0.2
Lane LOS	E	C	A	A
Approach Delay (s)	44.0	18.7	2.6	0.2
Approach LOS	E	C		

Intersection Summary					
Average Delay			12.7		
Intersection Capacity Utilization			69.4%	ICU Level of Service	C
Analysis Period (min)			15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	180	260	1410	250	1560
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	260	1410	210	250	1560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	5%	5%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	271	1688	0	260	1625
v/c Ratio	0.77	0.63	0.90		0.80	0.60
Control Delay	73.3	15.4	17.1		71.2	3.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.3	15.4	17.1		71.2	3.7
Queue Length 50th (ft)	155	21	409		190	72
Queue Length 95th (ft)	226	104	m790		m#378	102
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	334	495	1867		324	2714
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.56	0.55	0.90		0.80	0.60

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	260	1410	210	250	1560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1736	1553	3371		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1736	1553	3371		1752	3505
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	271	1469	219	260	1625
RTOR Reduction (vph)	0	209	9	0	0	0
Lane Group Flow (vph)	188	62	1679	0	260	1625
Heavy Vehicles (%)	4%	4%	5%	5%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	18.3	18.3	71.6		24.1	100.7
Effective Green, g (s)	18.3	18.3	71.6		24.1	100.7
Actuated g/C Ratio	0.14	0.14	0.55		0.19	0.77
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	244	219	1857		325	2715
v/s Ratio Prot	c0.11		c0.50		c0.15	0.46
v/s Ratio Perm		0.04				
v/c Ratio	0.77	0.28	0.90		0.80	0.60
Uniform Delay, d1	53.8	50.0	26.1		50.6	6.2
Progression Factor	1.00	1.00	0.40		1.16	0.45
Incremental Delay, d2	12.8	0.3	6.2		8.2	0.6
Delay (s)	66.6	50.2	16.5		66.7	3.4
Level of Service	E	D	B		E	A
Approach Delay (s)	56.9		16.5			12.1
Approach LOS	E		B			B

Intersection Summary

HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	170	240	300	260	270	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	185	261	326	283	293	109
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1283	348	402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1283	348	402			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	62	72			
cM capacity (veh/h)	130	693	1146			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	446	609	402
Volume Left	185	326	0
Volume Right	261	0	109
cSH	248	1146	1700
Volume to Capacity	1.80	0.28	0.24
Queue Length 95th (ft)	757	29	0
Control Delay (s)	409.9	6.5	0.0
Lane LOS	F	A	
Approach Delay (s)	409.9	6.5	0.0
Approach LOS	F		

Intersection Summary				
Average Delay		128.1		
Intersection Capacity Utilization		84.7%	ICU Level of Service	E
Analysis Period (min)		15		

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1620	1220	890	210	1250	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1620	1220	0	890	310	210	1250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1705	1284	0	1263	0	221	1316
v/c Ratio	1.99	0.35		1.17		0.76	0.85
Control Delay	467.4	4.8		112.4		69.2	8.5
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	467.4	4.8		112.4		69.2	8.5
Queue Length 50th (ft)	~2297	120		~444		177	0
Queue Length 95th (ft)	m#1849	m94		#534		#271	63
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	855	3711		1079		313	1576
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.99	0.35		1.17		0.71	0.84

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1620	1220	0	890	310	210	1250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.96		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1736	4988		4841		1770	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1736	4988		4841		1770	2787
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1705	1284	0	937	326	221	1316
RTOR Reduction (vph)	0	0	0	47	0	0	1100
Lane Group Flow (vph)	1705	1284	0	1216	0	221	216
Heavy Vehicles (%)	4%	4%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	96.7		27.7		21.3	21.3
Effective Green, g (s)	64.0	96.7		27.7		21.3	21.3
Actuated g/C Ratio	0.49	0.74		0.21		0.16	0.16
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	855	3710		1032		290	457
v/s Ratio Prot	c0.98	0.26		c0.25		c0.12	
v/s Ratio Perm							0.08
v/c Ratio	1.99	0.35		1.18		0.76	0.47
Uniform Delay, d1	33.0	5.7		51.1		51.9	49.3
Progression Factor	0.56	0.81		0.53		1.00	1.00
Incremental Delay, d2	447.7	0.0		88.9		10.2	0.3
Delay (s)	466.2	4.7		116.1		62.1	49.5
Level of Service	F	A		F		E	D
Approach Delay (s)		268.0		116.1		51.3	
Approach LOS		F		F		D	

Intersection Summary

HCM Average Control Delay	177.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	139.7%	ICU Level of Service	H
Analysis Period (min)	15		

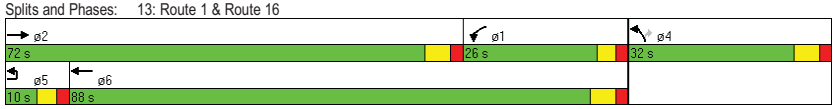
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	2070	550	1660	560	670
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	2070	680	550	1660	560	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	4%	4%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2864	0	573	1729	583	698
v/c Ratio	0.14	1.15		2.02	0.50	0.87	1.33
Control Delay	56.8	98.4		489.1	6.1	33.7	173.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	56.8	98.4		489.1	6.1	33.7	173.3
Queue Length 50th (ft)	8	~1021		~752	110	206	~214
Queue Length 95th (ft)	m10	m#1043		m#811	m179	m210	m#622
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2499		283	3487	673	524
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.15		2.02	0.50	0.87	1.33

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	2070	680	550	1660	560	670
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4833		1752	5036	3367	1530
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4833		1752	5036	3367	1530
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	2156	708	573	1729	583	698
RTOR Reduction (vph)	0	48	0	0	0	0	218
Lane Group Flow (vph)	10	2816	0	573	1729	583	480
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	4%	4%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	62.0		25.0	86.0	26.0	26.0
Effective Green, g (s)	1.0	62.0		25.0	86.0	26.0	26.0
Actuated g/C Ratio	0.01	0.48		0.19	0.66	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2305		337	3332	673	306
v/s Ratio Prot	0.01	c0.58		c0.33	0.34	0.17	
v/s Ratio Perm							c0.31
v/c Ratio	0.71	1.22		1.70	0.52	0.87	1.57
Uniform Delay, d1	64.4	34.0		52.5	11.3	50.3	52.0
Progression Factor	0.90	1.00		0.68	0.60	0.54	0.55
Incremental Delay, d2	50.0	101.7		319.2	0.2	4.5	262.3
Delay (s)	107.8	135.7		354.9	7.0	31.5	290.7
Level of Service	F	F		F	A	C	F
Approach Delay (s)		135.6			93.6	172.7	
Approach LOS		F			F	F	

Intersection Summary				
HCM Average Control Delay	128.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	850	200	270	2220	30	1520
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	850	200	270	2220	30	1520	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	944	222	300	2467	33	2533	0
v/c Ratio	1.08	0.43	1.06	0.80	0.49	1.11	
Control Delay	101.3	16.2	88.1	19.7	92.3	84.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	101.3	16.2	88.1	19.7	92.3	84.5	
Queue Length 50th (ft)	~458	46	~284	476	27	~886	
Queue Length 95th (ft)	#589	122	m249	m412	m51	#943	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	515	283	3099	69	2277	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.08	0.43	1.06	0.80	0.48	1.11	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	850	200	270	2220	30	1520	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4784	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4784	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	944	222	300	2467	33	1689	844
RTOR Reduction (vph)	0	113	0	0	0	69	0
Lane Group Flow (vph)	944	109	300	2467	33	2464	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Effective Green, g (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Actuated g/C Ratio	0.25	0.25	0.16	0.60	0.02	0.46	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	283	3022	42	2208	
v/s Ratio Prot	c0.27		c0.17	0.49	0.02	c0.51	
v/s Ratio Perm		0.07					
v/c Ratio	1.08	0.27	1.06	0.82	0.79	1.12	
Uniform Delay, d1	48.5	38.9	54.5	20.4	63.2	35.0	
Progression Factor	1.00	1.00	1.04	0.98	1.17	0.84	
Incremental Delay, d2	55.8	0.1	34.9	0.2	52.4	58.1	
Delay (s)	104.3	39.0	91.5	20.2	126.5	87.6	
Level of Service	F	D	F	C	F	F	
Approach Delay (s)	91.9			27.9		88.1	
Approach LOS	F			C		F	

Intersection Summary

HCM Average Control Delay	63.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	410	190	1230	320	1090
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	410	190	1230	650	320	1090
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	441	204	2022	0	344	1172
v/c Ratio	0.95	0.37	1.01		0.95	0.36
Control Delay	56.7	2.9	24.3		40.6	2.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	56.7	2.9	24.3		40.6	2.4
Queue Length 50th (ft)	383	16	~204		288	51
Queue Length 95th (ft)	m#497	m3	m179		m194	m36
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	555	2001		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.95	0.37	1.01		0.95	0.36

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	410	190	1230	650	320	1090
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4729		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4729		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	441	204	1323	699	344	1172
RTOR Reduction (vph)	0	141	73	0	0	0
Lane Group Flow (vph)	441	63	1949	0	344	1172
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1928		364	3293
v/s Ratio Prot	c0.25	0.04	c0.41		c0.20	0.23
v/s Ratio Perm						
v/c Ratio	0.95	0.15	1.01		0.95	0.36
Uniform Delay, d1	47.2	36.9	38.5		50.8	10.2
Progression Factor	0.61	0.24	0.38		0.64	0.23
Incremental Delay, d2	26.1	0.6	9.0		5.6	0.0
Delay (s)	54.9	9.3	23.6		38.3	2.4
Level of Service	D	A	C		D	A
Approach Delay (s)	40.5		23.6			10.5
Approach LOS	D		C			B

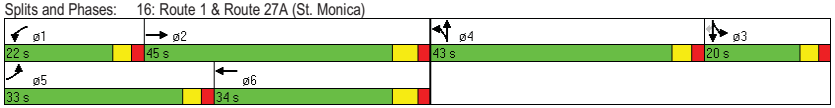
Intersection Summary			
HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	310	950	200	850	90	200	20	180	170
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	950	100	200	850	10	90	200	190	20	180	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	1105	0	211	906	0	95	411	0	21	189	179
v/c Ratio	0.92	0.63		0.93	0.65		0.22	0.90		0.11	0.90	0.54
Control Delay	98.4	25.6		96.4	31.3		44.1	55.8		53.0	98.4	15.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	98.4	25.6		96.4	31.3		44.1	55.8		53.0	98.4	15.1
Queue Length 50th (ft)	293	150		152	260		55	222		16	159	5
Queue Length 95th (ft)	#414	218		#322	343		m51	m205		43	#297	77
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1742		229	1386		517	531		204	215	335
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.86	0.63		0.92	0.65		0.18	0.77		0.10	0.88	0.53

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	950	100	200	850	10	90	200	190	20	180	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4964		1752	5027		1770	1727		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4964		1752	5027		1770	1727		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	326	1000	105	211	895	11	95	211	200	21	189	179
RTOR Reduction (vph)	0	9	0	0	1	0	0	28	0	0	0	153
Lane Group Flow (vph)	326	1096	0	211	905	0	95	383	0	21	189	26
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	26.3	45.3		16.8	35.8		32.3	32.3		14.6	14.6	14.6
Effective Green, g (s)	26.3	45.3		16.8	35.8		32.3	32.3		14.6	14.6	14.6
Actuated g/C Ratio	0.20	0.35		0.13	0.28		0.25	0.25		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	354	1730		226	1384		440	429		199	209	178
v/s Ratio Prot	c0.19	c0.22		0.12	0.18		0.05	c0.22		0.01	c0.10	
v/s Ratio Perm												0.02
v/c Ratio	0.92	0.63		0.93	0.65		0.22	0.89		0.11	0.90	0.15
Uniform Delay, d1	50.8	35.4		56.0	41.6		38.8	47.2		51.8	57.0	52.1
Progression Factor	1.37	0.66		0.97	0.67		1.17	1.14		1.00	1.00	1.00
Incremental Delay, d2	26.9	1.7		38.3	2.2		0.0	6.1		0.1	36.2	0.1
Delay (s)	96.8	25.0		92.6	30.0		45.6	59.9		51.9	93.2	52.2
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		41.4			41.8			57.2			72.1	
Approach LOS		D			D			E			E	

Intersection Summary

HCM Average Control Delay	47.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

17: Route 27A & Route 28

HCM Unsignalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	120	80	220	40	70	20	20	360	30	20	400	380
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	156	104	286	52	91	26	26	468	39	26	519	494

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	156	390	169	26	506	545	494
Volume Left (vph)	156	0	52	26	0	26	0
Volume Right (vph)	0	286	26	0	39	0	494
Hadj (s)	0.53	-0.48	0.00	0.53	-0.02	0.06	-0.67
Departure Headway (s)	9.2	8.2	9.8	9.3	8.8	8.5	7.7
Degree Utilization, x	0.40	0.89	0.46	0.07	1.23	1.28	1.06
Capacity (veh/h)	387	426	350	375	415	434	473
Control Delay (s)	17.0	47.2	20.9	11.8	151.0	167.4	85.1
Approach Delay (s)	38.6		20.9	144.2		128.3	
Approach LOS	E		C	F		F	

Intersection Summary			
Delay	102.7		
HCM Level of Service	F		
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

18: Route 1 & Route 27

Phasings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	110	1110	710	990	140	360	1100	150	50
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	1110	80	710	990	40	140	360	1100	60	150	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	1266	0	755	1096	0	149	383	1170	0	224	53
v/c Ratio	0.70	1.03		1.47	0.49		0.44	1.07	0.90		1.22	0.30
Control Delay	89.7	60.0		264.3	23.2		39.7	80.3	9.5		185.1	39.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	89.7	60.0		264.3	23.2		39.7	80.3	9.5		185.1	39.9
Queue Length 50th (ft)	105	~414		~864	142		107	~359	148		~231	24
Queue Length 95th (ft)	m161	#506		m#913	m146		m73	m206	m43		#398	67
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1232		512	2225		340	358	1298		184	178
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.58	1.03		1.47	0.49		0.44	1.07	0.90		1.22	0.30

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	1110	80	710	990	40	140	360	1100	60	150	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4980		1752	5006		1770	1863	2745		1837	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4980		1752	5006		1770	1863	2745		1837	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	117	1181	85	755	1053	43	149	383	1170	64	160	53
RTOR Reduction (vph)	0	6	0	0	3	0	0	0	771	0	0	20
Lane Group Flow (vph)	117	1260	0	755	1093	0	149	383	399	0	224	33
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	12.3	32.0		38.0	57.7		25.0	25.0	25.0		13.0	13.0
Effective Green, g (s)	12.3	32.0		38.0	57.7		25.0	25.0	25.0		13.0	13.0
Actuated g/C Ratio	0.09	0.25		0.29	0.44		0.19	0.19	0.19		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	166	1226		512	2222		340	358	528		184	158
v/s Ratio Prot	0.07	c0.25		c0.43	0.22		0.08	c0.21			c0.12	
v/s Ratio Perm									0.15			0.02
v/c Ratio	0.70	1.03		1.47	0.49		0.44	1.07	0.76		1.22	0.21
Uniform Delay, d1	57.1	49.0		46.0	25.7		46.3	52.5	49.6		58.5	53.8
Progression Factor	1.25	0.58		1.43	0.87		0.84	0.85	0.86		1.00	1.00
Incremental Delay, d2	8.8	30.7		220.9	0.5		0.0	37.3	0.5		137.0	0.2
Delay (s)	80.2	59.2		286.7	22.9		38.8	81.8	43.3		195.5	54.0
Level of Service	F	E		F	C		D	F	D		F	D
Approach Delay (s)		61.0			130.5			51.6			168.4	
Approach LOS		E			F			D			F	

Intersection Summary

HCM Average Control Delay	88.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	111.2%	ICU Level of Service	H
Analysis Period (min)	15		

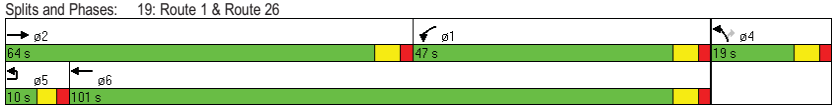
c Critical Lane Group

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1760	710	1400	510	680
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary

Cycle Length: 130
Actual Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	570	710	1400	510	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2478	0	755	1489	543	723
v/c Ratio	0.31	1.12		1.37	0.39	1.58	1.23
Control Delay	75.2	78.6		184.9	1.9	313.2	133.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	75.2	78.6		184.9	1.9	313.2	133.2
Queue Length 50th (ft)	19	~836		~814	48	~335	~366
Queue Length 95th (ft)	m20	m#854		m#743	m53	#450	#610
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2209		553	3835	343	589
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.12		1.37	0.39	1.58	1.23

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	570	710	1400	510	680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4851		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4851		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1872	606	755	1489	543	723
RTOR Reduction (vph)	0	46	0	0	0	0	430
Lane Group Flow (vph)	21	2432	0	755	1489	543	293
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2090		580	3758	343	158
v/s Ratio Prot	0.01	c0.50		c0.43	0.30	0.16	
v/s Ratio Perm							c0.18
v/c Ratio	0.50	1.16		1.30	0.40	1.58	1.85
Uniform Delay, d1	62.8	37.0		43.5	5.9	58.5	58.5
Progression Factor	1.16	0.56		0.32	0.33	1.00	1.00
Incremental Delay, d2	1.2	75.7		137.0	0.0	275.9	407.3
Delay (s)	73.9	96.4		151.0	2.0	334.4	465.8
Level of Service	E	F		F	A	F	F
Approach Delay (s)		96.2			52.2	409.4	
Approach LOS		F			D	F	

Intersection Summary			
HCM Average Control Delay	145.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	115.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	520	1810	20	1670	100	50	20	390
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	520	1810	0	20	1670	120	70	100	50	150	20	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	553	1926	0	21	1905	0	0	180	53	0	181	415
v/c Ratio	1.08	0.62		0.27	1.12			0.98	0.26		0.94	0.85
Control Delay	92.9	3.1		57.5	103.2			120.6	17.1		109.0	27.1
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	92.9	3.1		57.5	103.2			120.6	17.1		109.0	27.1
Queue Length 50th (ft)	~509	81		18	~670			154	0		154	47
Queue Length 95th (ft)	m353	m71		m29	#769			#306	41		#299	#219
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3100		94	1694			183	206		192	488
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.08	0.62		0.22	1.12			0.98	0.26		0.94	0.85

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	520	1810	0	20	1670	120	70	100	50	150	20	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4985			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4985			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	553	1926	0	21	1777	128	74	106	53	160	21	415
RTOR Reduction (vph)	0	0	0	0	6	0	0	0	48	0	0	318
Lane Group Flow (vph)	553	1926	0	21	1899	0	0	180	5	0	181	97
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Effective Green, g (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.29	0.60		0.03	0.34			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	512	3022		54	1687			183	158		192	170
v/s Ratio Prot	c0.32	0.38		0.01	c0.38			c0.10			c0.10	
v/s Ratio Perm									0.00			0.06
v/c Ratio	1.08	0.64		0.39	1.13			0.98	0.03		0.94	0.57
Uniform Delay, d1	46.0	16.8		61.8	43.0			58.4	52.8		57.6	55.2
Progression Factor	1.26	0.19		0.85	1.01			1.00	1.00		1.00	1.00
Incremental Delay, d2	39.9	0.1		1.4	63.7			61.2	0.0		48.0	2.9
Delay (s)	97.9	3.2		53.9	107.0			119.6	52.9		105.7	58.0
Level of Service	F	A		D	F			F	D		F	E
Approach Delay (s)		24.3			106.5			104.4			72.5	
Approach LOS		C			F			F			E	

Intersection Summary

HCM Average Control Delay	63.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

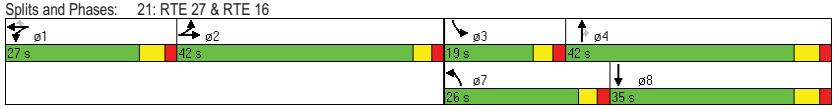
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	310	830	640	320	370	350	1170	860	280	1040
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	830	560	640	320	370	350	1170	860	280	1040	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		3150			1269			820			2979	
Travel Time (s)		71.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	1463	0	674	337	389	368	1232	905	295	1148	0
v/c Ratio	0.65	1.41		1.21	1.12	0.77	1.31	1.28	1.35	1.56	1.03	
Control Delay	45.9	221.4		144.2	111.5	25.9	206.9	173.8	192.1	310.4	83.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.9	221.4		144.2	111.5	25.9	206.9	173.8	192.1	310.4	83.7	
Queue Length 50th (ft)	227	~829		~356	~323	148	~399	~692	~788	~356	~347	
Queue Length 95th (ft)	m240	m#814		m#271	m#250	m120	#597	#830	#1044	m#500	m#446	
Internal Link Dist (ft)		3070			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1037		555	301	506	280	961	670	189	1119	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.65	1.41		1.21	1.12	0.77	1.31	1.28	1.35	1.56	1.03	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	830	560	640	320	370	350	1170	860	280	1040	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3325		3433	1863	1583	1736	3471	1553	1752	5001	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3325		3433	1863	1583	1736	3471	1553	1752	5001	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	326	874	589	674	337	389	368	1232	905	295	1095	53
RTOR Reduction (vph)	0	90	0	0	0	250	0	0	240	0	4	0
Lane Group Flow (vph)	326	1373	0	674	337	139	368	1232	665	295	1144	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.22	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	946		555	301	256	280	961	430	189	1116	
v/s Ratio Prot	0.18	c0.41		c0.20	0.18		0.21	0.35		c0.17	0.23	
v/s Ratio Perm						0.09			c0.43			
v/c Ratio	0.65	1.45		1.21	1.12	0.54	1.31	1.28	1.55	1.56	1.03	
Uniform Delay, d1	40.8	46.5		54.5	54.5	50.1	54.5	47.0	47.0	58.0	50.5	
Progression Factor	1.02	1.01		0.95	0.95	1.77	1.00	1.00	1.00	0.97	1.06	
Incremental Delay, d2	3.7	206.6		100.5	64.6	0.3	164.5	134.9	257.2	273.6	31.7	
Delay (s)	45.2	253.5		152.1	116.1	88.9	219.0	181.9	304.2	329.7	85.2	
Level of Service	D	F		F	F	F	F	F	F	F	F	
Approach Delay (s)		215.5			125.9			231.5			135.2	
Approach LOS		F			F			F			F	

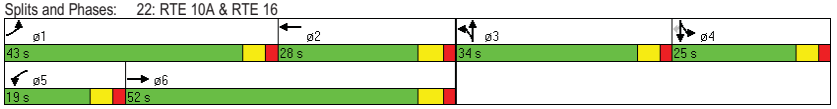
Intersection Summary				
HCM Average Control Delay	187.3	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.45			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	125.3%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT	SBR
Lane Configurations									
Volume (vph)	930	770	440	120	470	470	30	10	640
Turn Type	Prot		Free	Prot		Split			Perm
Protected Phases	1	6		5	2	3	3	4	
Permitted Phases			Free						4
Detector Phase	1	6		5	2	3	3	4	4
Switch Phase									
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.5	16.0		15.5	16.0	32.5	32.5	16.0	16.0
Total Split (s)	43.0	52.0	0.0	19.0	28.0	34.0	34.0	25.0	25.0
Total Split (%)	33.1%	40.0%	0.0%	14.6%	21.5%	26.2%	26.2%	19.2%	19.2%
Maximum Green (s)	37.5	46.0		13.5	22.0	28.5	28.5	19.5	19.5
Yellow Time (s)	3.5	4.0		3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	4.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None		None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		20.0			20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 128.8
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 22: RTE 10A & RTE 16



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	930	770	440	120	470	20	470	30	110	40	10	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		450	350		0	400		0	0		400
Storage Lanes	1		1	1		0	1		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1065			746			868			1242	
Travel Time (s)		20.7			14.5			16.9			24.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							34%					
Lane Group Flow (vph)	1033	856	489	133	544	0	345	332	0	0	55	711
v/c Ratio	1.03	0.67	0.31	0.77	0.93		0.96	0.91			0.20	1.16
Control Delay	82.0	38.2	0.5	84.9	75.4		88.4	75.6			50.7	107.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	82.0	38.2	0.5	84.9	75.4		88.4	75.6			50.7	107.1
Queue Length 50th (ft)	~485	321	0	110	238		304	272			41	~372
Queue Length 95th (ft)	#618	396	0	#207	#342		#502	#457			83	#616
Internal Link Dist (ft)		985			666			788			1162	
Turn Bay Length (ft)	350		450	350			400					400
Base Capacity (vph)	1000	1275	1583	186	604		369	373			269	614
Starvation Cap Reductn	0	0	0	0	0		0	0			0	0
Spillback Cap Reductn	0	0	0	0	0		0	0			0	0
Storage Cap Reductn	0	0	0	0	0		0	0			0	0
Reduced v/c Ratio	1.03	0.67	0.31	0.72	0.90		0.93	0.89			0.20	1.16

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	930	770	440	120	470	20	470	30	110	40	10	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0	4.0	5.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95		0.95	0.95			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (prot)	3433	3539	1583	1770	3518		1665	1613			1774	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97			0.96	1.00
Satd. Flow (perm)	3433	3539	1583	1770	3518		1665	1613			1774	1568
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1033	856	489	133	522	22	522	33	122	44	11	711
RTOR Reduction (vph)	0	0	0	0	3	0	0	16	0	0	0	376
Lane Group Flow (vph)	1033	856	489	133	541	0	345	316	0	0	55	335
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot		Free	Prot			Split			Split		Perm
Protected Phases	1	6		5	2		3	3		4	4	
Permitted Phases			Free									4
Actuated Green, G (s)	37.5	46.4	128.7	12.5	21.4		27.8	27.8			19.5	19.5
Effective Green, g (s)	37.5	46.4	128.7	12.5	21.4		27.8	27.8			19.5	19.5
Actuated g/C Ratio	0.29	0.36	1.00	0.10	0.17		0.22	0.22			0.15	0.15
Clearance Time (s)	5.5	6.0		5.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	1000	1276	1583	172	585		360	348			269	238
v/s Ratio Prot	c0.30	0.24		0.08	c0.15		c0.21	0.20			0.03	
v/s Ratio Perm			0.31									c0.21
v/c Ratio	1.03	0.67	0.31	0.77	0.93		0.96	0.91			0.20	1.41
Uniform Delay, d1	45.6	34.7	0.0	56.7	52.9		49.9	49.2			47.8	54.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	37.3	1.1	0.5	17.6	20.4		35.9	25.6			0.1	206.8
Delay (s)	82.9	35.8	0.5	74.4	73.2		85.8	74.8			47.9	261.4
Level of Service	F	D	A	E	E		F	E			D	F
Approach Delay (s)		49.0			73.5			80.4			246.1	
Approach LOS		D			E			F			F	

Intersection Summary

HCM Average Control Delay	91.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	128.7	Sum of lost time (s)	22.5
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	290	10	330	10	10	220	710	10	40	540	440
Turn Type	Perm		Perm	Perm		Perm		Perm	Perm		Perm
Protected Phases		4			8		2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	22.0	22.0	22.0	22.0	22.0	38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	34.0	34.0	34.0	34.0	34.0	34.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag											
Lead-Lag Optimize?											
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	Min	Min	Min	Min
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 47.4
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Route 25 & Route 26

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	10	330	10	10	20	220	710	10	40	540	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	200		100	200		0
Storage Lanes	0		1	0		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		870			640			642			991	
Travel Time (s)		16.9			12.5			12.5			19.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	312	344	0	41	0	229	740	10	42	562	458
v/c Ratio		0.74	0.48		0.08		0.75	0.80	0.01	0.24	0.60	0.45
Control Delay		30.6	6.2		10.1		27.8	17.4	3.7	10.9	11.7	2.4
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		30.6	6.2		10.1		27.8	17.4	3.7	10.9	11.7	2.4
Queue Length 50th (ft)		78	8		4		51	171	0	7	112	0
Queue Length 95th (ft)		#223	64		24		#161	287	5	23	186	32
Internal Link Dist (ft)		790			560			562			911	
Turn Bay Length (ft)			200				200		100	200		
Base Capacity (vph)		537	826		662		450	1370	1166	256	1370	1285
Starvation Cap Reductn		0	0		0		0	0	0	0	0	0
Spillback Cap Reductn		0	0		0		0	0	0	0	0	0
Storage Cap Reductn		0	0		0		0	0	0	0	0	0
Reduced v/c Ratio		0.58	0.42		0.06		0.51	0.54	0.01	0.16	0.41	0.36

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	10	330	10	10	20	220	710	10	40	540	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.95	1.00		0.99		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1777	1583		1713		1770	1863	1583	1770	1863	1583
Flt Permitted		0.70	1.00		0.91		0.33	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)		1309	1583		1585		612	1863	1583	348	1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	302	10	344	10	10	21	229	740	10	42	562	458
RTOR Reduction (vph)	0	0	204	0	14	0	0	0	4	0	0	227
Lane Group Flow (vph)	0	312	140	0	27	0	229	740	6	42	562	231
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)		15.1	15.1		15.1		23.6	23.6	23.6	23.6	23.6	23.6
Effective Green, g (s)		15.1	15.1		15.1		23.6	23.6	23.6	23.6	23.6	23.6
Actuated g/C Ratio		0.32	0.32		0.32		0.51	0.51	0.51	0.51	0.51	0.51
Clearance Time (s)		4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		423	512		512		309	941	800	176	941	800
v/s Ratio Prot								c0.40			0.30	
v/s Ratio Perm		c0.24	0.09		0.02		0.37		0.00	0.12		0.15
v/c Ratio		0.74	0.27		0.05		0.74	0.79	0.01	0.24	0.60	0.29
Uniform Delay, d1		14.0	11.7		10.9		9.1	9.5	5.7	6.5	8.2	6.7
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		5.7	0.1		0.0		8.1	4.1	0.0	0.3	0.7	0.1
Delay (s)		19.7	11.8		10.9		17.2	13.5	5.7	6.8	8.9	6.8
Level of Service		B	B		B		B	B	A	A	A	A
Approach Delay (s)		15.6			10.9			14.3			7.9	
Approach LOS		B			B			B			A	

Intersection Summary				
HCM Average Control Delay	12.1	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	46.7	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	74.0%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	190	10	300	10	10	10	370	360	10	10	490	320
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	226	12	357	12	12	12	440	429	12	12	583	381
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			8									
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1935	1929	583	1923	1917	429	583			440		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1935	1929	583	1923	1917	429	583			440		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	67	30	0	68	98	55			99		
cM capacity (veh/h)	24	36	512	8	37	626	986			1114		

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	226	369	36	440	429	12	12	583	381
Volume Left	226	0	12	440	0	0	12	0	0
Volume Right	0	357	12	0	0	12	0	0	381
cSH	24	529	19	986	1700	1700	1114	1700	1700
Volume to Capacity	9.35	0.70	1.91	0.45	0.25	0.01	0.01	0.34	0.22
Queue Length 95th (ft)	Err	136	122	59	0	0	1	0	0
Control Delay (s)	Err	30.5	860.7	11.6	0.0	0.0	8.3	0.0	0.0
Lane LOS	F	D	F	B			A		
Approach Delay (s)	3818.6		860.7	5.8			0.1		
Approach LOS	F		F						

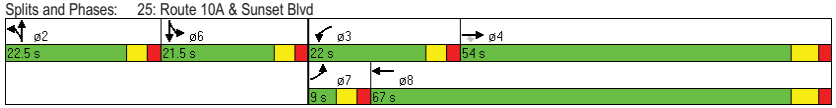
Intersection Summary				
Average Delay	928.0			
Intersection Capacity Utilization	73.5%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Configurations								
Volume (vph)	10	1630	10	370	1340	70	10	10
Turn Type	Prot		Perm	Prot		Split		
Protected Phases	7	4		3	8	2	2	6
Permitted Phases			4					
Detector Phase	7	4	4	3	8	2	2	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	22.0	22.0	9.5	22.0	21.5	21.5	21.5
Total Split (s)	9.0	54.0	54.0	22.0	67.0	22.5	22.5	21.5
Total Split (%)	7.5%	45.0%	45.0%	18.3%	55.8%	18.8%	18.8%	17.9%
Maximum Green (s)	4.0	48.0	48.0	17.0	61.0	17.5	17.5	16.5
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	5.0	6.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	Max	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 109
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 25: Route 10A & Sunset Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1630	10	370	1340	40	70	10	210	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		165	420		0	0		90	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1228			925			632			353	
Travel Time (s)		27.9			21.0			14.4			8.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	1734	11	394	1469	0	74	234	0	0	54	0
v/c Ratio	0.17	1.11	0.02	1.42	0.46		0.26	0.53			0.43	
Control Delay	58.8	89.5	12.9	246.2	12.2		44.5	11.5			53.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay	58.8	89.5	12.9	246.2	12.2		44.5	11.5			53.3	
Queue Length 50th (ft)	8	~754	2	~383	182		47	7			31	
Queue Length 95th (ft)	28	#937	13	#593	290		94	80			73	
Internal Link Dist (ft)		1148			845			552			273	
Turn Bay Length (ft)	180		165	420								
Base Capacity (vph)	65	1563	703	277	3184		285	444			275	
Starvation Cap Reductn	0	0	0	0	0		0	0			0	
Spillback Cap Reductn	0	0	0	0	0		0	0			0	
Storage Cap Reductn	0	0	0	0	0		0	0			0	
Reduced v/c Ratio	0.17	1.11	0.02	1.42	0.46		0.26	0.53			0.20	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

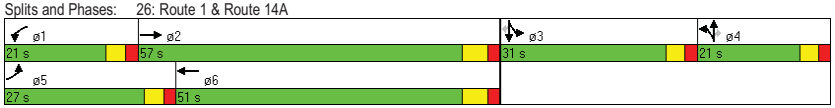
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1630	10	370	1340	40	70	10	210	30	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.86			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1770	3539	1583	1770	5063		1770	1596			1759	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (perm)	1770	3539	1583	1770	5063		1770	1596			1759	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1734	11	394	1426	43	74	11	223	32	11	11
RTOR Reduction (vph)	0	0	4	0	2	0	0	189	0	0	9	0
Lane Group Flow (vph)	11	1734	7	394	1467	0	74	45	0	0	45	0
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Effective Green, g (s)	0.8	52.3	52.3	17.0	68.5		17.5	17.5			6.3	
Actuated g/C Ratio	0.01	0.46	0.46	0.15	0.60		0.15	0.15			0.06	
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0		5.0	5.0			5.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	12	1622	726	264	3040		271	245			97	
v/s Ratio Prot	0.01	c0.49		c0.22	0.29		c0.04	0.03			c0.03	
v/s Ratio Perm			0.00									
v/c Ratio	0.92	1.07	0.01	1.49	0.48		0.27	0.18			0.47	
Uniform Delay, d1	56.6	30.9	16.8	48.5	12.8		42.7	42.1			52.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	209.7	43.4	0.0	240.6	0.0		2.5	1.7			1.3	
Delay (s)	266.3	74.3	16.8	289.2	12.9		45.2	43.7			53.6	
Level of Service	F	E	B	F	B		D	D			D	
Approach Delay (s)		75.1			71.3			44.1			53.6	
Approach LOS		E			E			D			D	

Intersection Summary				
HCM Average Control Delay	70.6	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	114.1	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	99.9%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	430	1710	290	1850	400	80	210	780	70	220
Turn Type	Prot		Prot		Split		Perm	Split		Perm
Protected Phases	5	2	1	6	4	4		3	3	
Permitted Phases							4			3
Detector Phase	5	2	1	6	4	4	4	3	3	3
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	43.0	12.0	33.0	15.0	15.0	15.0	20.0	20.0	20.0
Total Split (s)	27.0	57.0	21.0	51.0	21.0	21.0	21.0	31.0	31.0	31.0
Total Split (%)	20.8%	43.8%	16.2%	39.2%	16.2%	16.2%	16.2%	23.8%	23.8%	23.8%
Maximum Green (s)	22.0	51.0	16.0	45.0	16.0	16.0	16.0	26.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		26.0		20.0	24.0	24.0	24.0	27.0	27.0	27.0
Pedestrian Calls (#/hr)		5		0	0	0	0	10	10	10

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 22 (17%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 26: Route 1 & Route 14A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1710	550	290	1850	340	400	80	210	780	70	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	630		0	350		0	200		200	360		250
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		3050			1510			526			604	
Travel Time (s)		59.4			29.4			14.3			16.5	
Confl. Peds. (#/hr)			5									142
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							40%			46%		
Lane Group Flow (vph)	473	2483	0	319	2407	0	264	264	231	463	471	242
v/c Ratio	1.60	1.28		1.48	1.40		1.28	1.25	0.62	1.38	1.39	0.58
Control Delay	310.0	147.5		284.2	205.2		201.0	191.9	18.9	227.1	229.8	16.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	310.0	147.5		284.2	205.2		201.0	191.9	18.9	227.1	229.8	16.9
Queue Length 50th (ft)	~566	~945		~381	~975		~295	~292	24	~543	~554	33
Queue Length 95th (ft)	m#424	m#641		#574	#1066		#482	#477	110	#766	#780	121
Internal Link Dist (ft)		2970			1430			446			524	
Turn Bay Length (ft)	630			350			200		200	360		250
Base Capacity (vph)	296	1940		216	1723		207	211	370	336	340	416
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.60	1.28		1.48	1.40		1.28	1.25	0.62	1.38	1.39	0.58

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	1710	550	290	1850	340	400	80	210	780	70	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.95	0.95	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (prot)	1752	4831		1752	4919		1681	1713	1583	1681	1699	1296
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00	0.95	0.96	1.00
Satd. Flow (perm)	1752	4831		1752	4919		1681	1713	1583	1681	1699	1296
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	473	1879	604	319	2033	374	440	88	231	857	77	242
RTOR Reduction (vph)	0	44	0	0	20	0	0	0	175	0	0	157
Lane Group Flow (vph)	473	2439	0	319	2387	0	264	264	56	463	471	85
Confl. Peds. (#/hr)			5									142
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Effective Green, g (s)	22.0	51.0		16.0	45.0		16.0	16.0	16.0	26.0	26.0	26.0
Actuated g/C Ratio	0.17	0.39		0.12	0.35		0.12	0.12	0.12	0.20	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	296	1895		216	1703		207	211	195	336	340	259
v/s Ratio Prot	c0.27	0.50		0.18	c0.49		c0.16	0.15		0.28	c0.28	
v/s Ratio Perm									0.04			0.07
v/c Ratio	1.60	1.29		1.48	1.40		1.28	1.25	0.29	1.38	1.39	0.33
Uniform Delay, d1	54.0	39.5		57.0	42.5		57.0	57.0	51.8	52.0	52.0	44.5
Progression Factor	1.20	0.47		1.47	0.54		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	270.5	129.5		232.8	183.4		155.9	145.9	0.3	187.8	190.7	0.3
Delay (s)	335.5	148.0		316.8	206.5		212.9	202.9	52.1	239.8	242.7	44.8
Level of Service	F	F		F	F		F	F	D	F	F	D
Approach Delay (s)		178.0			219.4			160.5			200.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	194.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	110.6%	ICU Level of Service	H
Analysis Period (min)	15		

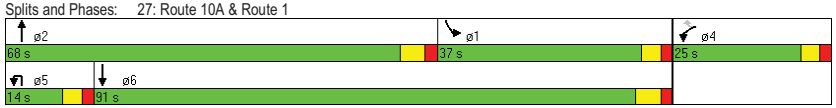
c Critical Lane Group

Lane Group	WBL	WBR	NBU	NBT	SBL	SBT
Lane Configurations						
Volume (vph)	710	600	50	1880	630	1510
Turn Type		Perm	Prot		Prot	
Protected Phases	4		5	2	1	6
Permitted Phases		4				
Detector Phase	4	4	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	18.0	18.0	9.0	35.0	12.0	25.0
Total Split (s)	25.0	25.0	14.0	68.0	37.0	91.0
Total Split (%)	19.2%	19.2%	10.8%	52.3%	28.5%	70.0%
Maximum Green (s)	20.0	20.0	9.0	62.0	32.0	85.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lead	Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0		5.0		
Flash Dont Walk (s)	15.0	15.0		21.0		
Pedestrian Calls (#/hr)	0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 93 (72%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 27: Route 10A & Route 1



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	710	600	50	1880	1150	630	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	450	0	300		0	550	
Storage Lanes	1	1	1		0	1	
Taper Length (ft)	25	25	25		25	25	
Right Turn on Red		Yes			Yes		
Link Speed (mph)	35			35			35
Link Distance (ft)	1852			1905			3050
Travel Time (s)	36.1			37.1			59.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	747	632	53	3190	0	663	1589
v/c Ratio	1.41	1.11	0.50	1.45dr		1.54	0.46
Control Delay	237.5	90.9	65.4	194.2		277.1	5.5
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	237.5	90.9	65.4	194.2		277.1	5.5
Queue Length 50th (ft)	~435	~314	45	~1283		~783	173
Queue Length 95th (ft)	#561	#551	m55	m#1335		m#515	m90
Internal Link Dist (ft)	1772			1825			2970
Turn Bay Length (ft)	450		300			550	
Base Capacity (vph)	528	570	125	2350		431	3425
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.41	1.11	0.42	1.36		1.54	0.46

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	710	600	50	1880	1150	630	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	0.97	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	1.00	0.94		1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	1583	1805	4749		1752	5036
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	1583	1805	4749		1752	5036
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	747	632	53	1979	1211	663	1589
RTOR Reduction (vph)	0	327	0	86	0	0	0
Lane Group Flow (vph)	747	305	53	3104	0	663	1589
Heavy Vehicles (%)	2%	2%	0%	3%	3%	3%	3%
Turn Type		Perm	Prot			Prot	
Protected Phases	4		5	2		1	6
Permitted Phases		4					
Actuated Green, G (s)	20.0	20.0	6.6	61.0		33.0	87.4
Effective Green, g (s)	20.0	20.0	6.6	61.0		33.0	87.4
Actuated g/C Ratio	0.15	0.15	0.05	0.47		0.25	0.67
Clearance Time (s)	5.0	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	528	244	92	2228		445	3386
v/s Ratio Prot	c0.22		0.03	c0.65		c0.38	0.32
v/s Ratio Perm		0.19					
v/c Ratio	1.41	1.25	0.58	1.45dr		1.49	0.47
Uniform Delay, d1	55.0	55.0	60.3	34.5		48.5	10.2
Progression Factor	1.00	1.00	0.92	1.16		0.97	0.53
Incremental Delay, d2	197.6	142.4	3.4	178.7		221.6	0.0
Delay (s)	252.6	197.4	59.2	218.7		268.8	5.5
Level of Service	F	F	E	F		F	A
Approach Delay (s)	227.3			216.1			83.0
Approach LOS	F			F			F

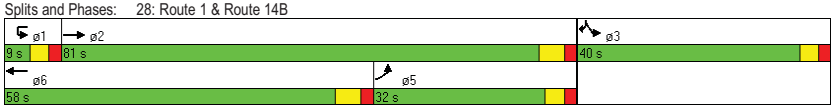
Intersection Summary			
HCM Average Control Delay	174.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	130.6%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	SBL	SBR
Lane Configurations						
Volume (vph)	360	2380	10	1720	480	240
Turn Type	Prot		Prot			Prot
Protected Phases	5	2	1	6	3	3
Permitted Phases						
Detector Phase	5	2	1	6	3	3
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	12.0	28.0	9.0	28.0	28.0	28.0
Total Split (s)	32.0	81.0	9.0	58.0	40.0	40.0
Total Split (%)	24.6%	62.3%	6.9%	44.6%	30.8%	30.8%
Maximum Green (s)	27.0	75.0	4.0	52.0	35.0	35.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)				5.0	5.0	5.0
Flash Dont Walk (s)				15.0	15.0	15.0
Pedestrian Calls (#/hr)				0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 121 (93%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 28: Route 1 & Route 14B



Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	360	2380	10	1720	300	480	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	600		330		0	0	100
Storage Lanes	1		1		0	1	1
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		25	
Link Distance (ft)		2667		1905		583	
Travel Time (s)		52.0		37.1		15.9	
Confl. Peds. (#/hr)							3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	375	2479	10	2104	0	500	250
v/c Ratio	1.03	0.78	0.18	1.06		1.05	0.50
Control Delay	78.0	6.6	69.5	54.6		100.3	28.3
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	78.0	6.6	69.5	54.6		100.3	28.3
Queue Length 50th (ft)	~332	80	9	~716		~458	109
Queue Length 95th (ft)	m#406	m367	m15	m#308		#677	195
Internal Link Dist (ft)		2587		1825		503	
Turn Bay Length (ft)	600		330				100
Base Capacity (vph)	364	3184	56	1989		477	496
Starvation Cap Reductn	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	1.03	0.78	0.18	1.06		1.05	0.50

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	360	2380	10	1720	300	480	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	1.00	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	1805	4924		1770	1583
Flt Permitted	0.95	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	1805	4924		1770	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	375	2479	10	1792	312	500	250
RTOR Reduction (vph)	0	0	0	20	0	0	69
Lane Group Flow (vph)	375	2479	10	2084	0	500	181
Confl. Peds. (#/hr)							3
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Prot
Protected Phases	5	2	1	6		3	3
Permitted Phases							
Actuated Green, G (s)	31.0	78.2	0.8	48.0		35.0	35.0
Effective Green, g (s)	31.0	78.2	0.8	48.0		35.0	35.0
Actuated g/C Ratio	0.24	0.60	0.01	0.37		0.27	0.27
Clearance Time (s)	5.0	6.0	5.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	418	3029	11	1818		477	426
v/s Ratio Prot	c0.21	0.49	0.01	c0.42		c0.28	0.11
v/s Ratio Perm							
v/c Ratio	0.90	0.82	0.91	1.15		1.05	0.42
Uniform Delay, d1	48.0	20.3	64.6	41.0		47.5	39.2
Progression Factor	0.70	0.31	1.05	0.49		1.00	1.00
Incremental Delay, d2	11.7	1.3	166.2	70.5		54.4	0.2
Delay (s)	45.2	7.6	234.2	90.7		101.9	39.4
Level of Service	D	A	F	F		F	D
Approach Delay (s)		12.5		91.4		81.1	
Approach LOS		B		F		F	

Intersection Summary

HCM Average Control Delay	50.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	380	1420	190	1120	200	250	270	780	190	500
Turn Type	Prot		Prot		Prot		Perm	Prot		Perm
Protected Phases	5	2	1	6	7	4		3	8	
Permitted Phases							4			8
Detector Phase	5	2	1	6	7	4	4	3	8	8
Switch Phase										
Minimum Initial (s)	3.0	15.0	3.0	15.0	3.0	5.0	5.0	3.0	5.0	5.0
Minimum Split (s)	12.0	33.0	12.0	33.0	12.0	18.0	18.0	12.0	25.0	25.0
Total Split (s)	31.0	56.0	24.0	49.0	15.0	18.0	18.0	32.0	35.0	35.0
Total Split (%)	23.8%	43.1%	18.5%	37.7%	11.5%	13.8%	13.8%	24.6%	26.9%	26.9%
Maximum Green (s)	26.0	50.0	19.0	43.0	10.0	12.0	12.0	27.0	29.0	29.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None
Walk Time (s)		5.0		5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		19.0		19.0		19.0	19.0		15.0	15.0
Pedestrian Calls (#/hr)		0		0		0	0		0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 39 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 29: Route 1 & Route 14(ITC)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	1420	190	190	1120	680	200	250	270	780	190	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		0	700		0	450		0	350		0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			30	
Link Distance (ft)		2679			2667			634			1132	
Travel Time (s)		52.2			52.0			12.4			25.7	
Confl. Peds. (#/hr)			3						4			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	400	1695	0	200	1895	0	211	263	284	821	200	526
v/c Ratio	1.14	0.85		0.85	1.18dr		0.81	0.83	0.78	1.15	0.48	0.81
Control Delay	121.3	25.3		69.1	80.4		82.9	79.4	25.9	129.4	48.6	24.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.3	25.3		69.1	80.4		82.9	79.4	25.9	129.4	48.6	24.1
Queue Length 50th (ft)	~392	501		140	~635		91	116	29	~419	148	119
Queue Length 95th (ft)	#603	569		m143	m#593		#154	#184	#152	#546	227	#285
Internal Link Dist (ft)		2599			2587			554			1052	
Turn Bay Length (ft)	1000			700			450			350		
Base Capacity (vph)	350	1984		256	1666		264	327	369	713	416	649
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.85		0.78	1.14		0.80	0.80	0.77	1.15	0.48	0.81

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	1420	190	190	1120	680	200	250	270	780	190	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1752	4937		1752	4751		3433	3539	1554	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1752	4937		1752	4751		3433	3539	1554	3433	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	400	1495	200	200	1179	716	211	263	284	821	200	526
RTOR Reduction (vph)	0	13	0	0	84	0	0	0	226	0	0	296
Lane Group Flow (vph)	400	1682	0	200	1811	0	211	263	58	821	200	230
Confl. Peds. (#/hr)			3						4			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases									4			8
Actuated Green, G (s)	26.0	51.9		17.4	43.3		9.8	11.7	11.7	27.0	28.9	28.9
Effective Green, g (s)	26.0	51.9		17.4	43.3		9.8	11.7	11.7	27.0	28.9	28.9
Actuated g/C Ratio	0.20	0.40		0.13	0.33		0.08	0.09	0.09	0.21	0.22	0.22
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	350	1971		234	1582		259	319	140	713	414	352
v/s Ratio Prot	c0.23	0.34		0.11	c0.38		0.06	c0.07		c0.24	0.11	
v/s Ratio Perm									0.04			0.15
v/c Ratio	1.14	0.85		0.85	1.18dr		0.81	0.82	0.42	1.15	0.48	0.65
Uniform Delay, d1	52.0	35.6		55.1	43.4		59.2	58.1	55.9	51.5	44.0	46.0
Progression Factor	0.73	0.61		1.05	0.30		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	84.9	3.4		8.6	67.7		16.7	15.0	0.7	83.8	0.3	3.3
Delay (s)	123.1	25.0		66.7	80.7		75.9	73.2	56.7	135.3	44.4	49.3
Level of Service	F	C		E	F		E	E	E	F	D	D
Approach Delay (s)		43.8			79.4			67.8			94.3	
Approach LOS		D			E			E			F	

Intersection Summary				
HCM Average Control Delay	70.1	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.11			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0	
Intersection Capacity Utilization	107.1%	ICU Level of Service	G	
Analysis Period (min)	15			

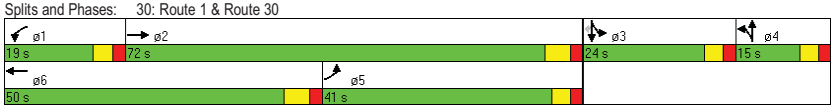
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	450	1850	100	1700	90	230	20	630
Turn Type	Prot		Prot			Split		Perm
Protected Phases	5	2	1	6	4	3	3	
Permitted Phases								3
Detector Phase	5	2	1	6	4	3	3	3
Switch Phase								
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	28.0	12.0	28.0	15.0	10.0	10.0	10.0
Total Split (s)	41.0	72.0	19.0	50.0	15.0	24.0	24.0	24.0
Total Split (%)	31.5%	55.4%	14.6%	38.5%	11.5%	18.5%	18.5%	18.5%
Maximum Green (s)	36.0	66.0	14.0	44.0	10.0	19.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead				
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		10.0		13.0	18.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 92 (71%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 30: Route 1 & Route 30



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1850	30	100	1700	190	20	90	20	230	20	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		0	400		0	0		0	300		0
Storage Lanes	1		0	1		0	0		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1284			2679			238			2279	
Travel Time (s)		25.0			52.2			6.5			62.2	
Confl. Peds. (#/hr)			4									4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)										46%		
Lane Group Flow (vph)	484	2021	0	108	2032	0	0	141	0	133	136	677
v/c Ratio	1.00	0.76		0.69	1.20			0.97		0.54	0.55	0.98
Control Delay	76.3	24.4		73.6	118.2			124.8		60.6	60.8	41.1
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Total Delay	76.3	24.4		73.6	118.2			124.8		60.6	60.8	41.1
Queue Length 50th (ft)	404	354		81	~749			116		110	113	131
Queue Length 95th (ft)	#634	413		m86	m#707			#256		184	187	#399
Internal Link Dist (ft)		1204			2599			158			2199	
Turn Bay Length (ft)	400			400						300		
Base Capacity (vph)	485	2647		189	1691			145		246	248	692
Starvation Cap Reductn	0	0		0	0			0		0	0	0
Spillback Cap Reductn	0	0		0	0			0		0	0	0
Storage Cap Reductn	0	0		0	0			0		0	0	0
Reduced v/c Ratio	1.00	0.76		0.57	1.20			0.97		0.54	0.55	0.98

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	450	1850	30	100	1700	190	20	90	20	230	20	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (prot)	1752	5021		1752	4960			1809		1681	1698	1553
Flt Permitted	0.95	1.00		0.95	1.00			0.99		0.95	0.96	1.00
Satd. Flow (perm)	1752	5021		1752	4960			1809		1681	1698	1553
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	484	1989	32	108	1828	204	22	97	22	247	22	677
RTOR Reduction (vph)	0	1	0	0	11	0	0	6	0	0	0	465
Lane Group Flow (vph)	484	2020	0	108	2021	0	0	135	0	133	136	212
Confl. Peds. (#/hr)			4									4
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	36.1	68.4		11.6	43.9			10.0		19.0	19.0	19.0
Effective Green, g (s)	36.1	68.4		11.6	43.9			10.0		19.0	19.0	19.0
Actuated g/C Ratio	0.28	0.53		0.09	0.34			0.08		0.15	0.15	0.15
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	487	2642		156	1675			139		246	248	227
v/s Ratio Prot	c0.28	0.40		0.06	c0.41			c0.07		0.08	0.08	
v/s Ratio Perm												c0.14
v/c Ratio	0.99	0.76		0.69	1.21			0.97		0.54	0.55	0.93
Uniform Delay, d1	46.8	24.4		57.5	43.0			59.9		51.5	51.5	54.9
Progression Factor	0.92	0.92		1.11	0.56			1.00		1.00	1.00	1.00
Incremental Delay, d2	31.4	1.4		4.3	95.5			67.8		1.3	1.3	40.8
Delay (s)	74.4	23.9		68.4	119.5			127.7		52.8	52.8	95.7
Level of Service	E	C		E	F			F		D	D	F
Approach Delay (s)		33.7			117.0			127.7			83.5	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	75.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		

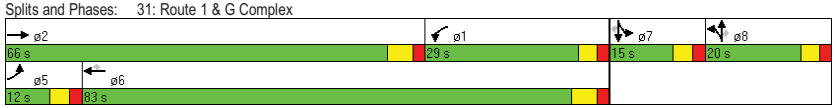
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Volume (vph)	10	1300	200	1130	30	200	20	120	30	10
Turn Type	Prot		Prot		Perm	Split		Perm		Perm
Protected Phases	5	2	1	6		8	8		7	
Permitted Phases					6			8		7
Detector Phase	5	2	1	6	6	8	8	8	7	7
Switch Phase										
Minimum Initial (s)	6.5	10.0	6.5	10.0	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	28.0	12.0	24.0	24.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	12.0	66.0	29.0	83.0	83.0	20.0	20.0	20.0	15.0	15.0
Total Split (%)	9.2%	50.8%	22.3%	63.8%	63.8%	15.4%	15.4%	15.4%	11.5%	11.5%
Maximum Green (s)	7.0	60.0	24.0	77.0	77.0	15.0	15.0	15.0	10.0	10.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Walk Time (s)		5.0				5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		15.0				15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)		0				0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 17 (13%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 31: Route 1 & G Complex



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1300	370	200	1130	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	260		0	150		150	0		0
Storage Lanes	1		0	1		1	1		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			20	
Link Distance (ft)		1343			5039			848			380	
Travel Time (s)		26.2			98.2			19.3			13.0	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	12	1964	0	235	1329	35	129	130	141	0	82	12
v/c Ratio	0.13	0.78		0.85	0.57	0.03	0.76	0.76	0.49		0.63	0.10
Control Delay	62.4	29.1		46.8	5.0	1.9	84.1	83.4	14.5		80.2	27.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	62.4	29.1		46.8	5.0	1.9	84.1	83.4	14.5		80.2	27.6
Queue Length 50th (ft)	10	494		182	39	0	111	112	0		68	0
Queue Length 95th (ft)	30	528		229	137	m3	173	175	52		116	19
Internal Link Dist (ft)		1263			4959			768			300	
Turn Bay Length (ft)	120			260			150		150			
Base Capacity (vph)	94	2506		323	2343	1060	194	196	307		139	133
Starvation Cap Reductn	0	0		0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.13	0.78		0.73	0.57	0.03	0.66	0.66	0.46		0.59	0.09

Intersection Summary

Area Type: Other
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	1300	370	200	1130	30	200	20	120	40	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.95	1.00	0.95	0.95	1.00		1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (prot)	1752	4869		1752	3505	1568	1681	1700	1583		1811	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	0.96	1.00		0.97	1.00
Satd. Flow (perm)	1752	4869		1752	3505	1568	1681	1700	1583		1811	1583
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	1529	435	235	1329	35	235	24	141	47	35	12
RTOR Reduction (vph)	0	38	0	0	0	12	0	0	127	0	0	11
Lane Group Flow (vph)	12	1926	0	235	1329	23	129	130	14	0	82	1
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6			8			7
Actuated Green, G (s)	2.7	62.9		23.7	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Effective Green, g (s)	2.7	62.9		23.7	83.9	83.9	13.1	13.1	13.1		9.3	9.3
Actuated g/C Ratio	0.02	0.48		0.18	0.65	0.65	0.10	0.10	0.10		0.07	0.07
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	5.0	5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	36	2356		319	2262	1012	169	171	160		130	113
v/s Ratio Prot	0.01	c0.40		c0.13	0.38		c0.08	0.08			c0.05	
v/s Ratio Perm						0.01			0.01			0.00
v/c Ratio	0.33	0.82		0.74	0.59	0.02	0.76	0.76	0.09		0.63	0.01
Uniform Delay, d1	62.8	28.7		50.2	13.2	8.3	56.9	56.9	53.0		58.7	56.1
Progression Factor	1.00	1.00		0.48	0.32	0.54	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0	3.3		5.8	0.9	0.0	16.6	16.2	0.1		7.1	0.0
Delay (s)	64.7	31.9		30.1	5.1	4.5	73.6	73.2	53.1		65.8	56.1
Level of Service	E	C		C	A	A	E	E	D		E	E
Approach Delay (s)		32.1			8.8			66.2			64.6	
Approach LOS		C			A			E			E	

Intersection Summary				
HCM Average Control Delay	27.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	70.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Configurations					
Volume (vph)	1660	1780	310	590	760
Turn Type				Perm	
Protected Phases	2	6	4		8
Permitted Phases				4	
Detector Phase	2	6	4	4	8
Switch Phase					
Minimum Initial (s)	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	33.0	28.0	37.0	37.0	37.0
Total Split (s)	74.0	74.0	56.0	56.0	56.0
Total Split (%)	56.9%	56.9%	43.1%	43.1%	43.1%
Maximum Green (s)	68.0	68.0	50.0	50.0	50.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Min	Min	None
Walk Time (s)	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	22.0	15.0	26.0	26.0	26.0
Pedestrian Calls (#/hr)	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 31 (24%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 32: RTE 1 & Route 4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1660	90	0	1780	40	0	310	590	0	760	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		115	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		393			979			889			385	
Travel Time (s)		7.7			19.1			17.3			7.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	1902	0	0	1978	0	0	658	320	0	826	0
v/c Ratio		0.61			0.63			0.73	0.77		0.82	
Control Delay		14.6			10.4			17.9	22.1		50.2	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		14.6			10.4			17.9	22.1		50.2	
Queue Length 50th (ft)		192			282			75	70		344	
Queue Length 95th (ft)		310			520			71	m74		377	
Internal Link Dist (ft)		313			899			809			305	
Turn Bay Length (ft)												
Base Capacity (vph)		3115			3129			1214	560		1361	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.61			0.63			0.54	0.57		0.61	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1660	90	0	1780	40	0	310	590	0	760	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		0.91			0.91			0.91	0.91		0.95	
Frt		0.99			1.00			0.93	0.85		1.00	
Flt Protected		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (prot)		4997			5020			3142	1441		3539	
Flt Permitted		1.00			1.00			1.00	1.00		1.00	
Satd. Flow (perm)		4997			5020			3142	1441		3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1804	98	0	1935	43	0	337	641	0	826	0
RTOR Reduction (vph)	0	3	0	0	2	0	0	6	6	0	0	0
Lane Group Flow (vph)	0	1899	0	0	1976	0	0	652	314	0	826	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type									Perm			
Protected Phases		2			6			4			8	
Permitted Phases									4			
Actuated Green, G (s)		81.0			81.0			37.0	37.0		37.0	
Effective Green, g (s)		81.0			81.0			37.0	37.0		37.0	
Actuated g/C Ratio		0.62			0.62			0.28	0.28		0.28	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		2.0			2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)		3114			3128			894	410		1007	
v/s Ratio Prot		0.38			c0.39			0.21			c0.23	
v/s Ratio Perm									0.22			
v/c Ratio		0.61			0.63			0.73	0.76		0.82	
Uniform Delay, d1		14.9			15.2			42.0	42.5		43.4	
Progression Factor		0.88			0.59			0.35	0.33		1.00	
Incremental Delay, d2		0.7			0.8			1.7	5.1		5.2	
Delay (s)		13.8			9.7			16.5	19.0		48.6	
Level of Service		B			A			B	B		D	
Approach Delay (s)		13.8			9.7			17.3			48.6	
Approach LOS		B			A			B			D	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

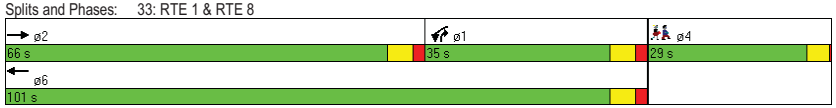
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBR	ø4
Lane Configurations					
Volume (vph)	1910	720	1760	630	
Turn Type		Prot		Over	
Protected Phases	2	1	6	1	4
Permitted Phases					
Detector Phase	2	1	6	1	
Switch Phase					
Minimum Initial (s)	15.0	6.5	15.0	6.5	4.0
Minimum Split (s)	33.0	35.0	22.0	35.0	29.0
Total Split (s)	66.0	35.0	101.0	35.0	29.0
Total Split (%)	50.8%	26.9%	77.7%	26.9%	22%
Maximum Green (s)	60.0	29.0	95.0	29.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag		Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	Max	None	None
Walk Time (s)	5.0				5.0
Flash Dont Walk (s)	22.0				20.0
Pedestrian Calls (#/hr)	0				0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 50 (38%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 33: RTE 1 & RTE 8



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1910	390	720	1760	0	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	1		0	2
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	979			927	469	
Travel Time (s)	19.1			18.1	9.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2555	0	800	1956	0	700
v/c Ratio	0.76		1.06	0.56		0.66
Control Delay	10.4		68.9	4.7		12.1
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	10.4		68.9	4.7		12.1
Queue Length 50th (ft)	434		~366	344		52
Queue Length 95th (ft)	234		m259	m42		125
Internal Link Dist (ft)	899			847	389	
Turn Bay Length (ft)			300			
Base Capacity (vph)	3375		758	3505		1062
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.76		1.06	0.56		0.66

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1910	390	720	1760	0	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0		6.0
Lane Util. Factor	0.91		0.97	0.95		0.88
Frt	0.97		1.00	1.00		0.85
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	4908		3400	3505		2787
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	4908		3400	3505		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	2122	433	800	1956	0	700
RTOR Reduction (vph)	14	0	0	0	0	441
Lane Group Flow (vph)	2541	0	800	1956	0	259
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	89.0		29.0	130.0		29.0
Effective Green, g (s)	89.0		29.0	130.0		29.0
Actuated g/C Ratio	0.68		0.22	1.00		0.22
Clearance Time (s)	6.0		6.0	6.0		6.0
Vehicle Extension (s)	2.0		2.0	2.0		2.0
Lane Grp Cap (vph)	3360		758	3505		622
v/s Ratio Prot	c0.52		c0.24	0.56		0.09
v/s Ratio Perm						
v/c Ratio	0.76		1.06	0.56		0.42
Uniform Delay, d1	13.4		50.5	0.0		43.3
Progression Factor	0.68		0.82	1.00		1.00
Incremental Delay, d2	1.4		28.5	0.1		0.2
Delay (s)	10.4		69.7	0.1		43.4
Level of Service	B		E	A		D
Approach Delay (s)	10.4			20.3	43.4	
Approach LOS	B			C	D	

Intersection Summary				
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	40	670	360	620	950	130
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	43	720	387	667	1022	140
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				1157	469	
pX, platoon unblocked						
vC, conflicting volume	2129	511	1022			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2129	511	1022			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	43			
cM capacity (veh/h)	18	508	675			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	43	720	387	333	333	511	511	140
Volume Left	43	0	387	0	0	0	0	0
Volume Right	0	720	0	0	0	0	0	140
cSH	18	508	675	1700	1700	1700	1700	1700
Volume to Capacity	2.37	1.42	0.57	0.20	0.20	0.30	0.30	0.08
Queue Length 95th (ft)	146	860	91	0	0	0	0	0
Control Delay (s)	1063.7	221.9	17.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	F	C					
Approach Delay (s)	269.3		6.3			0.0		
Approach LOS	F							

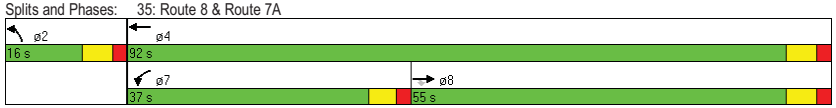
Intersection Summary			
Average Delay	71.3		
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1400	230	1030	840	120	710
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Detector Phase	8	8	7	4	2	
Switch Phase						
Minimum Initial (s)	25.0	25.0	15.0	25.0	10.0	
Minimum Split (s)	31.0	31.0	21.0	31.0	16.0	
Total Split (s)	55.0	55.0	37.0	92.0	16.0	0.0
Total Split (%)	50.9%	50.9%	34.3%	85.2%	14.8%	0.0%
Maximum Green (s)	49.0	49.0	31.5	86.0	10.0	
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	20.0	20.0			20.0	
Pedestrian Calls (#/hr)	0	0			0	

Intersection Summary

Cycle Length: 108
Actuated Cycle Length: 108
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Route 8 & Route 7A



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1400	230	1030	840	120	710
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		250	250		200	0
Storage Lanes		1	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1157			1264	644	
Travel Time (s)	22.5			24.6	12.5	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1772	291	1304	1063	152	899
v/c Ratio	1.10	0.35	1.30	0.38	0.93	0.57
Control Delay	85.9	6.8	176.8	3.6	103.1	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.9	6.8	176.8	3.6	103.1	1.5
Queue Length 50th (ft)	~737	32	~598	88	106	0
Queue Length 95th (ft)	#694	61	#596	91	#189	0
Internal Link Dist (ft)	1077			1184	564	
Turn Bay Length (ft)		250	250		200	
Base Capacity (vph)	1606	832	1001	2818	164	1583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.10	0.35	1.30	0.38	0.93	0.57

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

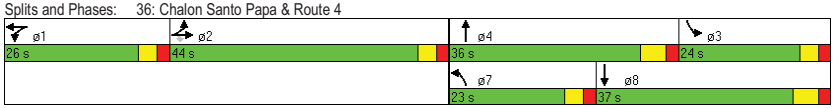
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1400	230	1030	840	120	710
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.5	6.0	6.0	4.0
Lane Util. Factor	0.95	1.00	0.97	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	3539	1770	1583
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	1772	291	1304	1063	152	899
RTOR Reduction (vph)	0	114	0	0	0	0
Lane Group Flow (vph)	1772	177	1304	1063	152	899
Turn Type		Perm	Prot			Free
Protected Phases	8		7	4	2	
Permitted Phases		8				Free
Actuated Green, G (s)	49.0	49.0	31.5	86.0	10.0	108.0
Effective Green, g (s)	49.0	49.0	31.5	86.0	10.0	108.0
Actuated g/C Ratio	0.45	0.45	0.29	0.80	0.09	1.00
Clearance Time (s)	6.0	6.0	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1606	718	1001	2818	164	1583
v/s Ratio Prot	c0.50		c0.38	0.30	c0.09	
v/s Ratio Perm		0.11				0.57
v/c Ratio	1.10	0.25	1.30	0.38	0.93	0.57
Uniform Delay, d1	29.5	18.1	38.2	3.2	48.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.4	0.1	143.6	0.0	48.3	1.5
Delay (s)	85.9	18.2	181.8	3.2	96.9	1.5
Level of Service	F	B	F	A	F	A
Approach Delay (s)	76.3			101.6	15.3	
Approach LOS	E			F	B	

Intersection Summary				
HCM Average Control Delay	75.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	290	200	160	120	740	140	850
Turn Type		Perm		Prot		Prot	
Protected Phases	2		1	7	4	3	8
Permitted Phases		2					
Detector Phase	2	2	1	7	4	3	8
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	25.0	25.0	26.0	8.0	22.0	8.0	22.0
Total Split (s)	44.0	44.0	26.0	23.0	36.0	24.0	37.0
Total Split (%)	33.8%	33.8%	20.0%	17.7%	27.7%	18.5%	28.5%
Maximum Green (s)	39.0	39.0	21.0	18.0	30.0	19.0	31.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		5.0		5.0
Flash Dont Walk (s)	15.0	15.0	16.0		11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 36: Chalon Santo Papa & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	290	200	160	160	90	120	740	230	140	850	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	250		0	200		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		1244			519			810			850	
Travel Time (s)		28.3			11.8			15.8			16.6	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	421	227	0	466	0	136	1102	0	159	1023	0
v/c Ratio		0.89	0.41		0.88		0.72	0.72		0.72	0.62	
Control Delay		68.2	10.0		69.3		62.3	40.7		42.5	17.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		68.2	10.0		69.3		62.3	40.7		42.5	17.9	
Queue Length 50th (ft)		340	22		192		119	320		107	87	
Queue Length 95th (ft)		436	80		#261		m159	m#387		171	238	
Internal Link Dist (ft)		1164			439			730			770	
Turn Bay Length (ft)			200				250			200		
Base Capacity (vph)		553	609		562		245	1534		259	1637	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.76	0.37		0.83		0.56	0.72		0.61	0.62	

Intersection Summary	
Area Type:	Other

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	290	200	160	160	90	120	740	230	140	850	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00	1.00		0.95		1.00	0.91		1.00	0.91	
Frt		1.00	0.85		0.97		1.00	0.96		1.00	0.99	
Flt Protected		0.99	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1843	1583		3357		1770	4905		1770	5043	
Flt Permitted		0.99	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1843	1583		3357		1770	4905		1770	5043	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	91	330	227	182	182	102	136	841	261	159	966	57
RTOR Reduction (vph)	0	0	143	0	20	0	0	39	0	0	5	0
Lane Group Flow (vph)	0	421	84	0	446	0	136	1063	0	159	1018	0
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases			2									
Actuated Green, G (s)		33.3	33.3		19.8		13.9	39.6		16.3	42.0	
Effective Green, g (s)		33.3	33.3		19.8		13.9	39.6		16.3	42.0	
Actuated g/C Ratio		0.26	0.26		0.15		0.11	0.30		0.13	0.32	
Clearance Time (s)		5.0	5.0		5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		472	405		511		189	1494		222	1629	
v/s Ratio Prot		c0.23			c0.13		0.08	c0.22		c0.09	0.20	
v/s Ratio Perm			0.05									
v/c Ratio		0.89	0.21		0.87		0.72	0.71		0.72	0.63	
Uniform Delay, d1		46.6	38.0		53.9		56.2	40.1		54.6	37.3	
Progression Factor		1.00	1.00		1.00		0.83	0.97		0.48	0.41	
Incremental Delay, d2		18.3	0.1		14.7		7.8	2.2		7.9	1.6	
Delay (s)		64.9	38.1		68.5		54.7	41.0		34.3	16.9	
Level of Service		E	D		E		D	D		C	B	
Approach Delay (s)		55.5			68.5			42.5			19.2	
Approach LOS		E			E			D			B	

Intersection Summary			
HCM Average Control Delay	40.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

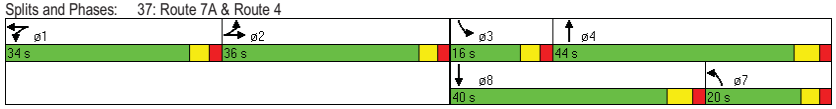
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	230	290	500	430	160	680	130	910
Turn Type	Split		Split		Prot		Prot	
Protected Phases	2	2	1	1	7	4	3	8
Permitted Phases								
Detector Phase	2	2	1	1	7	4	3	8
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	8.0	15.0	8.0	15.0
Minimum Split (s)	29.0	29.0	27.0	27.0	13.0	25.0	13.0	29.0
Total Split (s)	36.0	36.0	34.0	34.0	20.0	44.0	16.0	40.0
Total Split (%)	27.7%	27.7%	26.2%	26.2%	15.4%	33.8%	12.3%	30.8%
Maximum Green (s)	31.0	31.0	29.0	29.0	15.0	38.0	11.0	34.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0	5.0		5.0		7.0
Flash Dont Walk (s)	19.0	19.0	17.0	17.0		14.0		15.0
Pedestrian Calls (#/hr)	0	0	0	0		0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 126 (97%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 37: Route 7A & Route 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	290	90	500	430	120	160	680	330	130	910	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		827			967			716			810	
Travel Time (s)		18.8			22.0			13.9			15.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)				30%								
Lane Group Flow (vph)	250	413	0	380	760	0	174	1098	0	141	1217	0
v/c Ratio	0.60	0.96		1.06	1.03		0.89	0.74		0.94	0.90	
Control Delay	51.2	83.3		111.9	88.1		96.9	41.1		91.1	36.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.2	83.3		111.9	88.1		96.9	41.1		91.1	36.5	
Queue Length 50th (ft)	188	338		~385	~368		146	281		120	362	
Queue Length 95th (ft)	280	#545		#604	#504		#275	337		m#234	#445	
Internal Link Dist (ft)		747			887			636			730	
Turn Bay Length (ft)				250			250			200		
Base Capacity (vph)	418	432		359	741		204	1492		150	1354	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.60	0.96		1.06	1.03		0.85	0.74		0.94	0.90	

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	290	90	500	430	120	160	680	330	130	910	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00		0.91	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.96		1.00	0.97		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1779		1610	3268		1770	4836		1770	4942	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	1779		1610	3268		1770	4836		1770	4942	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	250	315	98	543	467	130	174	739	359	141	989	228
RTOR Reduction (vph)	0	8	0	0	12	0	0	68	0	0	29	0
Lane Group Flow (vph)	250	405	0	380	748	0	174	1030	0	141	1188	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	30.7	30.7		29.0	29.0		14.5	38.3		11.0	34.8	
Effective Green, g (s)	30.7	30.7		29.0	29.0		14.5	38.3		11.0	34.8	
Actuated g/C Ratio	0.24	0.24		0.22	0.22		0.11	0.29		0.08	0.27	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	414	420		359	729		197	1425		150	1323	
v/s Ratio Prot	0.14	c0.23		c0.24	0.23		c0.10	0.21		0.08	c0.24	
v/s Ratio Perm												
v/c Ratio	0.60	0.96		1.06	1.03		0.88	0.72		0.94	0.90	
Uniform Delay, d1	44.2	49.1		50.5	50.5		56.9	41.1		59.2	45.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.62	0.63	
Incremental Delay, d2	1.7	34.1		63.8	40.0		33.2	3.2		47.3	8.1	
Delay (s)	45.9	83.2		114.3	90.5		90.1	44.3		84.2	36.8	
Level of Service	D	F		F	F		F	D		F	D	
Approach Delay (s)		69.1			98.4			50.6			41.8	
Approach LOS		E			F			D			D	

Intersection Summary				
HCM Average Control Delay	62.9	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	89.5%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	130	210	120	940	1490	180
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	146	236	135	1056	1674	202
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)					1030	
pX, platoon unblocked	0.75	0.75	0.75			
vC, conflicting volume	2573	938	1876			
vC1, stage 1 conf vol	1775					
vC2, stage 2 conf vol	798					
vCu, unblocked vol	2432	257	1505			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	58	59			
cM capacity (veh/h)	122	558	331			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	382	135	528	528	1116	760
Volume Left	146	135	0	0	0	0
Volume Right	236	0	0	0	0	202
cSH	236	331	1700	1700	1700	1700
Volume to Capacity	1.62	0.41	0.31	0.31	0.66	0.45
Queue Length 95th (ft)	606	48	0	0	0	0
Control Delay (s)	335.5	23.1	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	335.5	2.6			0.0	
Approach LOS	F					

Intersection Summary				
Average Delay	38.1			
Intersection Capacity Utilization	83.7%	ICU Level of Service	E	
Analysis Period (min)	15			

Lane Group	EBT	WBT	NBL	NBT
Lane Configurations				
Volume (vph)	220	200	160	40
Turn Type			Split	
Protected Phases	4	8	2	2
Permitted Phases				
Detector Phase	4	8	2	2
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	22.0	32.0	36.0	36.0
Total Split (%)	24.4%	35.6%	40.0%	40.0%
Maximum Green (s)	18.0	28.0	32.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0
Lead/Lag				
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 79.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 39: Route 7A & Route 7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	550	200	20	160	40	410	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			35	
Link Distance (ft)		350			827			400			205	
Travel Time (s)		8.0			18.8			9.1			4.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	596	0	0	819	0	170	479	0	0	0	0
v/c Ratio		0.78			1.12dl		0.24	0.52				
Control Delay		20.8			33.9		19.0	5.5				
Queue Delay		0.0			0.0		0.0	0.0				
Total Delay		20.8			33.9		19.0	5.5				
Queue Length 50th (ft)		61			197		57	13				
Queue Length 95th (ft)		121			291		118	90				
Internal Link Dist (ft)		270			747			320			125	
Turn Bay Length (ft)												
Base Capacity (vph)		1011			1219		723	915				
Starvation Cap Reductn		0			0		0	0				
Spillback Cap Reductn		0			0		0	0				
Storage Cap Reductn		0			0		0	0				
Reduced v/c Ratio		0.59			0.67		0.24	0.52				

Intersection Summary

Area Type: Other
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	220	330	550	200	20	160	40	410	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0				
Lane Util. Factor		0.95			0.95		1.00	1.00				
Frt		0.91			1.00		1.00	0.86				
Flt Protected		1.00			0.97		0.95	1.00				
Satd. Flow (prot)		3224			3404		1770	1608				
Flt Permitted		1.00			0.97		0.95	1.00				
Satd. Flow (perm)		3224			3404		1770	1608				
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	234	351	585	213	21	170	43	436	0	0	0
RTOR Reduction (vph)	0	300	0	0	2	0	0	258	0	0	0	0
Lane Group Flow (vph)	0	296	0	0	817	0	170	221	0	0	0	0
Turn Type	Split			Split			Split					
Protected Phases	4	4		8	8		2	2				
Permitted Phases												
Actuated Green, G (s)		11.5			23.3		32.4	32.4				
Effective Green, g (s)		11.5			23.3		32.4	32.4				
Actuated g/C Ratio		0.15			0.29		0.41	0.41				
Clearance Time (s)		4.0			4.0		4.0	4.0				
Vehicle Extension (s)		2.0			2.0		2.0	2.0				
Lane Grp Cap (vph)		468			1001		724	658				
v/s Ratio Prot		c0.09			c0.24		0.10	c0.14				
v/s Ratio Perm												
v/c Ratio		0.63			1.12dl		0.23	0.34				
Uniform Delay, d1		31.9			26.0		15.3	16.0				
Progression Factor		1.00			1.00		1.00	1.00				
Incremental Delay, d2		2.1			5.0		0.8	1.4				
Delay (s)		33.9			30.9		16.1	17.4				
Level of Service		C			C		B	B				
Approach Delay (s)		33.9			30.9			17.1			0.0	
Approach LOS		C			C			B			A	

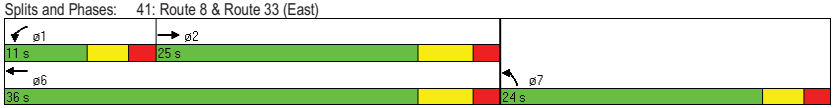
Intersection Summary					
HCM Average Control Delay	27.4	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.55				
Actuated Cycle Length (s)	79.2	Sum of lost time (s)		12.0	
Intersection Capacity Utilization	84.9%	ICU Level of Service		E	
Analysis Period (min)	15				

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Volume (vph)	620	100	490	230
Turn Type		Prot		
Protected Phases	2	1	6	7
Permitted Phases				
Detector Phase	2	1	6	7
Switch Phase				
Minimum Initial (s)	6.0	2.5	2.0	2.5
Minimum Split (s)	12.0	8.0	12.0	8.0
Total Split (s)	25.0	11.0	36.0	24.0
Total Split (%)	41.7%	18.3%	60.0%	40.0%
Maximum Green (s)	19.0	6.0	30.0	19.0
Yellow Time (s)	4.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.0	6.0	5.0
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None
Walk Time (s)	7.0		7.0	
Flash Dont Walk (s)	15.0		15.0	
Pedestrian Calls (#/hr)	5		5	

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 53
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Route 8 & Route 33 (East)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	620	140	100	490	230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		150	100
Storage Lanes		0	1		1	0
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2670			2651	2228	
Travel Time (s)	52.0			51.6	43.4	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	894	0	118	576	447	0
v/c Ratio	0.78		0.57	0.34	0.81	
Control Delay	21.8		40.8	9.2	29.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	21.8		40.8	9.2	29.9	
Queue Length 50th (ft)	144		42	60	125	
Queue Length 95th (ft)	190		#107	82	#251	
Internal Link Dist (ft)	2590			2571	2148	
Turn Bay Length (ft)			150		150	
Base Capacity (vph)	1400		218	2185	702	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.64		0.54	0.26	0.64	

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	620	140	100	490	230	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		5.0	6.0	5.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.97		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3441		1770	3539	1712	
Flt Permitted	1.00		0.95	1.00	0.97	
Satd. Flow (perm)	3441		1770	3539	1712	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	729	165	118	576	271	176
RTOR Reduction (vph)	32	0	0	0	40	0
Lane Group Flow (vph)	862	0	118	576	407	0
Turn Type			Prot			
Protected Phases	2		1	6	7	
Permitted Phases						
Actuated Green, G (s)	17.2		4.3	26.5	15.9	
Effective Green, g (s)	17.2		4.3	26.5	15.9	
Actuated g/C Ratio	0.32		0.08	0.50	0.30	
Clearance Time (s)	6.0		5.0	6.0	5.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	1108		143	1756	510	
v/s Ratio Prot	c0.25		c0.07	0.16	c0.24	
v/s Ratio Perm						
v/c Ratio	0.78		0.83	0.33	0.80	
Uniform Delay, d1	16.4		24.2	8.1	17.3	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	3.2		29.3	0.0	7.9	
Delay (s)	19.6		53.5	8.1	25.2	
Level of Service	B		D	A	C	
Approach Delay (s)	19.6			15.8	25.2	
Approach LOS	B			B	C	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	53.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

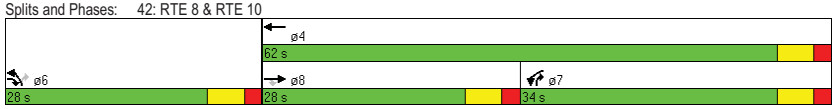
c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	660	540	1060	540	460	810
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Detector Phase	8	6	7	4	6	7
Switch Phase						
Minimum Initial (s)	15.0	10.0	10.0	15.0	10.0	10.0
Minimum Split (s)	28.0	28.0	16.0	21.0	28.0	16.0
Total Split (s)	28.0	28.0	34.0	62.0	28.0	34.0
Total Split (%)	31.1%	31.1%	37.8%	68.9%	31.1%	37.8%
Maximum Green (s)	22.0	22.0	28.0	56.0	22.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	Max	None	None
Walk Time (s)	7.0	7.0			7.0	
Flash Dont Walk (s)	15.0	15.0			15.0	
Pedestrian Calls (#/hr)	20	2			2	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 8:EBT, Start of Yellow, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 42: RTE 8 & RTE 10



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	660	540	1060	540	460	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		200	250		350	400
Storage Lanes		1	2		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	762			433	789	
Travel Time (s)	14.8			8.4	15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	702	574	1128	574	489	862
v/c Ratio	0.78	0.66	1.07	0.26	0.62	0.51
Control Delay	39.0	18.3	74.3	6.4	34.5	10.4
Queue Delay	1.1	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	18.3	74.3	6.4	34.5	10.4
Queue Length 50th (ft)	198	211	~370	53	126	131
Queue Length 95th (ft)	#284	328	#497	65	177	179
Internal Link Dist (ft)	682			353	709	
Turn Bay Length (ft)		200	250		350	400
Base Capacity (vph)	896	871	1058	2220	831	1702
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	61	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.66	1.07	0.26	0.59	0.51

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	660	540	1060	540	460	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3505	1568	3400	3505	3400	2760
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3505	1568	3400	3505	3400	2760
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	702	574	1128	574	489	862
RTOR Reduction (vph)	0	4	0	0	0	18
Lane Group Flow (vph)	702	570	1128	574	489	844
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		pm+ov	Prot			pm+ov
Protected Phases	8	6	7	4	6	7
Permitted Phases		8				6
Actuated Green, G (s)	23.0	44.0	28.0	57.0	21.0	49.0
Effective Green, g (s)	23.0	44.0	28.0	57.0	21.0	49.0
Actuated g/C Ratio	0.26	0.49	0.31	0.63	0.23	0.54
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	896	871	1058	2220	793	1687
v/s Ratio Prot	c0.20	c0.15	c0.33	0.16	0.14	0.16
v/s Ratio Perm		0.21				0.15
v/c Ratio	0.78	0.65	1.07	0.26	0.62	0.50
Uniform Delay, d1	31.2	17.3	31.0	7.2	30.9	12.8
Progression Factor	1.00	1.00	0.91	0.82	1.00	1.00
Incremental Delay, d2	6.8	1.4	45.1	0.2	1.0	0.1
Delay (s)	38.0	18.7	73.3	6.2	31.9	12.9
Level of Service	D	B	E	A	C	B
Approach Delay (s)	29.3			50.7	19.8	
Approach LOS	C			D	B	

Intersection Summary				
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Volume (vph)	1360	70	1520	80	50
Turn Type		Prot			Perm
Protected Phases	8	7	4	6	
Permitted Phases					6
Detector Phase	8	7	4	6	6
Switch Phase					
Minimum Initial (s)	20.0	10.0	20.0	7.0	7.0
Minimum Split (s)	26.0	16.0	26.0	13.0	13.0
Total Split (s)	59.0	16.0	75.0	15.0	15.0
Total Split (%)	65.6%	17.8%	83.3%	16.7%	16.7%
Maximum Green (s)	53.0	10.0	69.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	None	None
Walk Time (s)	7.0			7.0	7.0
Flash Dont Walk (s)	12.0			12.0	12.0
Pedestrian Calls (#/hr)	20			2	2

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 8:EBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 43: RTE 16 & Route 8A

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1360	50	70	1520	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	200		0	220
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	433			505	486	
Travel Time (s)	8.4			9.8	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1485	0	74	1600	84	53
v/c Ratio	0.64		0.38	0.56	0.53	0.28
Control Delay	6.7		43.3	4.6	51.1	15.1
Queue Delay	0.5		0.0	0.1	0.0	0.0
Total Delay	7.2		43.3	4.8	51.1	15.1
Queue Length 50th (ft)	114		40	157	46	0
Queue Length 95th (ft)	152		83	206	92	34
Internal Link Dist (ft)	353			425	406	
Turn Bay Length (ft)			200			220
Base Capacity (vph)	2338		195	2869	177	206
Starvation Cap Reductn	402		0	0	0	0
Spillback Cap Reductn	0		0	342	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.77		0.38	0.63	0.47	0.26

Intersection Summary	
Area Type:	Other

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1360	50	70	1520	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3453		1752	3505	1770	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3453		1752	3505	1770	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1432	53	74	1600	84	53
RTOR Reduction (vph)	3	0	0	0	0	49
Lane Group Flow (vph)	1482	0	74	1600	84	4
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%
Turn Type			Prot			Perm
Protected Phases	8		7	4	6	
Permitted Phases						6
Actuated Green, G (s)	57.3		8.0	71.3	6.7	6.7
Effective Green, g (s)	57.3		8.0	71.3	6.7	6.7
Actuated g/C Ratio	0.64		0.09	0.79	0.07	0.07
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	2198		156	2777	132	118
v/s Ratio Prot	c0.43		0.04	c0.46	c0.05	
v/s Ratio Perm						0.00
v/c Ratio	0.67		0.47	0.58	0.64	0.03
Uniform Delay, d1	10.4		39.0	3.6	40.5	38.6
Progression Factor	0.49		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3		0.8	0.2	7.2	0.0
Delay (s)	6.4		39.8	3.8	47.6	38.7
Level of Service	A		D	A	D	D
Approach Delay (s)	6.4			5.4	44.2	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

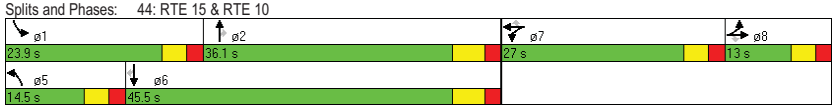
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	80	130	370	80	250	130	890	440	240	1210	140
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Detector Phase	8	8	8	7	7	7	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	10.0	10.0	3.0	15.0	15.0
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.5	16.0	16.0	11.5	36.0	36.0
Total Split (s)	13.0	13.0	13.0	27.0	27.0	27.0	14.5	36.1	36.1	23.9	45.5	45.5
Total Split (%)	13.0%	13.0%	13.0%	27.0%	27.0%	27.0%	14.5%	36.1%	36.1%	23.9%	45.5%	45.5%
Maximum Green (s)	8.0	8.0	8.0	22.0	22.0	22.0	9.5	30.1	30.1	18.9	39.5	39.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	23.0	23.0	23.0	23.0	23.0	23.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow, Master Intersection
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 44: RTE 15 & RTE 10



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	80	130	370	80	250	130	890	440	240	1210	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	150		150	240		240	240		240
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		611			945			3059			773	
Travel Time (s)		11.9			18.4			59.6			15.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)	12%											
Lane Group Flow (vph)	100	105	148	420	91	284	148	1011	500	273	1375	159
v/c Ratio	0.78	0.78	0.57	1.09	0.22	0.50	0.89	0.91	0.60	0.88	0.98	0.22
Control Delay	82.4	81.7	16.9	110.8	33.8	7.4	95.1	32.5	4.0	68.1	49.9	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.4	81.7	16.9	110.8	33.8	7.4	95.1	32.5	4.0	68.1	49.9	5.6
Queue Length 50th (ft)	67	70	0	~303	48	0	101	281	17	168	447	8
Queue Length 95th (ft)	#152	#156	56	#473	89	60	m#166	#436	36	#289	#584	45
Internal Link Dist (ft)		531			865			2979			693	
Turn Bay Length (ft)	170			150		150	240		240	240		240
Base Capacity (vph)	133	139	262	385	406	566	167	1110	838	335	1406	712
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.76	0.56	1.09	0.22	0.50	0.89	0.91	0.60	0.81	0.98	0.22

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	80	130	370	80	250	130	890	440	240	1210	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1665	1741	1568	1752	1845	1568	1752	3505	1568	1770	3539	1583
Flt Permitted	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1665	1741	1568	1752	1845	1568	1752	3505	1568	1770	3539	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	114	91	148	420	91	284	148	1011	500	273	1375	159
RTOR Reduction (vph)	0	0	137	0	0	222	0	0	342	0	0	84
Lane Group Flow (vph)	100	105	11	420	91	62	148	1011	159	273	1375	75
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	2%	2%	2%
Turn Type	Split		Perm	Split		Perm	Prot		Perm	Prot		Perm
Protected Phases	8	8		7	7		5	2		1	6	
Permitted Phases			8			7			2			6
Actuated Green, G (s)	7.7	7.7	7.7	22.0	22.0	22.0	9.5	31.7	31.7	17.6	39.8	39.8
Effective Green, g (s)	7.7	7.7	7.7	22.0	22.0	22.0	9.5	31.7	31.7	17.6	39.8	39.8
Actuated g/C Ratio	0.08	0.08	0.08	0.22	0.22	0.22	0.10	0.32	0.32	0.18	0.40	0.40
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	128	134	121	385	406	345	166	1111	497	312	1409	630
v/s Ratio Prot	0.06	c0.06		c0.24	0.05		0.08	0.29		c0.15	c0.39	
v/s Ratio Perm			0.01			0.04			0.10			0.05
v/c Ratio	0.78	0.78	0.09	1.09	0.22	0.18	0.89	0.91	0.32	0.88	0.98	0.12
Uniform Delay, d1	45.3	45.3	42.9	39.0	32.0	31.7	44.7	32.8	25.9	40.1	29.6	19.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.35	0.64	0.66	1.00	1.00	1.00
Incremental Delay, d2	24.2	23.5	0.1	72.5	0.1	0.1	30.7	9.3	1.2	22.2	18.9	0.4
Delay (s)	69.5	68.8	43.0	111.5	32.1	31.8	90.9	30.4	18.3	62.3	48.5	19.4
Level of Service	E	E	D	F	C	C	F	C	B	E	D	B
Approach Delay (s)		58.2			74.0			32.1			48.0	
Approach LOS		E			E			C			D	

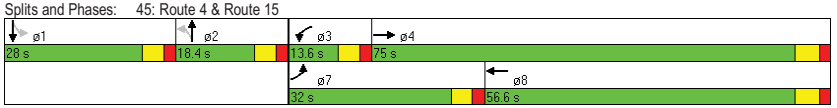
Intersection Summary				
HCM Average Control Delay	47.6	HCM Level of Service	D	
HCM Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	81.1%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	250	1310	30	840	20	10	50	10
Turn Type	Prot		Prot		Perm		Perm	
Protected Phases	7	4	3	8		2		1
Permitted Phases					2		1	
Detector Phase	7	4	3	8	2	2	1	1
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	16.5	16.0	13.5	16.0	13.5	13.5	13.5	13.5
Total Split (s)	32.0	75.0	13.6	56.6	18.4	18.4	28.0	28.0
Total Split (%)	23.7%	55.6%	10.1%	41.9%	13.6%	13.6%	20.7%	20.7%
Maximum Green (s)	26.5	69.0	8.1	50.6	12.9	12.9	22.5	22.5
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	5.5	6.0	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Min	Min	Min	Min	Min	Min	Min	Min
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0

Intersection Summary
Cycle Length: 135
Actuated Cycle Length: 124.9
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Route 4 & Route 15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1310	60	30	840	70	20	10	30	50	10	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	230		230	200		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		749			563			294			294	
Travel Time (s)		14.6			11.0			5.7			5.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Shared Lane Traffic (%)												
Lane Group Flow (vph)	294	1612	0	35	1070	0	0	71	0	0	283	0
v/c Ratio	0.88	0.92		0.30	0.82			0.55			0.96	
Control Delay	76.2	39.1		66.5	41.9			52.8			76.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	76.2	39.1		66.5	41.9			52.8			76.7	
Queue Length 50th (ft)	232	602		28	413			34			163	
Queue Length 95th (ft)	#365	688		63	485			81			#331	
Internal Link Dist (ft)		669			483			214			214	
Turn Bay Length (ft)	230			200								
Base Capacity (vph)	378	1954		115	1430			166			296	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.78	0.82		0.30	0.75			0.43			0.96	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	1310	60	30	840	70	20	10	30	50	10	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3516		1770	3499			1710			1657	
Flt Permitted	0.95	1.00		0.95	1.00			0.78			0.72	
Satd. Flow (perm)	1770	3516		1770	3499			1351			1202	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	294	1541	71	35	988	82	24	12	35	59	12	212
RTOR Reduction (vph)	0	3	0	0	4	0	0	27	0	0	79	0
Lane Group Flow (vph)	294	1609	0	35	1066	0	0	44	0	0	204	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			2			1	
Permitted Phases							2			1		
Actuated Green, G (s)	23.7	62.0		8.1	46.4			9.6			22.6	
Effective Green, g (s)	23.7	62.0		8.1	46.4			9.6			22.6	
Actuated g/C Ratio	0.19	0.50		0.06	0.37			0.08			0.18	
Clearance Time (s)	5.5	6.0		5.5	6.0			5.5			5.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	336	1747		115	1301			104			218	
v/s Ratio Prot	c0.17	c0.46		0.02	0.30							
v/s Ratio Perm								c0.03			c0.17	
v/c Ratio	0.88	0.92		0.30	0.82			0.43			0.94	
Uniform Delay, d1	49.1	29.1		55.7	35.4			55.0			50.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	20.9	8.4		0.5	3.9			1.0			42.9	
Delay (s)	70.0	37.5		56.2	39.3			56.0			93.3	
Level of Service	E	D		E	D			E			F	
Approach Delay (s)		42.5			39.9			56.0			93.3	
Approach LOS		D			D			E			F	

Intersection Summary

HCM Average Control Delay	46.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	124.8	Sum of lost time (s)	22.5
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

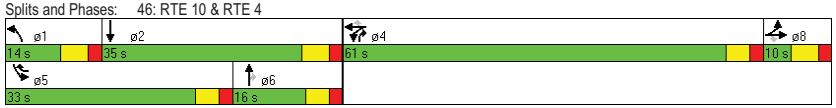
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	20	10	20	660	10	250	480	760	420
Turn Type		Perm		pm+ov	Prot		pm+ov	Prot	
Protected Phases	8		4	5	1	6	4	5	2
Permitted Phases		8		4			6		
Detector Phase	8	8	4	5	1	6	4	5	2
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	8.0	8.0	9.0	4.0	8.0	10.0
Minimum Split (s)	10.0	10.0	9.5	13.5	14.0	15.0	9.5	13.5	16.0
Total Split (s)	10.0	10.0	61.0	33.0	14.0	16.0	61.0	33.0	35.0
Total Split (%)	8.3%	8.3%	50.8%	27.5%	11.7%	13.3%	50.8%	27.5%	29.2%
Maximum Green (s)	4.0	4.0	55.5	27.5	8.0	10.5	55.5	27.5	29.0
Yellow Time (s)	4.0	4.0	3.5	3.5	4.0	3.5	3.5	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	5.5	6.0	5.5	5.5	5.5	6.0
Lead/Lag				Lead	Lead	Lag		Lead	Lag
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	None	Min
Walk Time (s)			7.0				7.0		7.0
Flash Dont Walk (s)			20.0				20.0		17.0
Pedestrian Calls (#/hr)			0				0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 118
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 46: RTE 10 & RTE 4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	780	20	660	10	250	480	760	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	150		200	350		0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			645			734			914	
Travel Time (s)		7.3			12.6			14.3			17.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	11	0	909	750	11	284	545	864	500	0
v/c Ratio		0.74	0.17		1.09	0.64	0.09	0.92	0.56	1.08	0.79	
Control Delay		114.3	33.7		88.5	7.0	54.6	88.0	14.8	98.3	46.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		114.3	33.7		88.5	7.0	54.6	88.0	14.8	98.3	46.6	
Queue Length 50th (ft)		36	0		~803	115	8	116	209	~391	337	
Queue Length 95th (ft)		#103	19		#1012	166	27	#196	298	#498	#636	
Internal Link Dist (ft)		295			565			654			834	
Turn Bay Length (ft)			50				150		200	350		
Base Capacity (vph)		62	64		837	1170	118	309	972	801	633	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.74	0.17		1.09	0.64	0.09	0.92	0.56	1.08	0.79	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	20	10	780	20	660	10	250	480	760	420	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1776	1583	1736	3471	1553	3433	1850	
Flt Permitted		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1817	1583		1776	1583	1736	3471	1553	3433	1850	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	23	23	11	886	23	750	11	284	545	864	477	23
RTOR Reduction (vph)	0	0	11	0	0	46	0	0	33	0	1	0
Lane Group Flow (vph)	0	46	0	0	909	704	11	284	512	864	499	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	8	8		4	4	5	1	6	4	5	2	
Permitted Phases			8			4			6			
Actuated Green, G (s)		3.1	3.1		55.6	83.1	1.6	15.4	71.0	27.5	40.3	
Effective Green, g (s)		3.1	3.1		55.6	83.1	1.6	15.4	71.0	27.5	40.3	
Actuated g/C Ratio		0.02	0.02		0.45	0.67	0.01	0.12	0.57	0.22	0.32	
Clearance Time (s)		6.0	6.0		5.5	5.5	6.0	5.5	5.5	5.5	6.0	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		45	40		796	1060	22	431	957	761	601	
v/s Ratio Prot		c0.03			c0.51	0.15	0.01	0.08	0.24	c0.25	c0.27	
v/s Ratio Perm			0.00			0.30			0.09			
v/c Ratio		1.02	0.01		1.14	0.66	0.50	0.66	0.54	1.14	0.83	
Uniform Delay, d1		60.5	59.0		34.2	12.2	60.9	51.8	16.4	48.3	38.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		140.7	0.0		78.7	1.2	6.4	2.8	0.3	76.7	8.8	
Delay (s)		201.2	59.0		112.9	13.4	67.2	54.6	16.7	125.0	47.6	
Level of Service		F	E		F	B	E	D	B	F	D	
Approach Delay (s)		173.8			67.9			30.2			96.6	
Approach LOS		F			E			C			F	

Intersection Summary				
HCM Average Control Delay	71.4	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.05			
Actuated Cycle Length (s)	124.1	Sum of lost time (s)	17.0	
Intersection Capacity Utilization	95.5%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1300	1190	60
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Detector Phase	8	8	5	2	6	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	8.0	15.0	15.0	15.0
Minimum Split (s)	32.0	32.0	13.0	22.0	33.0	33.0
Total Split (s)	43.0	43.0	15.0	87.0	72.0	72.0
Total Split (%)	33.1%	33.1%	11.5%	66.9%	55.4%	55.4%
Maximum Green (s)	38.0	38.0	10.0	81.0	66.0	66.0
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	C-Min	C-Min
Walk Time (s)	5.0	5.0			5.0	5.0
Flash Dont Walk (s)	14.0	14.0			10.0	10.0
Pedestrian Calls (#/hr)	0	0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 103 (79%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 47: Route 11 & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1300	1190	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	250	175			200
Storage Lanes	1	1	1			1
Taper Length (ft)	25	25	25			25
Right Turn on Red		No				No
Link Speed (mph)	25			35	35	
Link Distance (ft)	784			300	778	
Travel Time (s)	21.4			5.8	15.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	116	21	1368	1253	63
v/c Ratio	0.81	0.44	0.19	0.54	0.54	0.06
Control Delay	71.0	50.4	76.1	1.1	14.3	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	50.4	76.1	1.1	14.3	10.6
Queue Length 50th (ft)	197	87	16	6	303	19
Queue Length 95th (ft)	273	137	m24	7	438	46
Internal Link Dist (ft)	704			220	698	
Turn Bay Length (ft)		250	175			200
Base Capacity (vph)	463	414	135	2551	2339	1046
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.28	0.16	0.54	0.54	0.06

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	230	110	20	1300	1190	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1583	1417	1752	3505	3505	1568
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1583	1417	1752	3505	3505	1568
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	116	21	1368	1253	63
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	242	116	21	1368	1253	63
Heavy Vehicles (%)	14%	14%	3%	3%	3%	3%
Turn Type		Perm	Prot			Perm
Protected Phases	8		5	2	6	
Permitted Phases		8				6
Actuated Green, G (s)	24.4	24.4	4.9	94.6	84.7	84.7
Effective Green, g (s)	24.4	24.4	4.9	94.6	84.7	84.7
Actuated g/C Ratio	0.19	0.19	0.04	0.73	0.65	0.65
Clearance Time (s)	5.0	5.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	297	266	66	2551	2284	1022
v/s Ratio Prot	c0.15		0.01	c0.39	0.36	
v/s Ratio Perm		0.08				0.04
v/c Ratio	0.81	0.44	0.32	0.54	0.55	0.06
Uniform Delay, d1	50.6	46.7	60.9	7.9	12.3	8.2
Progression Factor	1.00	1.00	1.25	0.05	1.00	1.00
Incremental Delay, d2	14.9	0.4	0.8	0.6	1.0	0.1
Delay (s)	65.5	47.1	77.0	1.0	13.2	8.3
Level of Service	E	D	E	A	B	A
Approach Delay (s)	59.6			2.2	13.0	
Approach LOS	E			A	B	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	120	30	1170	80	1150
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	15.0	8.0	15.0
Minimum Split (s)	25.0	25.0	28.0	13.5	22.0
Total Split (s)	27.0	27.0	83.0	20.0	103.0
Total Split (%)	20.8%	20.8%	63.8%	15.4%	79.2%
Maximum Green (s)	22.0	22.0	77.0	15.0	97.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	13.0	13.0	13.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 61 (47%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 48: Route 6 & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	30	1170	160	80	1150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	200	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	25		35			35
Link Distance (ft)	586		553			1337
Travel Time (s)	16.0		10.8			26.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	138	34	1529	0	92	1322
v/c Ratio	0.69	0.16	0.65		0.60	0.47
Control Delay	72.4	16.8	6.3		59.3	12.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	72.4	16.8	6.3		59.3	12.6
Queue Length 50th (ft)	114	0	133		77	330
Queue Length 95th (ft)	171	29	157		115	605
Internal Link Dist (ft)	506		473			1257
Turn Bay Length (ft)					200	
Base Capacity (vph)	300	296	2335		202	2811
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.46	0.11	0.65		0.46	0.47

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	120	30	1170	160	80	1150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3442		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3442		1752	3505
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	138	34	1345	184	92	1322
RTOR Reduction (vph)	0	30	6	0	0	0
Lane Group Flow (vph)	138	4	1523	0	92	1322
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	14.7	14.7	88.0		11.3	104.3
Effective Green, g (s)	14.7	14.7	88.0		11.3	104.3
Actuated g/C Ratio	0.11	0.11	0.68		0.09	0.80
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	200	179	2330		152	2812
v/s Ratio Prot	c0.08		c0.44		c0.05	0.38
v/s Ratio Perm		0.00				
v/c Ratio	0.69	0.02	0.65		0.61	0.47
Uniform Delay, d1	55.5	51.3	12.2		57.2	4.1
Progression Factor	1.00	1.00	0.38		0.79	2.70
Incremental Delay, d2	7.7	0.0	1.3		4.1	0.5
Delay (s)	63.1	51.3	5.9		49.1	11.5
Level of Service	E	D	A		D	B
Approach Delay (s)	60.8		5.9			14.0
Approach LOS	E		A			B

Intersection Summary				
HCM Average Control Delay	12.6	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	65.8%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Volume (vph)	40	30	1290	1160
Turn Type		Prot		
Protected Phases	8	5	2	6
Permitted Phases				
Detector Phase	8	5	2	6
Switch Phase				
Minimum Initial (s)	8.0	8.0	15.0	15.0
Minimum Split (s)	26.0	13.0	22.0	30.0
Total Split (s)	31.0	17.0	99.0	82.0
Total Split (%)	23.8%	13.1%	76.2%	63.1%
Maximum Green (s)	26.0	12.0	93.0	76.0
Yellow Time (s)	3.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0
Lead/Lag		Lead		Lag
Lead-Lag Optimize?		Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Min	C-Min
Walk Time (s)	5.0			5.0
Flash Dont Walk (s)	16.0			19.0
Pedestrian Calls (#/hr)	0			0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 83 (64%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 49: Polaris Point & Route 1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1290	1160	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	2042			2039	7256	
Travel Time (s)	39.8			39.7	141.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	33	1433	1311	0
v/c Ratio	0.61		0.29	0.49	0.48	
Control Delay	45.7		72.3	2.5	3.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	45.7		72.3	2.5	3.1	
Queue Length 50th (ft)	48		29	38	112	
Queue Length 95th (ft)	107		m53	57	10	
Internal Link Dist (ft)	1962			1959	7176	
Turn Bay Length (ft)			125			
Base Capacity (vph)	378		162	2934	2706	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.29		0.20	0.49	0.48	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	60	30	1290	1160	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0	6.0	6.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frt	0.92		1.00	1.00	1.00	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1678		1752	3505	3496	
Flt Permitted	0.98		0.95	1.00	1.00	
Satd. Flow (perm)	1678		1752	3505	3496	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	67	33	1433	1289	22
RTOR Reduction (vph)	49	0	0	0	0	0
Lane Group Flow (vph)	62	0	33	1433	1311	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type			Prot			
Protected Phases	8		5	2	6	
Permitted Phases						
Actuated Green, G (s)	10.2		5.1	108.8	98.7	
Effective Green, g (s)	10.2		5.1	108.8	98.7	
Actuated g/C Ratio	0.08		0.04	0.84	0.76	
Clearance Time (s)	5.0		5.0	6.0	6.0	
Vehicle Extension (s)	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	132		69	2933	2654	
v/s Ratio Prot	c0.04		0.02	c0.41	0.37	
v/s Ratio Perm						
v/c Ratio	0.47		0.48	0.49	0.49	
Uniform Delay, d1	57.3		61.1	2.9	6.0	
Progression Factor	1.00		1.15	0.64	0.39	
Incremental Delay, d2	1.0		1.6	0.5	0.6	
Delay (s)	58.3		71.7	2.4	2.9	
Level of Service	E		E	A	A	
Approach Delay (s)	58.3			3.9	2.9	
Approach LOS	E			A	A	

Intersection Summary			
HCM Average Control Delay	5.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		

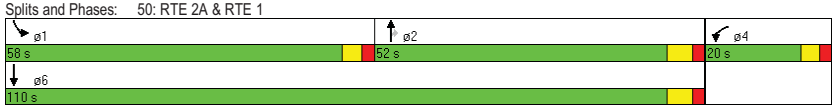
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	520	750	180	1070	330
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Detector Phase	4		2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		15.0	15.0	4.0	15.0
Minimum Split (s)	20.0		33.0	33.0	9.0	21.0
Total Split (s)	20.0	0.0	52.0	52.0	58.0	110.0
Total Split (%)	15.4%	0.0%	40.0%	40.0%	44.6%	84.6%
Maximum Green (s)	15.0		46.0	46.0	53.0	104.0
Yellow Time (s)	3.0		4.0	4.0	3.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Minimum Gap (s)	2.0		2.0	2.0	5.0	2.0
Time Before Reduce (s)	0.0		0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0		0.0	0.0	0.0	0.0
Recall Mode	None		C-Max	C-Max	None	C-Max
Walk Time (s)	5.0		5.0	5.0		
Flash Dont Walk (s)	15.0		10.0	10.0		
Pedestrian Calls (#/hr)	0		0	0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 33 (25%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 50: RTE 2A & RTE 1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	520	750	180	1070	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	380	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	763		960			531
Travel Time (s)	14.9		18.7			10.3
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	612	882	212	1259	388
v/c Ratio	0.62	0.39	0.67	0.31	0.89	0.13
Control Delay	74.6	0.7	37.7	7.9	40.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	0.7	37.7	7.9	40.4	1.5
Queue Length 50th (ft)	78	0	337	20	274	4
Queue Length 95th (ft)	125	0	382	65	503	13
Internal Link Dist (ft)	683		880			451
Turn Bay Length (ft)				200	380	
Base Capacity (vph)	204	1583	1307	694	1426	2910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.39	0.67	0.31	0.88	0.13

Intersection Summary

Area Type: Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	80	520	750	180	1070	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.0	6.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	0.97	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3471	1553	3400	3505
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3471	1553	3400	3505
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	94	612	882	212	1259	388
RTOR Reduction (vph)	0	0	0	110	0	0
Lane Group Flow (vph)	94	612	882	102	1259	388
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		Free		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		Free		2		
Actuated Green, G (s)	11.1	130.0	48.9	48.9	54.0	107.9
Effective Green, g (s)	11.1	130.0	48.9	48.9	54.0	107.9
Actuated g/C Ratio	0.09	1.00	0.38	0.38	0.42	0.83
Clearance Time (s)	5.0		6.0	6.0	5.0	6.0
Vehicle Extension (s)	2.0		2.0	2.0	5.0	2.0
Lane Grp Cap (vph)	151	1583	1306	584	1412	2909
v/s Ratio Prot	c0.05		c0.25		c0.37	0.11
v/s Ratio Perm		0.39		0.07		
v/c Ratio	0.62	0.39	0.68	0.18	0.89	0.13
Uniform Delay, d1	57.4	0.0	33.9	27.1	35.3	2.1
Progression Factor	1.00	1.00	1.00	1.00	0.89	0.63
Incremental Delay, d2	5.6	0.7	2.8	0.7	7.6	0.1
Delay (s)	63.1	0.7	36.7	27.7	39.1	1.4
Level of Service	E	A	D	C	D	A
Approach Delay (s)	9.0		35.0			30.2
Approach LOS	A		C			C

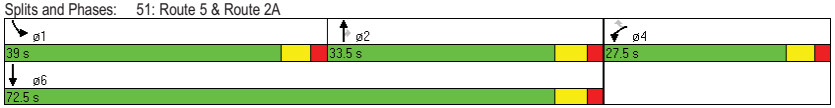
Intersection Summary				
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	290	70	410	530
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	33.0	33.0	21.5	22.0
Total Split (s)	27.5	27.5	33.5	33.5	39.0	72.5
Total Split (%)	27.5%	27.5%	33.5%	33.5%	39.0%	72.5%
Maximum Green (s)	22.0	22.0	27.5	27.5	33.5	66.5
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Max	Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 76.6
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 51: Route 5 & Route 2A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	290	70	410	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200		100	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1099		864			879
Travel Time (s)	21.4		16.8			17.1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	172	312	75	441	570
v/c Ratio	0.27	0.52	0.24	0.12	0.83	0.22
Control Delay	37.2	12.3	19.2	6.1	38.4	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	12.3	19.2	6.1	38.4	3.4
Queue Length 50th (ft)	24	0	52	0	190	33
Queue Length 95th (ft)	63	57	103	30	306	55
Internal Link Dist (ft)	1019		784			799
Turn Bay Length (ft)		200		100	200	
Base Capacity (vph)	513	581	1282	621	781	3101
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.30	0.24	0.12	0.56	0.18

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	50	160	290	70	410	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	172	312	75	441	570
RTOR Reduction (vph)	0	153	0	48	0	0
Lane Group Flow (vph)	54	19	312	27	441	570
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	8.6	8.6	27.8	27.8	23.1	56.4
Effective Green, g (s)	8.6	8.6	27.8	27.8	23.1	56.4
Actuated g/C Ratio	0.11	0.11	0.36	0.36	0.30	0.74
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	199	178	1286	575	534	2609
v/s Ratio Prot	c0.03		c0.09		c0.25	0.16
v/s Ratio Perm		0.01		0.02		
v/c Ratio	0.27	0.11	0.24	0.05	0.83	0.22
Uniform Delay, d1	31.1	30.5	17.0	15.8	24.8	3.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.4	0.2	9.6	0.0
Delay (s)	31.4	30.6	17.4	15.9	34.5	3.2
Level of Service	C	C	B	B	C	A
Approach Delay (s)	30.8		17.2			16.8
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	76.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	330	140	220	640
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	8.0	8.0	10.0	10.0	8.0	10.0
Minimum Split (s)	27.5	27.5	28.0	28.0	13.5	22.0
Total Split (s)	33.0	33.0	49.0	49.0	38.0	87.0
Total Split (%)	27.5%	27.5%	40.8%	40.8%	31.7%	72.5%
Maximum Green (s)	27.5	27.5	43.0	43.0	32.5	81.0
Yellow Time (s)	3.5	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 59.2
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 52: Route 12 & Route 2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	330	140	220	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	150		200	200	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1682		1244			1258
Travel Time (s)	32.8		24.2			24.5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	113	340	144	227	660
v/c Ratio	0.49	0.29	0.65	0.26	0.57	0.59
Control Delay	29.4	8.1	26.0	5.3	28.6	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	8.1	26.0	5.3	28.6	9.7
Queue Length 50th (ft)	50	0	99	0	68	115
Queue Length 95th (ft)	134	40	227	38	170	246
Internal Link Dist (ft)	1602		1164			1178
Turn Bay Length (ft)		150		200	200	
Base Capacity (vph)	866	832	1425	1245	1023	1854
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.14	0.24	0.12	0.22	0.36

Intersection Summary	
Area Type:	Other

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	160	110	330	140	220	640
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	113	340	144	227	660
RTOR Reduction (vph)	0	91	0	102	0	0
Lane Group Flow (vph)	165	22	340	42	227	660
Turn Type		Perm		Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases		4		2		
Actuated Green, G (s)	11.4	11.4	17.1	17.1	13.2	35.8
Effective Green, g (s)	11.4	11.4	17.1	17.1	13.2	35.8
Actuated g/C Ratio	0.19	0.19	0.29	0.29	0.22	0.61
Clearance Time (s)	5.5	5.5	6.0	6.0	5.5	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	344	307	543	461	398	1136
v/s Ratio Prot	c0.09		0.18		0.13	c0.35
v/s Ratio Perm		0.01		0.03		
v/c Ratio	0.48	0.07	0.63	0.09	0.57	0.58
Uniform Delay, d1	21.0	19.3	18.0	15.1	20.2	6.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	1.6	0.0	1.2	0.5
Delay (s)	21.4	19.4	19.7	15.2	21.5	7.4
Level of Service	C	B	B	B	C	A
Approach Delay (s)	20.6		18.3			11.0
Approach LOS	C		B			B

Intersection Summary				
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	11.5
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	400	90	80	30	30	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	482	108	96	36	36	145
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	96				1169	96
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	96				1169	96
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	68				75	85
cM capacity (veh/h)	1497				145	960

Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2
Volume Total	590	96	36	36	145
Volume Left	482	0	0	36	0
Volume Right	0	0	36	0	145
cSH	1497	1700	1700	145	960
Volume to Capacity	0.32	0.06	0.02	0.25	0.15
Queue Length 95th (ft)	35	0	0	23	13
Control Delay (s)	7.5	0.0	0.0	37.9	9.4
Lane LOS	A			E	A
Approach Delay (s)	7.5	0.0		15.1	
Approach LOS				C	

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	10	30	40	10	20	40
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	14	41	54	14	27	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	169	61			68	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	169	61			68	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	96			98	
cM capacity (veh/h)	807	1004			1534	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	54	68	81
Volume Left	14	0	27
Volume Right	41	14	0
cSH	946	1700	1534
Volume to Capacity	0.06	0.04	0.02
Queue Length 95th (ft)	5	0	1
Control Delay (s)	9.0	0.0	2.6
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	2.6
Approach LOS	A		

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	19.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	200	140	160	130	60	100
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	299	209	239	194	90	149
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			507		1075	403
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			507		1075	403
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			77		52	77
cM capacity (veh/h)			1057		188	647

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	507	433	239
Volume Left	0	239	90
Volume Right	209	0	149
cSH	1700	1057	338
Volume to Capacity	0.30	0.23	0.71
Queue Length 95th (ft)	0	22	128
Control Delay (s)	0.0	6.3	37.6
Lane LOS		A	E
Approach Delay (s)	0.0	6.3	37.6
Approach LOS			E

Intersection Summary			
Average Delay	9.9		
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	250	30	20	240	450
Turn Type		Perm	Prot		
Protected Phases	4		1	6	2
Permitted Phases		4			
Detector Phase	4	4	1	6	2
Switch Phase					
Minimum Initial (s)	10.0	10.0	4.5	20.0	20.0
Minimum Split (s)	21.5	21.5	10.0	26.0	26.0
Total Split (s)	22.0	22.0	10.0	43.0	43.0
Total Split (%)	29.3%	29.3%	13.3%	57.3%	57.3%
Maximum Green (s)	16.5	16.5	4.5	37.0	37.0
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary

Cycle Length: 75
Actuated Cycle Length: 66.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 56: RTE 17 & RTE 4

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	250	30	20	240	450	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	838			751	454	
Travel Time (s)	16.3			14.6	8.8	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	7%	7%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	294	35	24	282	941	0
v/c Ratio	0.78	0.10	0.21	0.28	0.93	
Control Delay	42.1	9.7	37.0	10.2	32.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.1	9.7	37.0	10.2	32.3	
Queue Length 50th (ft)	104	0	9	49	265	
Queue Length 95th (ft)	#218	20	32	116	#623	
Internal Link Dist (ft)	758			671	374	
Turn Bay Length (ft)	220		150			
Base Capacity (vph)	442	422	115	995	1015	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.67	0.08	0.21	0.28	0.93	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	250	30	20	240	450	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.94	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1687	1776	1753	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1687	1776	1753	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	294	35	24	282	529	412
RTOR Reduction (vph)	0	28	0	0	35	0
Lane Group Flow (vph)	294	7	24	282	906	0
Heavy Vehicles (%)	2%	2%	7%	7%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		1	6	2	
Permitted Phases		4				
Actuated Green, G (s)	14.1	14.1	1.6	37.4	37.4	
Effective Green, g (s)	14.1	14.1	1.6	37.4	37.4	
Actuated g/C Ratio	0.20	0.20	0.02	0.53	0.53	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	356	318	39	948	935	
v/s Ratio Prot	c0.17		c0.01	0.16	c0.52	
v/s Ratio Perm		0.00				
v/c Ratio	0.83	0.02	0.62	0.30	0.97	
Uniform Delay, d1	26.8	22.5	33.9	9.1	15.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	13.8	0.0	18.5	0.1	21.9	
Delay (s)	40.6	22.5	52.5	9.1	37.7	
Level of Service	D	C	D	A	D	
Approach Delay (s)	38.7			12.5	37.7	
Approach LOS	D			B	D	

Intersection Summary				
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	70.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	140	260	80	70	60
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	52	146	271	83	73	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	354				562	312
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	354				562	312
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	96				84	91
cM capacity (veh/h)	1167				466	728

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	198	354	135
Volume Left	52	0	73
Volume Right	0	83	62
cSH	1167	1700	559
Volume to Capacity	0.04	0.21	0.24
Queue Length 95th (ft)	4	0	24
Control Delay (s)	2.5	0.0	13.5
Lane LOS	A		B
Approach Delay (s)	2.5	0.0	13.5
Approach LOS			B

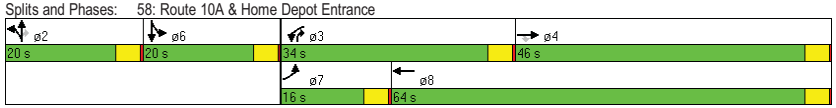
Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	90	940	760	460	890	320	30	770	80	40
Turn Type	Prot		Perm	Prot		Split		pm+ov	Split	
Protected Phases	7	4		3	8	2	2	3	6	6
Permitted Phases			4					2		
Detector Phase	7	4	4	3	8	2	2	3	6	6
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	46.0	46.0	34.0	64.0	20.0	20.0	34.0	20.0	20.0
Total Split (%)	13.3%	38.3%	38.3%	28.3%	53.3%	16.7%	16.7%	28.3%	16.7%	16.7%
Maximum Green (s)	12.0	42.0	42.0	30.0	60.0	16.0	16.0	30.0	16.0	16.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	Min	None	Min	Min
Walk Time (s)		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0		0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 113
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 58: Route 10A & Home Depot Entrance



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	940	760	460	890	60	320	30	770	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		30	300		0	300		50	0		0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			30	
Link Distance (ft)		1852			1228			703			493	
Travel Time (s)		42.1			23.9			13.7			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	1022	826	500	1032	0	348	33	837	87	163	0
v/c Ratio	0.64	0.77	1.20	0.55	0.53		0.79	0.14	1.17	0.54	0.68	
Control Delay	69.4	36.9	131.6	39.1	18.3		61.6	46.1	116.7	62.0	36.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	69.4	36.9	131.6	39.1	18.3		61.6	46.1	116.7	62.0	36.6	
Queue Length 50th (ft)	70	346	~667	163	246		127	22	~624	62	47	
Queue Length 95th (ft)	132	465	#971	232	352		#191	55	#989	115	118	
Internal Link Dist (ft)		1772			1148			623			413	
Turn Bay Length (ft)	300		30	300			300		50			
Base Capacity (vph)	188	1319	688	914	1940		487	264	713	251	318	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.52	0.77	1.20	0.55	0.53		0.71	0.13	1.17	0.35	0.51	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

58: Route 10A & Home Depot Entrance

HCM Signalized Intersection Capacity Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	940	760	460	890	60	320	30	770	80	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.97	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	3433	3506		3433	1863	1583	1770	1657	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	3433	3506		3433	1863	1583	1770	1657	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	1022	826	500	967	65	348	33	837	87	43	120
RTOR Reduction (vph)	0	0	98	0	4	0	0	0	88	0	88	0
Lane Group Flow (vph)	98	1022	728	500	1028	0	348	33	749	87	75	0
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		
Protected Phases	7	4		3	8		2	2	3	6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	9.8	42.1	42.1	30.1	62.4		14.5	14.5	44.6	10.2	10.2	
Effective Green, g (s)	9.8	42.1	42.1	30.1	62.4		14.5	14.5	44.6	10.2	10.2	
Actuated g/C Ratio	0.09	0.37	0.37	0.27	0.55		0.13	0.13	0.40	0.09	0.09	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	154	1320	590	915	1938		441	239	625	160	150	
v/s Ratio Prot	0.06	0.29		0.15	0.29		0.10	0.02	c0.32	c0.05	0.05	
v/s Ratio Perm			c0.46						0.15			
v/c Ratio	0.64	0.77	1.23	0.55	0.53		0.79	0.14	1.20	0.54	0.50	
Uniform Delay, d1	49.8	31.2	35.4	35.5	16.0		47.7	43.7	34.1	49.1	48.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.2	2.6	119.6	0.4	0.1		8.4	0.1	104.4	2.0	0.9	
Delay (s)	56.0	33.9	155.0	35.9	16.1		56.1	43.8	138.5	51.1	49.9	
Level of Service	E	C	F	D	B		E	D	F	D	D	
Approach Delay (s)		86.4			22.6			112.4			50.3	
Approach LOS		F			C			F			D	

Intersection Summary				
HCM Average Control Delay	71.2	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.14			
Actuated Cycle Length (s)	112.9	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	88.1%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

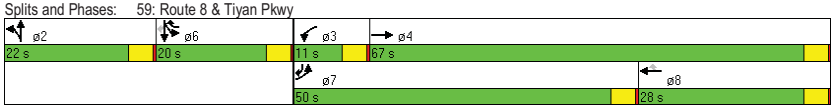
59: Route 8 & Tiyan Pkwy

Phasings

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Volume (vph)	990	950	40	700	180	90	60	390	100	1090
Turn Type	Prot		Prot		pm+ov	Split		Split		pm+ov
Protected Phases	7	4	3	8	6	2	2	6	6	7
Permitted Phases					8					6
Detector Phase	7	4	3	8	6	2	2	6	6	7
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	8.0
Total Split (s)	50.0	67.0	11.0	28.0	20.0	22.0	22.0	20.0	20.0	50.0
Total Split (%)	41.7%	55.8%	9.2%	23.3%	16.7%	18.3%	18.3%	16.7%	16.7%	41.7%
Maximum Green (s)	46.0	63.0	7.0	24.0	16.0	18.0	18.0	16.0	16.0	46.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag						Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes						Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0		11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 112.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 59: Route 8 & Tiyan Pkwy



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	990	950	120	40	700	180	90	60	50	390	100	1090
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		300	0		0	300		0
Storage Lanes	2		0	1		1	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30			35	
Link Distance (ft)		2791			2670			614			1053	
Travel Time (s)		54.4			52.0			14.0			20.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)										38%		
Lane Group Flow (vph)	1076	1163	0	43	761	196	98	119	0	263	270	1185
v/c Ratio	0.77	0.57		0.44	1.01	0.28	0.58	0.62		1.10	1.11	1.17
Control Delay	33.7	17.0		66.4	79.8	3.3	62.9	51.3		133.7	134.9	108.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	33.7	17.0		66.4	79.8	3.3	62.9	51.3		133.7	134.9	108.8
Queue Length 50th (ft)	340	273		30	~296	0	69	63		~228	~234	~962
Queue Length 95th (ft)	455	377		71	#458	34	125	124		#424	#433	#1296
Internal Link Dist (ft)		2711			2590			534			973	
Turn Bay Length (ft)	300			300		300				300		
Base Capacity (vph)	1402	2030		110	754	689	283	302		239	244	1012
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.77	0.57		0.39	1.01	0.28	0.35	0.39		1.10	1.11	1.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	990	950	120	40	700	180	90	60	50	390	100	1090
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (prot)	3433	3480		1770	3539	1583	1770	1736		1681	1718	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00
Satd. Flow (perm)	3433	3480		1770	3539	1583	1770	1736		1681	1718	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1076	1033	130	43	761	196	98	65	54	424	109	1185
RTOR Reduction (vph)	0	7	0	0	0	125	0	26	0	0	0	93
Lane Group Flow (vph)	1076	1156	0	43	761	71	98	93	0	263	270	1092
Turn Type	Prot			Prot		pm+ov	Split			Split		pm+ov
Protected Phases	7	4		3	8	6	2	2		6	6	7
Permitted Phases						8						6
Actuated Green, G (s)	46.0	65.6		5.3	24.9	40.9	10.7	10.7		16.0	16.0	62.0
Effective Green, g (s)	46.0	65.6		5.3	24.9	40.9	10.7	10.7		16.0	16.0	62.0
Actuated g/C Ratio	0.40	0.58		0.05	0.22	0.36	0.09	0.09		0.14	0.14	0.55
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1390	2010		83	776	570	167	164		237	242	920
v/s Ratio Prot	0.31	0.33		0.02	c0.22	0.02	c0.06	0.05		0.16	0.16	c0.48
v/s Ratio Perm						0.03						0.21
v/c Ratio	0.77	0.58		0.52	0.98	0.12	0.59	0.57		1.11	1.12	1.19
Uniform Delay, d1	29.3	15.2		52.9	44.1	24.3	49.3	49.2		48.8	48.8	25.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.5	0.2		2.3	27.4	0.0	3.4	2.6		91.0	92.5	95.1
Delay (s)	31.8	15.4		55.2	71.5	24.4	52.7	51.9		139.8	141.3	120.9
Level of Service	C	B		E	E	C	D	D		F	F	F
Approach Delay (s)		23.3			61.5			52.2			127.0	
Approach LOS		C			E			D			F	

Intersection Summary

HCM Average Control Delay	66.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	113.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	20	300	2260	50	2430
Turn Type		Perm		Prot	
Protected Phases	8		2	1	6
Permitted Phases		8			
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0
Total Split (s)	23.0	23.0	99.0	8.0	107.0
Total Split (%)	17.7%	17.7%	76.2%	6.2%	82.3%
Maximum Green (s)	19.0	19.0	95.0	4.0	103.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)	0	0	0		0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 60: Route 27Ext & Route 1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	300	2260	1190	50	2430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	30		35			35
Link Distance (ft)	1181		1114			966
Travel Time (s)	26.8		21.7			18.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	326	3750	0	54	2641
v/c Ratio	0.08	1.18	1.05		1.00	0.66
Control Delay	68.5	137.1	33.3		174.1	4.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	68.5	137.1	33.3		174.1	4.8
Queue Length 50th (ft)	19	~219	~1267		~45	148
Queue Length 95th (ft)	m15	m200	m75		m#74	m89
Internal Link Dist (ft)	1101		1034			886
Turn Bay Length (ft)					300	
Base Capacity (vph)	259	277	3562		54	3990
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.08	1.18	1.05		1.00	0.66

Intersection Summary

Area Type: Other
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	20	300	2260	1190	50	2430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4775		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4775		1752	5036
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	326	2457	1293	54	2641
RTOR Reduction (vph)	0	46	73	0	0	0
Lane Group Flow (vph)	22	280	3677	0	54	2641
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	19.0	19.0	95.0		4.0	103.0
Effective Green, g (s)	19.0	19.0	95.0		4.0	103.0
Actuated g/C Ratio	0.15	0.15	0.73		0.03	0.79
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	259	231	3489		54	3990
v/s Ratio Prot	0.01		c0.77		c0.03	0.52
v/s Ratio Perm		c0.18				
v/c Ratio	0.08	1.21	1.05		1.00	0.66
Uniform Delay, d1	48.0	55.5	17.5		63.0	5.9
Progression Factor	1.41	1.47	0.28		1.27	0.70
Incremental Delay, d2	0.0	99.1	26.4		99.7	0.6
Delay (s)	67.8	180.5	31.2		179.5	4.7
Level of Service	E	F	C		F	A
Approach Delay (s)	173.3		31.2			8.2
Approach LOS	F		C			A

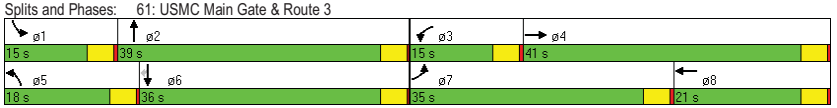
Intersection Summary				
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	660	30	20	5	390	410	20	490	760
Turn Type	Prot		Prot		Prot		Prot		Perm
Protected Phases	7	4	3	8	5	2	1	6	
Permitted Phases									6
Detector Phase	7	4	3	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0	20.0
Total Split (s)	35.0	41.0	15.0	21.0	18.0	39.0	15.0	36.0	36.0
Total Split (%)	31.8%	37.3%	13.6%	19.1%	16.4%	35.5%	13.6%	32.7%	32.7%
Maximum Green (s)	31.0	37.0	11.0	17.0	14.0	35.0	11.0	32.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min	Min
Walk Time (s)		5.0		5.0		5.0		5.0	5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0		0		0	0

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 99.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	660	30	810	20	5	20	390	410	50	20	490	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		250
Storage Lanes	2		0	1		0	2		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	7%	7%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	717	913	0	22	27	0	424	500	0	22	533	826
v/c Ratio	0.61	1.04		0.21	0.17		0.89	0.60		0.22	0.93	0.81
Control Delay	31.2	60.2		50.9	22.0		65.3	26.3		51.2	58.5	10.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	31.2	60.2		50.9	22.0		65.3	26.3		51.2	58.5	10.6
Queue Length 50th (ft)	168	~381		13	3		130	185		13	302	16
Queue Length 95th (ft)	293	#733		40	29		#248	431		40	#588	188
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	100			100			100			100		250
Base Capacity (vph)	1203	874		196	299		475	833		187	573	1020
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.60	1.04		0.11	0.09		0.89	0.60		0.12	0.93	0.81

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	660	30	810	20	5	20	390	410	50	20	490	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	1.00		1.00	1.00		0.97	1.00		1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.88		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	1593		1770	1635		3367	1797		1687	1776	1509
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	1593		1770	1635		3367	1797		1687	1776	1509
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	717	33	880	22	5	22	424	446	54	22	533	826
RTOR Reduction (vph)	0	288	0	0	21	0	0	3	0	0	0	526
Lane Group Flow (vph)	717	625	0	22	6	0	424	497	0	22	533	300
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	7%	7%	7%
Turn Type	Prot			Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	34.4	37.2		2.7	5.5		14.0	45.9		2.7	34.6	34.6
Effective Green, g (s)	34.4	37.2		2.7	5.5		14.0	45.9		2.7	34.6	34.6
Actuated g/C Ratio	0.33	0.36		0.03	0.05		0.13	0.44		0.03	0.33	0.33
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	1130	567		46	86		451	789		44	588	500
v/s Ratio Prot	c0.21	c0.39		0.01	0.00		c0.13	0.28		0.01	c0.30	
v/s Ratio Perm												0.20
v/c Ratio	0.63	1.10		0.48	0.07		0.94	0.63		0.50	0.91	0.60
Uniform Delay, d1	29.7	33.6		50.2	47.1		44.8	22.7		50.2	33.4	29.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	69.0		2.8	0.1		27.6	1.1		3.2	17.3	1.3
Delay (s)	30.6	102.6		53.0	47.2		72.4	23.8		53.5	50.7	30.5
Level of Service	C	F		D	D		E	C		D	D	C
Approach Delay (s)		70.9			49.8			46.1			38.6	
Approach LOS		E			D			D			D	

Intersection Summary				
HCM Average Control Delay	53.7	HCM Level of Service		D
HCM Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	104.5	Sum of lost time (s)		16.0
Intersection Capacity Utilization	98.6%	ICU Level of Service		F
Analysis Period (min)	15			

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	30	20	770	1100
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	8.0	70.0	62.0
Total Split (%)	22.2%	22.2%	8.9%	77.8%	68.9%
Maximum Green (s)	16.0	16.0	4.0	66.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 75.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	30	20	770	1100	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	33	22	837	1207	0
v/c Ratio	0.23	0.21	0.23	0.51	0.76	
Control Delay	39.1	16.5	44.1	3.2	11.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	39.1	16.5	44.1	3.2	11.0	
Queue Length 50th (ft)	17	0	12	86	191	
Queue Length 95th (ft)	43	26	34	169	#838	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	385	370	95	1631	1568	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.09	0.09	0.23	0.51	0.77	

Intersection Summary

Area Type: Other
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	30	20	770	1100	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1736	1827	1860	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1736	1827	1860	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	33	22	837	1196	11
RTOR Reduction (vph)	0	31	0	0	0	0
Lane Group Flow (vph)	33	2	22	837	1207	0
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.8	3.8	1.4	67.7	62.3	
Effective Green, g (s)	3.8	3.8	1.4	67.7	62.3	
Actuated g/C Ratio	0.05	0.05	0.02	0.85	0.78	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	85	76	31	1556	1458	
v/s Ratio Prot	c0.02		0.01	c0.46	c0.65	
v/s Ratio Perm		0.00				
v/c Ratio	0.39	0.02	0.71	0.54	0.83	
Uniform Delay, d1	36.7	36.1	38.8	1.6	5.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	0.0	46.1	0.2	3.8	
Delay (s)	37.8	36.1	85.0	1.8	9.1	
Level of Service	D	D	F	A	A	
Approach Delay (s)	37.0			3.9	9.1	
Approach LOS	D			A	A	

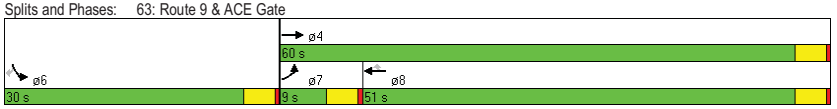
Intersection Summary				
HCM Average Control Delay	7.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	79.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	50	550	620	80	290	300
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	9.0	60.0	51.0	51.0	30.0	30.0
Total Split (%)	10.0%	66.7%	56.7%	56.7%	33.3%	33.3%
Maximum Green (s)	5.0	56.0	47.0	47.0	26.0	26.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min
Walk Time (s)		5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 60.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Route 9 & ACE Gate



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	50	550	620	80	290	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			100	0	100
Storage Lanes	1			1	1	1
Taper Length (ft)	25			25	25	25
Right Turn on Red				Yes		Yes
Link Speed (mph)		35	35		35	
Link Distance (ft)		927	1036		712	
Travel Time (s)		18.1	20.2		13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	11%	11%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	598	674	87	315	326
v/c Ratio	0.32	0.56	0.79	0.12	0.65	0.51
Control Delay	41.7	10.4	22.0	5.5	29.9	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	10.4	22.0	5.5	29.9	8.0
Queue Length 50th (ft)	20	112	210	6	110	12
Queue Length 95th (ft)	#81	253	435	31	243	83
Internal Link Dist (ft)		847	956		632	
Turn Bay Length (ft)	150			100		100
Base Capacity (vph)	172	1573	1324	1137	894	941
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.38	0.51	0.08	0.35	0.35

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	50	550	620	80	290	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1863	1712	1455	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1863	1712	1455	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	598	674	87	315	326
RTOR Reduction (vph)	0	0	0	27	0	209
Lane Group Flow (vph)	54	598	674	60	315	117
Heavy Vehicles (%)	2%	2%	11%	11%	2%	2%
Turn Type	Prot			Perm		Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Actuated Green, G (s)	2.4	36.7	30.3	30.3	16.8	16.8
Effective Green, g (s)	2.4	36.7	30.3	30.3	16.8	16.8
Actuated g/C Ratio	0.04	0.60	0.49	0.49	0.27	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	69	1112	843	717	484	432
v/s Ratio Prot	0.03	c0.32	c0.39		c0.18	
v/s Ratio Perm				0.04		0.07
v/c Ratio	0.78	0.54	0.80	0.08	0.65	0.27
Uniform Delay, d1	29.3	7.4	13.1	8.3	19.8	17.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	40.0	0.3	5.0	0.0	2.4	0.1
Delay (s)	69.3	7.6	18.1	8.3	22.1	17.7
Level of Service	E	A	B	A	C	B
Approach Delay (s)		12.7	16.9		19.9	
Approach LOS		B	B		B	

Intersection Summary				
HCM Average Control Delay	16.5	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	61.5	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	62.0%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Guam and CNMI Military Relocation

(2012 Roadmap Adjustments)

Supplemental Environmental Impact Statement (SEIS)

TRAFFIC OPERATIONS REPORT SUPPLEMENTAL ANALYSES

Prepared for:

Department of Public Works

Government of Guam

Prepared by:

Parsons Brinckerhoff

August 2014

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EXECUTIVE SUMMARY

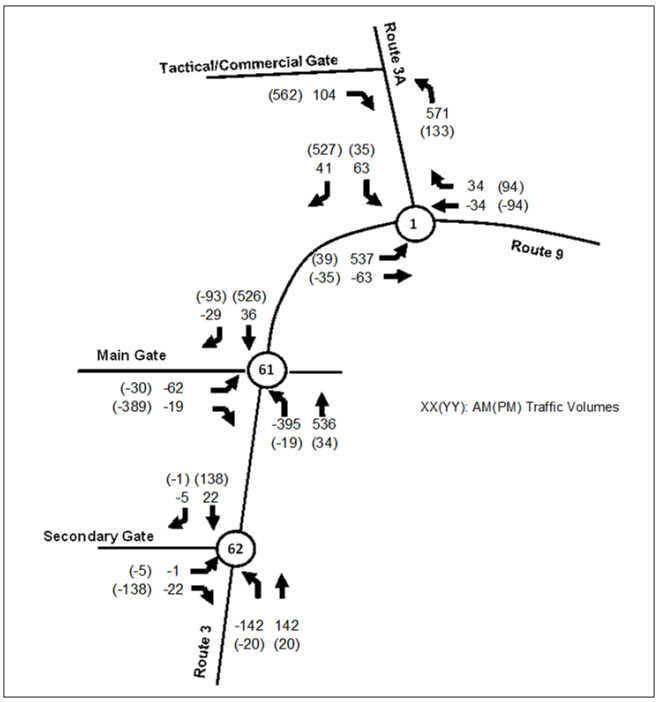
This report provides supplemental analyses to those previously provided in the *Guam and CNMI Military Relocation (2012 Roadmap Adjustments) – Supplemental Environmental Impact Statement (SEIS) Traffic Operations Report*, which was published in April 2014. This report analyzes two possible changes from previous assumptions, namely:

- Role of the Main and Tactical Gates: The Preferred Scenario featured a Main Gate onto Route 3 which would be used by most traffic to and from the Main Cantonment, and a Tactical Gate on Route 3A which would be seldom used except by a small number of vehicles going to and from training sites elsewhere on the island. The new assumption is that during the construction phase all construction-related traffic would use the Tactical Gate instead of the Main Gate, and that all commercial traffic during and post-construction would be directed to use the Tactical Gate as well.
- Location of Family Housing: The Preferred Scenario assumed that USMC Family Housing would be located at the southern end of the Project site in Finegayan, adjacent to and within the same perimeter fence as the Main Cantonment. The revised assumption was that USMC Family Housing would instead be built inside Andersen Air Force Base (AAFB), in conjunction with the replacement and re-configuration of existing AAFB housing.

The supplemental analysis was performed using the same methodologies used in the *Traffic Operations Report* and, except for the two specific items described above, retained all of the original assumptions used in the analyses. The supplemental analyses concluded that:

- The most important effect stems from the shifting of construction traffic from the Main gate to the Tactical/Commercial Gate. During the peak construction year more than 500 construction-related vehicles (construction worker vehicles and construction-related trucks) would go northbound on Route 3 towards the Main and Secondary gates in the AM peak hour (see Exhibit ES-1). Nearly 400 of these vehicles would turn left into the Main Cantonment. This volume would be enough to justify more than one left-turn lane[1] in itself, not counting military traffic that would also be entering the Main Cantonment.

Exhibit ES-1: Change in Traffic Volumes Due to Shifting Commercial and Construction Traffic in 2021

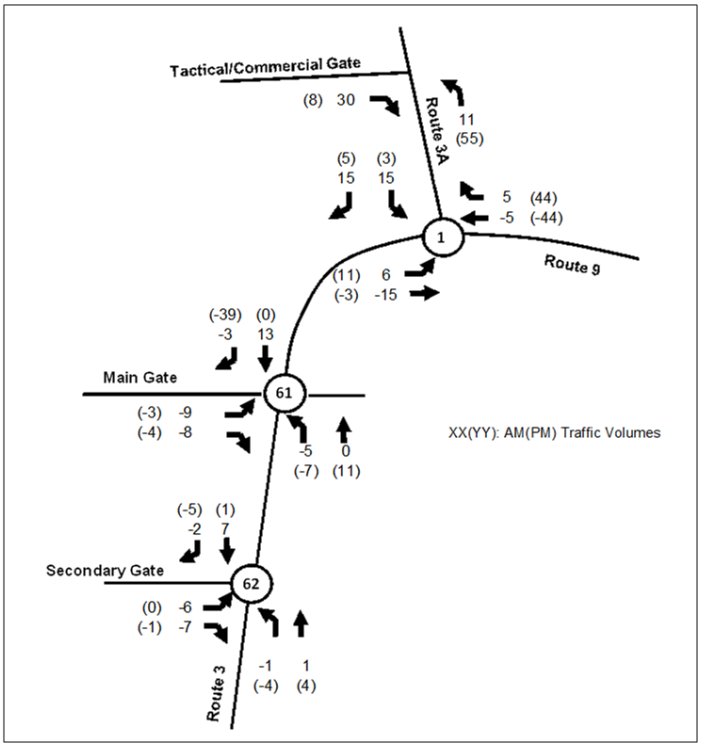


[1] The typical rule-of-thumb is that a left-turn lane is needed for every 300 left-turning vehicles per hour

Shifting the construction-related traffic to the Tactical Gate would greatly improve operations at the Main Gate while necessitating capacity improvements on the route between the Main Gate and the tactical Gate (i.e. the northernmost part of Route 3 and the portion of Route 3A southeast of the Tactical Gate.

- Once construction is completed and the Main Cantonment is fully operational, the effect of shifting commercial traffic to the Tactical Gate is relatively small; only 40-to-60 vehicles per hour would be affected (see Exhibit ES-2). This would necessitate some improvements at the Route 3/3A/9 intersection which would be offset by needing fewer capacity improvements in the vicinity of the Main Gate.

Exhibit ES-2: Change in Traffic Volumes Due to Shifting Commercial Traffic in 2030



- Shifting Family Housing to AAFB would eliminate commuting trips along Routes 3 and 9 for the approximately 70 Marines living in Family Housing and working at ACE in AAFB. However, it would necessitate commute trips in the reverse direction for a much larger group of Marines (approximately 465) who would also live in Family Housing and would now have to drive to the Main Cantonment along Routes 3 and 9, as opposed to using internal roads in the Preferred Alternative.
- Analysis of the air quality effects of Project traffic on off-base roads found that it would not cause or exacerbate a violation of the National Ambient Air Quality Standards. The analysis also found that the potential cancer and chronic non-cancer health risks associated with increased mobile source air toxics associated with roadway traffic and construction of the roadways would be below the applicable health risk thresholds for a significant impact.

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LIST OF ACRONYMS USED IN THIS REPORT

AAFB	Andersen Air Force Base
AAFB-AS	Andersen Air Force Base – Andersen South
AAFB-NWF	Andersen Air Force Base – Northwest Field
ACE	Marine Air Combat Element
AM	Ante Meridian (morning)
AWSC	All-Way Stop Control (an intersection where traffic on all approaches face a stop sign)
CAL3QHC	California line source model with queuing algorithm based on highway capacity manual
EB	Eastbound
LFTRC	Live-Fire Training Range Complex
LOS	Level of Service (a measure of delay experienced by traffic)
NAAQS	National Ambient Air Quality Standards
NB	Northbound
NBG	Naval Base Guam
NBGTS	Naval Base Guam Telecommunications Site
PM	Post Meridian (afternoon or evening)
SB	Southbound
TWSC	Two-Way Stop Control (an intersection where traffic on the minor street faces stop signs while traffic on the major street does not stop)
USMC	United States Marine Corps
V/C	Volume-to-Capacity Ratio (a measure of traffic congestion)
WB	Westbound

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1. INTRODUCTION

This report provides supplemental analyses to those previous provided in *Guam and CNMI Military Relocation (2012 Roadmap Adjustments) – Supplemental Environmental Impact Statement (SEIS) Traffic Operations Report*, which was published in April 2014. The report analyzes two possible changes from previous assumptions, namely:

- Role of the Main and Tactical Gates: The Preferred Scenario featured a Main Gate onto Route 3 which would be used by most traffic to and from the Main Cantonment, and a Tactical Gate on Route 3A which would be seldom used except by a small number of vehicles going to and from training sites at other locations on the island. The new assumption is that during the construction phase all construction-related traffic would use the Tactical Gate instead of the Main Gate, and that all commercial traffic during and post-construction would be directed to use the Tactical Gate as well.
- Location of Family Housing: The Preferred Scenario assumed that USMC Family Housing would be located at the southern end of the Project site in Finegayan, adjacent to and within the same perimeter fence as the Main Cantonment. The revised assumption was that USMC Family Housing would instead be built inside Andersen Air Force Base (AAFB), in conjunction with the replacement and re-configuration of existing AAFB housing.

The supplemental analysis was performed using the same methodologies used in the *Traffic Operations Report* and, except for the two specific items described above, retained all of the original assumptions used in the analyses.

This report focuses on differences from the original analysis arising from the two changes in assumptions. In other words, where tables and figures have changed from those already presented in the *Traffic Operations Report* they will be shown in this report; tables, figures, and descriptions of items that are unchanged from the *Traffic Operations Report* are not presented herein.

2. REVISED PREFERRED ALTERNATIVE

2.1 Description of the Alternative

This alternative features the relocation of approximately 5,000 Marines and 1,300 dependents to Guam[2], with the Main Cantonment and Family Housing at the site of the existing NGBTS. There would be approximately 338 civilian workers at the Main Cantonment, not including USMC dependents working at the base. Most Marine training activities would take place at the proposed LFTRC which would be located at AAFB-NWF with a smaller amount taking place at AAFB-AS. The staff of the USMC Air Combat Element (ACE) would live at the USMC main Cantonment or Family Housing but work at AAFB.

The only change from previous assumptions regarding the Preferred Alternative is in the role of the Main and Tactical Gates (see Exhibit 2). Previously, the Preferred Alternative assumed that most traffic to and from the Main Cantonment would use the Main Gate onto Route 3, and that the Tactical Gate on Route 3A would be seldom used except by a small number of vehicles going to and from training sites at other locations on the island. The new assumption is that during the construction phase all construction-related traffic would use the Tactical Gate instead of the Main Gate, and that all commercial traffic during and post-construction would be directed to use the Tactical Gate as well.

2.2 Changes in the Traffic Pattern from the Change in Role of Gates

At this point in the planning process there are no operations-based forecasts of commercial traffic that will enter and leave the Main Cantonment. Therefore the existing commercial traffic servicing AAFB was used to estimate the percentage of total traffic that is commercial traffic. The results of classified traffic counts taken at the entrances to AAFB are shown in Exhibit 1.

Vehicle Class	AM Peak Hour		PM Peak Hour		Daily
	Inbound	Outbound	Inbound	Outbound	
Trucks	11	8	7	10	317
Other Vehicles	643	197	285	648	10,260
Total Vehicles	654	205	292	658	10577
% Trucks	1.7%	3.9%	2.4%	1.5%	3.0%

Exhibit 1: Percent Truck Traffic at AAFB Entries

As a backup check, the truck percentage at the exits to NBG-Apra Harbor was also counted. The results were very similar (3.0% trucks at AAFB, 3.2% at NBG-Apra Harbor), which lends credence to the results shown in Exhibit 1[3].

[2] These numbers are subject to change. The analysis assumed 1,650 Permanent Change of Station (PCS) Marines, 3,350 Marines in the Unit Deployment Program (UDP) and 200 transient visitors (TDY). A different set of projects show 1,797 PCS, 2,903 UDP, and zero TDY Marines, in which case there would be approximately 2% fewer project-related trips in the peak periods than is shown in this analysis.

[3] AAFB is considered a better analogy to the proposed USMC Main Cantonment because NBG-Apra Harbor has port-related activities that may result in higher commercial traffic than will occur at the USMC base. The 3.2% figure quoted here was based on counts at the exits to the naval base and do not include traffic to and from the civilian portion of Apra Harbor where the commercial port is located.

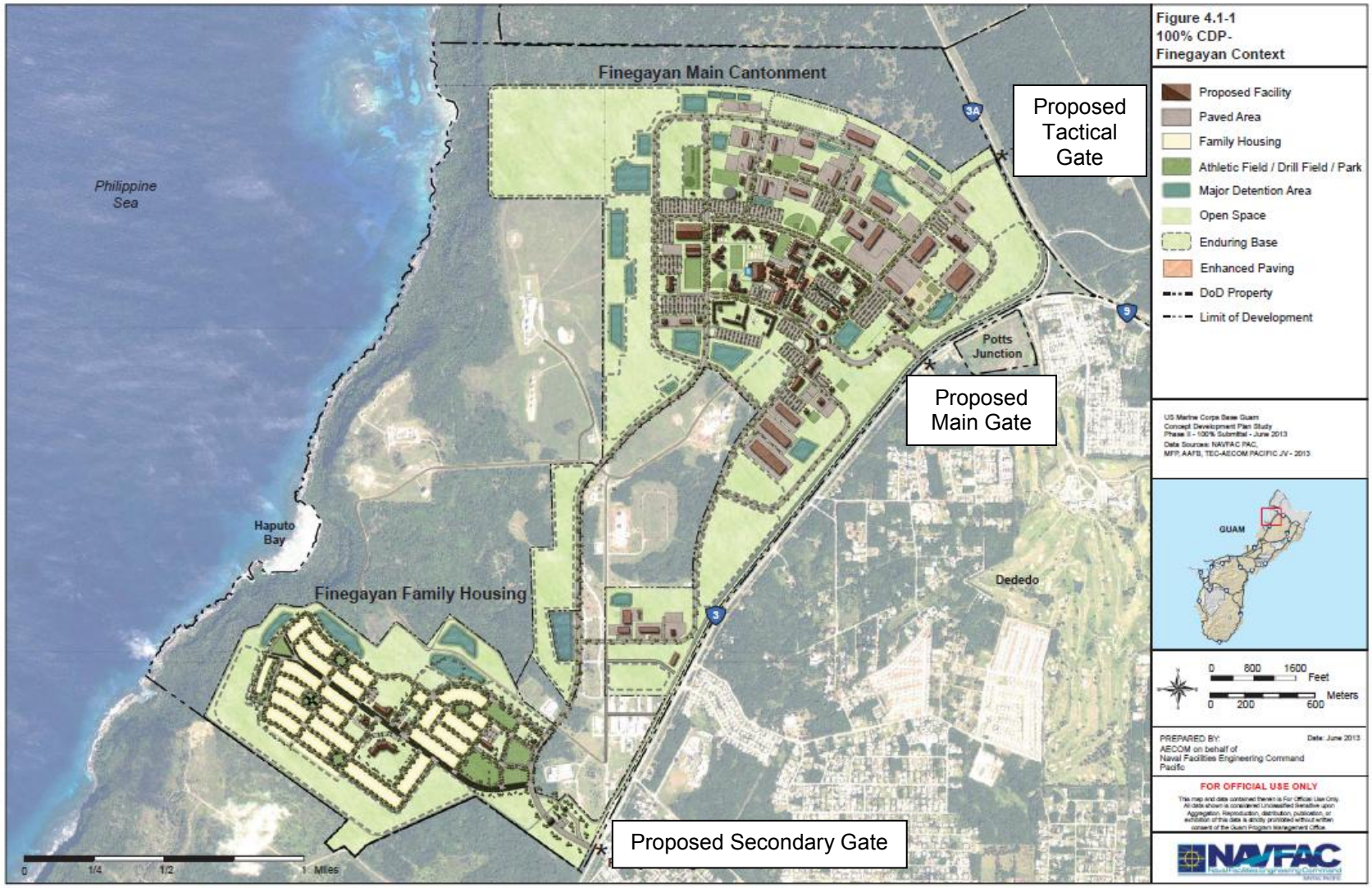

Exhibit 2: Locations of the Main, Tactical, and Secondary Gates for the Preferred Alternative

Source: *Final Report - Transportation Study to Support Marine Corps Relocation, Guam. Final Report. Transportation Study to Support Marine Corps Relocation, Guam*. Naval Facilities Engineering Command Pacific, June 2013

2.3 Traffic Impacts During Construction

The year 2021 was selected for analysis of the USMC 2012 Roadmap Adjustments project because it is expected to be the worst case in terms of traffic impacts. This is due to a combination of a high population of construction workers from off-island and heavy volumes of trucks delivering construction materials, along with a subset of Marines and their dependents who will arrive prior to completion of construction.

The net change in Preferred Alternative traffic from the shifting of the construction-related and commercial traffic from the Main Gate to the Tactical/Commercial gate is shown in Exhibit 3. During the peak construction year more than 500 construction-related vehicles (construction worker vehicles and construction-related trucks) would go northbound on Route 3 towards the Main and Secondary gates in the AM peak hour.

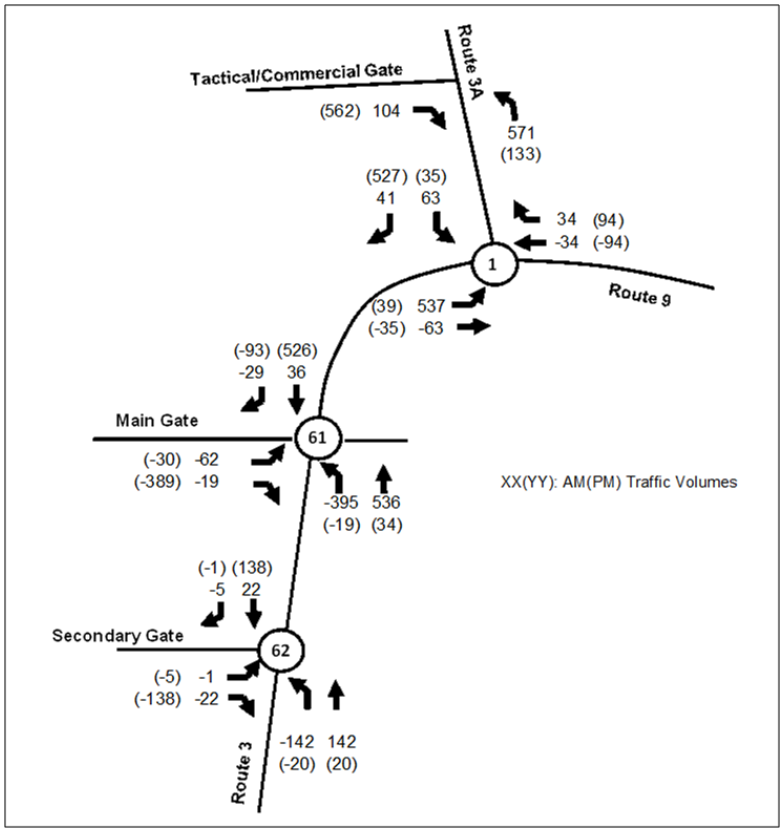

Exhibit 3: Change in Traffic Volumes Due to Shifting Commercial and Construction Traffic

This change in traffic pattern had no effect outside of the area shown in Exhibit 3. For that reason this report does not include analyses of traffic impacts in the central and south portions of Guam. The Project's impacts there would be as already reported in the *Traffic Operations Report* discussion of the Preferred Alternative.

Roadway-Level Impacts

The roadway-level impacts of the Preferred Alternative during construction are summarized in Exhibit 4, Exhibit 5, and Exhibit 6, which correspond to Exhibits 98, 92, and 93 in the *Traffic Operations Report* respectively. In Exhibit 4 items that would be adversely affected by the change in the use of the gates are

outlined in red while those that are positively affected are outlined in green. The shifting of construction and commercial traffic to the tactical/commercial gate would:

- Increase traffic (and so the volume-to-capacity ratio) on the section of Route 3 between the Main Gate and the Route 3/3A/9 intersection. The Preferred Alternative would have had a significant impact on this section in any case; the shifting of commercial and, especially, construction traffic would make this marginally worse.
- Result in a very small increase in AM peak-hour northbound traffic in the section of Route 3 between the Main and Secondary Gates due to the shift in northbound construction traffic that would have entered the Secondary Gate now being directed northwards to the Tactical/Commercial Gate. The Project was expected to have a significant impact on this section of Route 3 and that conclusion does not change.
- Result in a small decrease in traffic southbound traffic in the section of Route 3 between the Main and Secondary Gates due to the shift in southbound construction traffic that would have entered the Secondary Gate now being directed to the Tactical/Commercial Gate. The Project was expected to have a significant impact on this section of Route 3 and that conclusion does not change.
- Increase traffic on Route 3A, which is the route to the Tactical/Commercial Gate.

The Revised Preferred Alternative would have significant traffic impacts not found in the Preferred Alternative on two road segments, namely:

- There would be new significant impacts on Route 3 between the USMC Main Gate and the Route 3/3A/9 intersection northbound in the AM and PM peak hour and southbound in the PM peak hour.
- There would be new significant impacts on Route 3A eastbound in the AM peak hour and westbound in the PM peak hour.

All other roadway-level impacts for 2021 would be the same as for the Preferred Alternative.

Roadway		No Build Alternative				Revised Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.50	0.64	0.63	0.70	0.82	0.70	0.79	0.98
Route 1	Route 29 to Chalan Lujuna	0.70	**1.06**	0.83	0.88	0.97	**1.14**	0.99	**1.14**
Route 1	Chalan Lujuna to Route 28	0.72	**1.33**	**1.23**	0.90	0.80	**1.34**	**1.23**	0.99
Route 1	Route 28 to Route 26	0.51	1.00	0.99	0.68	0.61	**1.01**	0.99	0.80
Route 1	Route 26 to Route 27	0.53	**1.08**	0.95	0.62	0.59	**1.08**	0.95	0.71
Route 1	Route 27 to Route 27A *	0.33	0.70	0.62	0.46	0.34	0.71	0.63	0.48
Route 1	Route 27A to Route 3 *	0.34	0.75	0.65	0.45	0.35	0.76	0.65	0.46
Route 1	Route 3 to Route 34	0.41	**1.53**	**1.03**	0.70	0.50	**1.62**	**1.15**	0.80
Route 1	Route 34 to Route 16	0.45	**1.34**	**1.04**	0.72	0.53	**1.43**	**1.16**	0.82
Route 1	Route 16 to Route 14 (N)	0.50	**1.42**	**1.36**	0.92	0.57	**1.49**	**1.46**	0.98
Route 1	Route 14 (N) to Route 14A	0.58	**1.22**	**1.27**	**1.11**	0.63	**1.27**	**1.34**	**1.17**
Route 3	Route 3A/9 to Fin. Main Gate	0.47	0.71	0.54	0.48	**2.44**	**1.19**	**1.02**	**1.65**
Route 3	Fin. Main Gate to Secondary Gate	0.48	**1.18**	0.64	0.55	**1.90**	**1.59**	**1.13**	**1.84**
Route 3	Fin. Secondary Gate to Route 28	0.69	**1.31**	0.86	0.71	**1.89**	**1.69**	**1.39**	**1.86**
Route 3	Route 28 to S. Fin. Main Gate	0.43	**1.21**	0.76	0.49	0.98	**1.36**	0.97	**1.04**
Route 3	S. Fin. Main Gate to Route 1	0.52	**1.30**	0.77	0.50	**1.05**	**1.44**	0.97	**1.04**
Route 3A	North of Route 3/9	0.11	0.03	0.02	0.13	**1.74**	0.60	0.63	**1.62**
Route 9	Route 3/3A to ACE Gate	0.22	0.27	0.20	0.18	0.38	0.61	0.55	0.42
Route 9	ACE Gate to AAFB Main Gate (Rte 1)	0.24	0.18	0.14	0.21	0.31	0.49	0.47	0.37
Route 14	Route 1 to Gun Beach Rd.	0.25	0.62	0.61	0.57	0.26	0.63	0.63	0.59
Route 14	Gun Beach Rd. to Route 14A	0.48	0.39	0.43	0.71	0.48	0.40	0.45	0.72
Route 15	AAFB to Route 29	0.87	0.70	0.41	0.60	0.88	0.72	0.42	0.61
Route 15	Route 29 to Route 26	0.59	**1.03**	0.71	0.64	0.85	**1.08**	0.74	0.93
Route 16	Route 1 to Route 27A	0.45	0.43	0.47	0.51	0.47	0.44	0.49	0.53
Route 16	Route 27A to Route 27	0.45	0.60	0.62	0.56	0.48	0.62	0.64	0.58
Route 16	Route 27 to Route 10A	0.76	0.95	0.91	0.84	0.80	0.97	0.93	0.89
Route 26	Route 1 to Route 25 **	**1.07**	**1.20**	**1.05**	**1.14**	**1.14**	**1.21**	**1.08**	**1.19**
Route 27	Route 16 to Route 1	0.35	0.65	0.70	0.42	0.40	0.66	0.70	0.49
Route 27A	Route 16 to Route 1	0.73	**1.61**	**1.48**	0.94	0.76	**1.61**	**1.49**	0.96
Route 27A	Route 1 to Route 28	0.49	0.94	0.64	0.69	0.52	0.94	0.64	0.75
Route 28	Route 1 to Route 27A	0.46	0.82	0.93	0.77	0.64	0.84	0.98	**1.03**
Route 28	Route 27A to Chalan Balako	0.56	**1.10**	0.76	0.89	0.86	**1.14**	0.81	**1.24**
Route 28	Chalan Balako to Route 3	0.53	**1.45**	0.93	0.53	0.69	**1.47**	0.95	0.68
Route 29	Route 1 to Route 15	0.59	0.88	0.54	0.53	0.59	0.98	0.61	0.54
Route 34	North of Route 1	0.19	0.14	0.23	0.24	0.19	0.16	0.24	0.24
Chln Lujuna	Route 1 to Route 15	0.37	0.45	0.35	0.39	0.72	0.62	0.57	0.72

Notes:
* The widening of Route 27 will divert some traffic from Route 1.
** Route 26 will be widened so the volume-to-capacity ratio will decrease.
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

V/C Ratio Worse than Preferred Alternative
V/C Ratio Better than Preferred Alternative
New Significant Impact

Exhibit 4: Roadway V/C for Revised Preferred Alternative, North Region, 2021

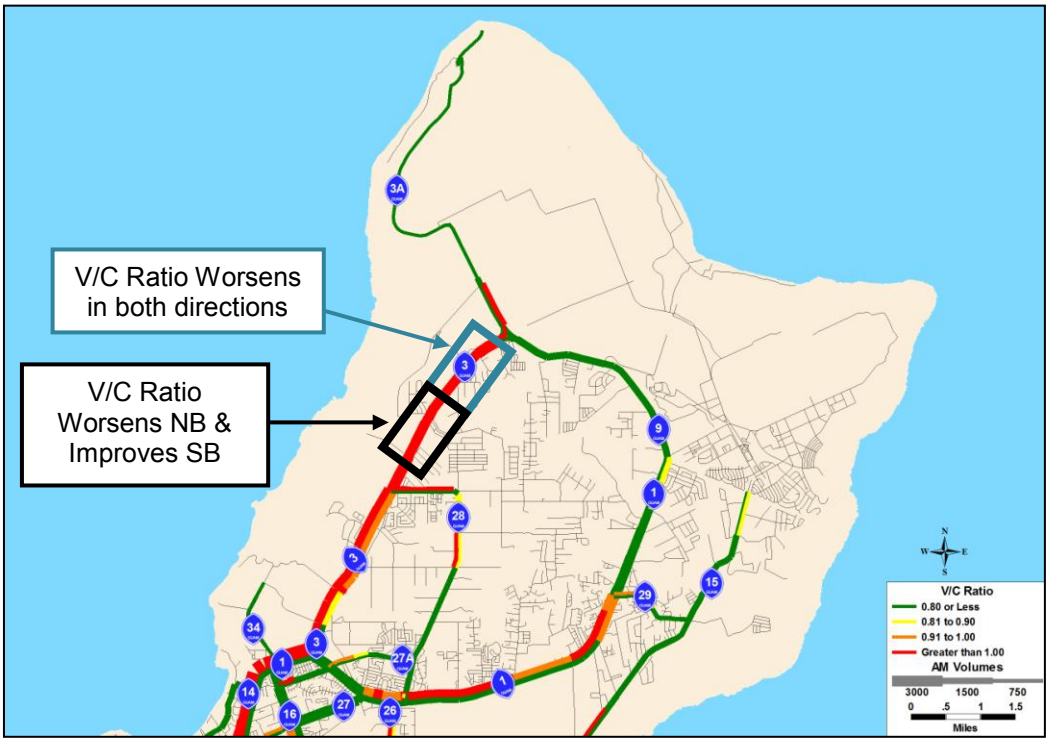

Exhibit 5: Roadway V/C for Revised Preferred Alternative, AM Peak Hour, North Region, 2021

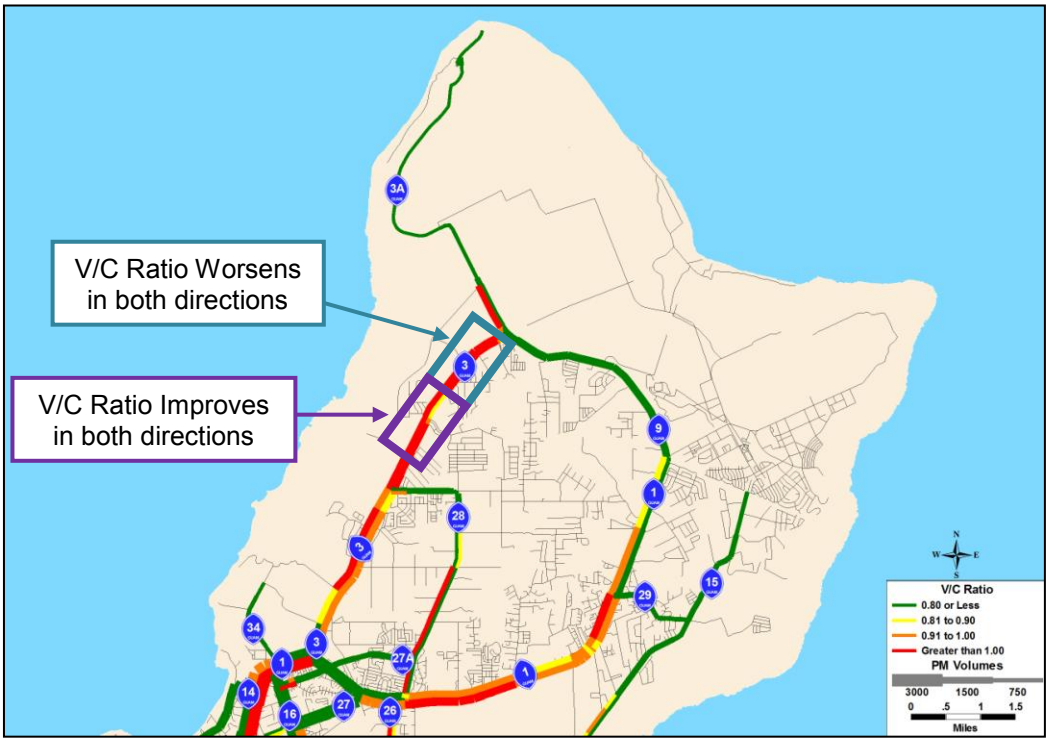

Exhibit 6: Roadway V/C for Revised Preferred Alternative, PM Peak Hour, North Region, 2021

Intersection-Level Impacts

The intersection-level impacts of the Preferred Alternative with the revised role for the Tactical/Commercial Gate during construction are shown in Exhibit 7, Exhibit 8 and Exhibit 9, which correspond to Exhibits 105, 101, and 102 in the *Traffic Operations Report* respectively.

The shifting of construction and commercial traffic to the tactical/commercial gate would:

- Worsen the LOS at Intersections 1 and 3, the two existing entries into Route 3A, since they will receive the construction and commercial traffic that is re-directed from the Main Gate to the Tactical/Commercial Gate. This would result in significant traffic impacts in the AM and PM peak hours that would not occur for the Preferred Alternative.
- Improve the LOS at Intersection 2, which is between Intersections 1 and 2. Construction and commercial traffic that would have passed through this intersection would instead turn off at either of the two adjacent intersections, so the volumes would decrease at Intersection 2.
- Improve the LOS at intersections 61 and 62, the Main and Secondary Gates, respectively. NB construction and commercial traffic that would have turned left into the gates against conflicting southbound traffic would instead travel north to the Tactical/Commercial Gate.

Intersection			No Build Alternative				Revised Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	15.6	C	11.1	B	> 180.0	F	> 180.0	F
2	Route 3/9 / Chalan Santa Anita	TWSC	26.8	D	13.8	B	> 180.0	F	28.1	D
3	Route 9 / Route 3A	TWSC	14.1	B	13.1	B	> 180.0	F	> 180.0	F
4	Route 3 / Bullard Avenue	TWSC	18.1	C	12.2	B	-[3]	-[3]	-[3]	-[3]
5	Route 3 / Route 28	Signalized	32.6	C	22.3	C	144.7	F	26.8	C
6	Route 3 / Royal Palm Drive	TWSC	33.8	D	14.4	B	58.1	F	22.6	C
7	Route 1/9 / AAFB Main Gate	Signalized	10.2	B	10.4	B	12.0	B	17.4	B
8	Route 1 / Route 29	Signalized	33.1	C	22.1	C	42.5	D	24.4	C
9	Route 15 / Route 29	TWSC	80.8	F	26.6	D	109.2	F	28.5	D
10	Route 1 / Chalan Lajuna	Signalized	19.3	B	12.9	B	23.9	C	18.8	B
11	Route 15 / Chalan Lajuna	TWSC	59.1	F	45.9	E	> 180.0	F	> 180.0	F
12	Route 1 / Route 3	Signalized	> 180.0	F	49.8	D	> 180.0	F	102.3	F
13	Route 1 / Route 16	Signalized	33.3	C	67.5	E	51.2	D	92.4	F
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	56.7	E	40.9	D	77.1	E	53.1	D
15	Route 16 / Route 27A	Signalized	16.9	B	16.6	B	17.1	B	16.6	B
16	Route 1 / Route 27A	Signalized	39.5	D	45.6	D	40.2	D	46.3	D
17	Route 28 / Route 27A	AWSC	10.9	B	56.7	F	14.5	B	113.5	F
18	Route 1 / Route 27	Signalized	65.4	E	49.1	D	70.9	E	69.1	E
19	Route 1 / Route 26	Signalized	22.5	C	43.3	D	33.9	C	42.5	D
20	Route 1 / Route 28	Signalized	44.6	D	35.3	D	59.5	E	38.8	D
21	Route 16 / Route 27	Signalized	82.4	F	117.4	F	84.6	F	132.8	F
61	Route 3 / USMC Main Gate	Signalized	-[4]	-[4]	-[4]	-[4]	28.7	C	30.0	C
62	Route 3 / USMC Secondary Gate	Signalized	-[4]	-[4]	-[4]	-[4]	10.4	B	11.9	B
63	Route 9 / ACE Gate	TWSC	-[5]	-[5]	-[5]	-[5]	23.6	C	13.1	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in Year 2021 No Build conditions.
[5] ACE Gate assumed to remain closed in Year 2021 No Build conditions.

Condtions Better than for the Preferred Alternative

Condtions Worse than for the Preferred Alternative

Significant Impact not in Preferred Alternative

Exhibit 7: Intersection LOS for Revised Preferred Alternative, North Region, 2021

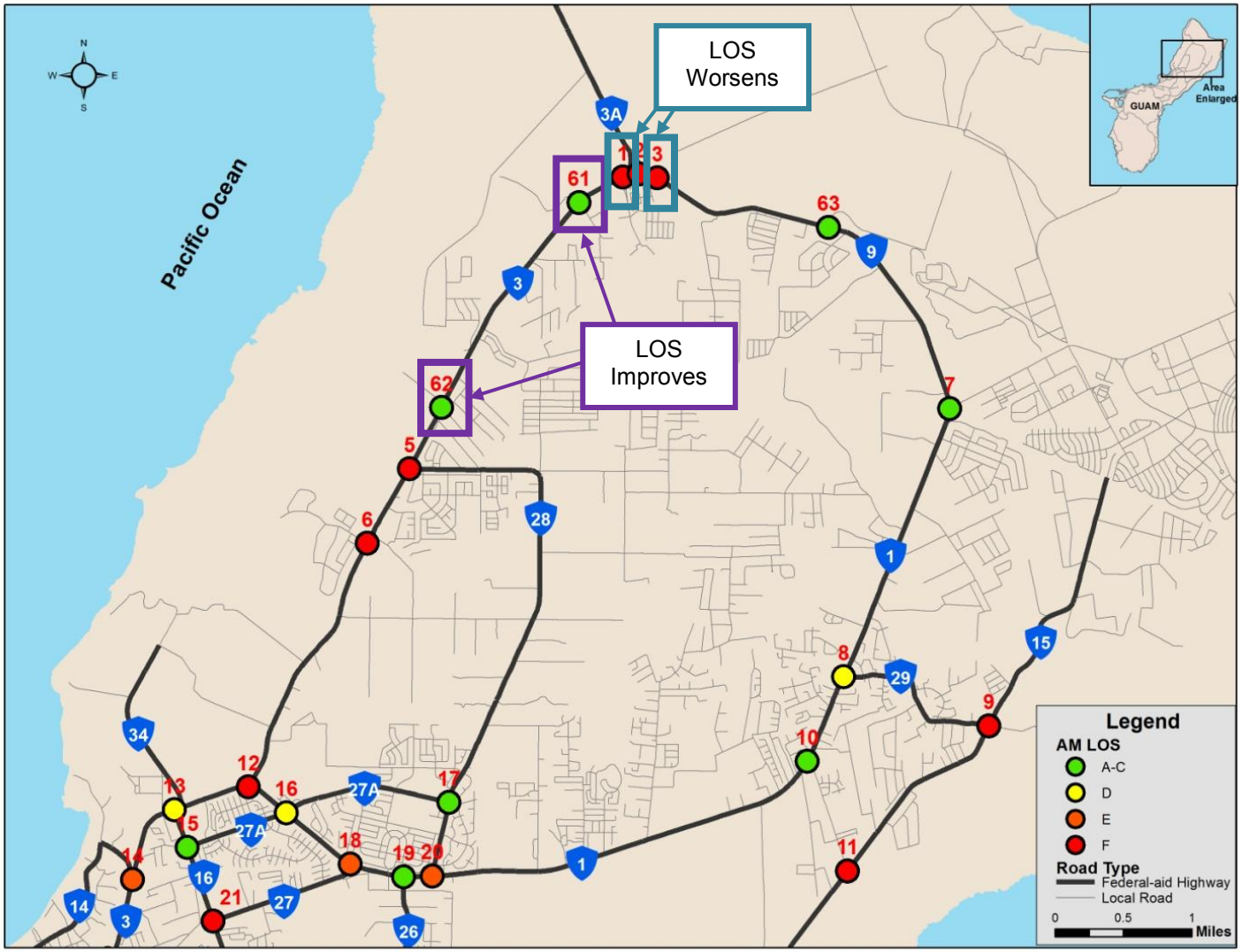

Exhibit 8: Intersection LOS for Revised Preferred Alternative, AM Peak Hour – North Region, 2021

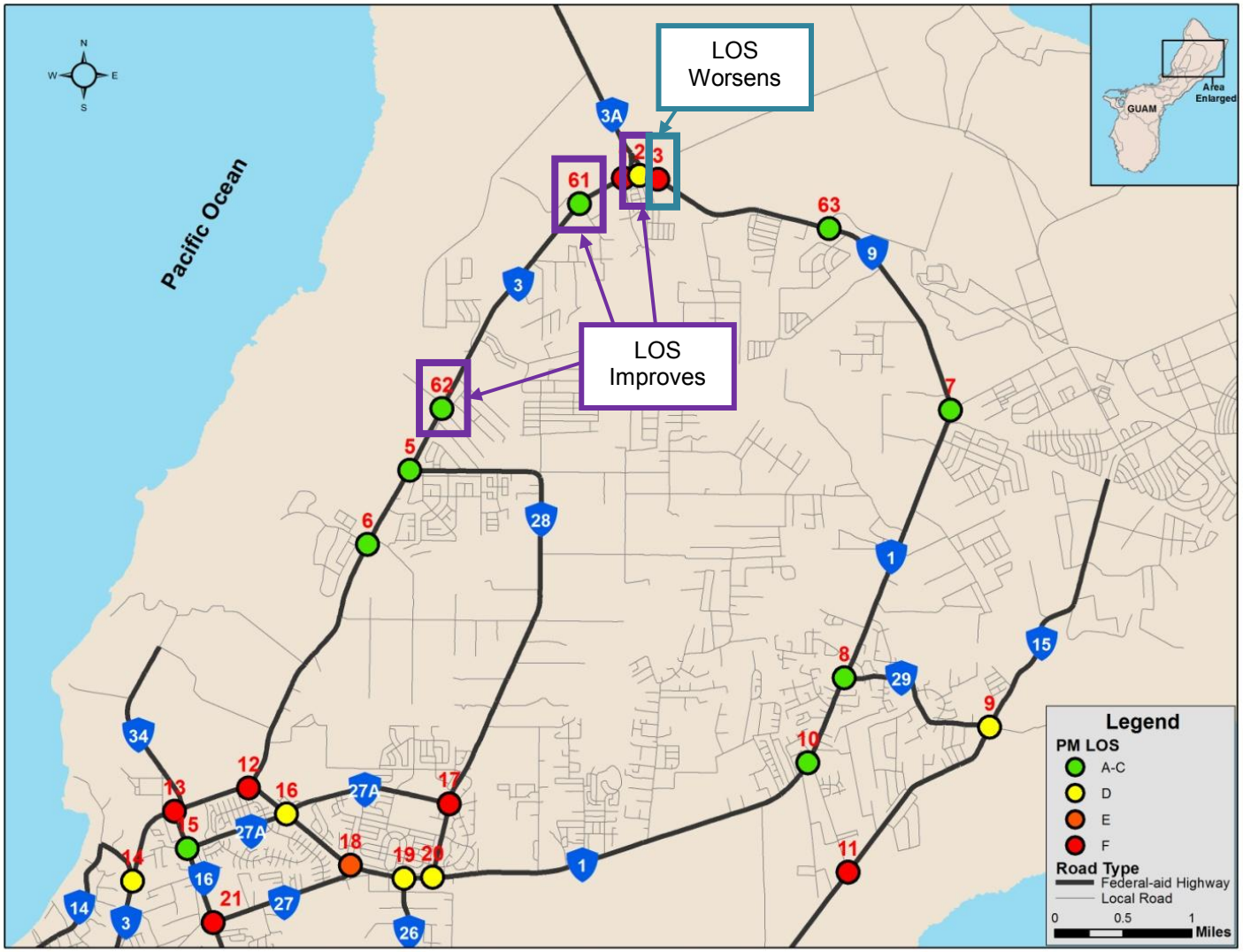

Exhibit 9: Intersection LOS for Revised Preferred Alternative, PM Peak Hour – North Region, 2021

2.4 Recommended Mitigation Measures for 2021 Impacts

Mitigations for Roadway-Level Impacts

The measures needed to mitigate the Revised Preferred Alternative's roadway-level impacts during construction are shown in Exhibit 10, which corresponds to Exhibit 109 in the *Traffic Operations Report*. The shifting of construction and commercial traffic would:

- Worsen the volume-to-capacity ratio on the northernmost section of Route 3, and necessitate widening by one lane in the northbound direction. Widening in the southbound direction is also needed, but that would have been the case for the Preferred Alternative even without any changes in the use of the gates.
- Necessitate the widening of Route 3A between the Route 3/3A/9 intersection and the Tactical/Commercial Gate.

Mitigations for Intersection-Level Impacts

The measures needed to mitigate the Revised Preferred Alternative's intersection-level construction impacts are summarized in Exhibit 11, which corresponds to Exhibit 110 in the *Traffic Operations Report*. The shifting of construction and commercial traffic would change the mitigation measures for intersection-level impacts in two ways:

- Intersections 1, 2, and 3, which were already planned to be combined into a four-legged single intersection, would need northbound and southbound left-turn pockets, which would not have been needed for the Preferred Alternative without the change in use of the Tactical/Commercial Gate.
- Intersection 61, which is Route 3 at the USMC Main Gate, would no longer require two northbound left-turn lanes[4]. A single, somewhat longer lane would suffice to handle the reduced volume of left-turning traffic.

Policy Regarding Temporary Mitigations

Due to the presence of construction traffic, both trucks and construction worker vehicles, conditions in 2021 are forecast to be worse than those that will occur after construction is completed. The approach to be taken when a mitigation is only needed temporarily during construction is a matter of policy involving tradeoffs between funding constraints, the severity and duration of impacts, possible secondary impacts caused by the mitigation measures themselves, etc. This report provides technical information and analysis that can be used to inform the policy decisions that will be made in the future by DOD and GovGuam but does not reach a conclusion regarding temporary measures. Additional information, especially regarding the cost of the measures, would be needed to adequately assess the trade-offs involved.

[4] Exhibit 110 in the *Traffic Operations Report* erroneously said that only one northbound left-turn pocket is needed for Intersection 61. This is true for 2035, but not for 2021. The Synchro analysis shown in Appendix J of the *Traffic Operations Report* correctly shows that two northbound left-turn lanes are needed in 2021.

Roadway		No Build Alternative				Revised Preferred Alternative				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	Are These Mitigation Measures Needed in 2030?	V/C After Feasible Mitigations are Implemented			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak					AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB				NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 29 to Chalan Lujuna	0.70	**1.06**	0.83	0.88	0.97	**1.14**	0.99	**1.14**	Add additional SB lane.	Yes		0.64	0.75	0.65	0.75
Route 1	Route 3 to Route 34	0.41	**1.53**	**1.03**	0.70	0.50	**1.62**	**1.15**	0.80	Add additional lane in both directions.	Yes	Yes	0.38	**1.23**	0.87	0.61
Route 1	Route 34 to Route 16	0.45	**1.34**	**1.04**	0.72	0.53	**1.43**	**1.16**	0.82	Add additional lane in both directions.	Yes	Yes	0.40	**1.08**	0.88	0.62
Route 1	Route 16 to Route 14 (N)	0.50	**1.42**	**1.36**	0.92	0.57	**1.49**	**1.46**	0.98	Add additional NB lane.	**No**		0.43	**1.13**	**1.10**	0.74
Route 1	Route 14 (N) to Route 14A	0.58	**1.22**	**1.27**	**1.11**	0.63	**1.27**	**1.34**	**1.17**	Add additional lane in both directions.	**No**		0.48	0.96	**1.01**	0.88
Route 3	Route 3A/9 to Fin. Main Gate	0.47	0.71	0.54	0.48	**2.44**	**1.19**	**1.02**	**1.65**	Add additional **NB and** SB lane.	Yes	Yes	**1.43**	0.70	0.60	0.97
Route 3	Fin. Main Gate to Secondary Gate	0.48	**1.18**	0.64	0.55	**1.90**	**1.59**	**1.13**	**1.84**	Add additional lane in both directions.	Yes	Yes	**1.11**	0.93	0.66	**1.08**
Route 3	Fin. Secondary Gate to Route 28	0.69	**1.31**	0.86	0.71	**1.89**	**1.69**	**1.39**	**1.86**	Add additional lane in both directions.	Yes	Yes	**1.11**	0.99	0.81	**1.09**
Route 3	Route 28 to S. Fin. Main Gate	0.43	**1.21**	0.76	0.49	0.98	**1.36**	0.97	**1.04**	Add additional SB lane.	Yes	Yes	0.65	0.90	0.64	0.68
Route 3	S. Fin. Main Gate to Route 1	0.52	**1.30**	0.77	0.50	**1.05**	**1.44**	0.97	**1.04**	Add additional lane in both directions.	Yes	Yes	0.69	0.95	0.64	0.68
Route 3A	North of Route 3/9	0.11	0.03	0.02	0.13	**1.74**	0.60	0.63	**1.62**	**Add additional lane in both directions.**	Yes		**1.02**	0.35	0.37	0.95
Route 15	Route 29 to Route 26	0.59	**1.03**	0.71	0.64	0.85	**1.08**	0.74	0.93	Add additional SB lane.	Yes		0.48	0.61	0.42	0.52
Route 26	Route 1 to Route 25	**1.07**	**1.20**	**1.05**	**1.14**	**1.14**	**1.21**	**1.08**	**1.19**	Add additional NB lane.	Yes		0.64	0.68	0.61	0.67
Route 28	Route 1 to Route 27A	0.46	0.82	0.93	0.77	0.64	0.84	0.98	**1.03**	Construct divided road with left-turn lanes.	Yes		0.61	0.80	0.93	0.98
Route 28	Route 27A to Chalan Balako	0.56	**1.10**	0.76	0.89	0.86	**1.14**	0.81	**1.24**	Add additional SB lane.	Yes		0.48	0.64	0.46	0.70
Route 1	Route 14A to Route 10A	0.70	0.85	**1.18**	**1.11**	0.74	0.90	**1.24**	**1.16**	Add additional NB lane.	**No**		0.56	0.68	0.94	0.88
Route 1	Route 10A to Route 14B	0.71	**1.05**	**1.19**	0.94	0.75	**1.10**	**1.25**	0.98	Add additional NB lane.	**No**		0.57	0.83	0.95	0.74
Route 1	Route 14B to Route 14 (S)	0.75	0.92	**1.10**	0.88	0.79	0.97	**1.16**	0.92	Add additional NB lane.	**No**		0.60	0.73	0.88	0.70
Route 1	Route 6 (N) to Route 11	0.87	**1.04**	0.99	0.76	0.93	**1.09**	**1.04**	0.82	Add additional lane in both directions.	Yes		0.61	0.72	0.68	0.54
Route 4	Route 10 to Route 17	**1.56**	0.83	**1.18**	**1.37**	**1.64**	0.88	**1.25**	**1.46**	Add additional lane in both directions.	Yes		0.92	0.58	0.70	0.97
Route 10	Route 32 to Route 4	**1.07**	0.86	0.80	0.86	**1.13**	0.87	0.81	0.90	Add additional NB lane.	Yes		0.75	0.58	0.54	0.60
Route 15	Route 26 to Bar. South Gate	0.74	**1.13**	**1.05**	0.86	**1.01**	**1.16**	**1.09**	**1.06**	Add additional lane in both directions.	Yes		0.57	0.65	0.61	0.60
Route 16	Bar. Main Gate to Route 8	0.93	0.97	0.95	0.97	0.95	**1.01**	**1.01**	0.99	Add additional NB lane.	Yes		0.63	0.67	0.67	0.65

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

New Significant Impact
XYZ New Mitigation Measure

Exhibit 10: Roadway-Level Mitigation Measures for Revised Preferred Alternative, 2021

Intersection			No Build Alternative				Revised Preferred Alternative				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	Are These Mitigation Measures Needed in 2030?	LOS After Feasible Mitigations are Implemented			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS				Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3/9 / Route 3A	TWSC	26.8	D	13.8	B	> 180.0	F	28.1	D	Combine Route 3, 3A, and 9 into one signalized intersection with the following lane configuration: Northbound (Chalan Santa Anita): **one left turn lane (450 feet storage) and** one shared through/right-turn lane. Southbound (Route 3A): ~~one right-turn lane (150 ft storage)~~ **one left turn lane (300 feet storage)** and one shared through/right-turn lane. Eastbound (Route 3) and Westbound (Route 9): one left-turn lane (~~150ft~~ **750** feet storage for EBL and ~~150ft~~ **200** feet storage for WBL), one through lane, and one shared through/right turn lane.	Yes	Yes	76.4	E	35.9	D
5	Route 3 / Route 28	Signalized	32.6	C	22.3	C	144.7	F	26.8	C	Northbound (Route 3): Restripe right turn lane to through lane and add exclusive right turn lane (150 feet storage) Westbound (Route 28): Provide excluse right-turn lane (150 feet storage).	Yes		35.0	C	18.9	B
6	Route 3 / Royal Palm Drive	TWSC	33.8	D	14.4	B	58.1	F	22.6	C	Eastbound (Royal Palm Drive): Provide exclusive right-turn lane (100 feet storage).	Yes	Yes	48.3	E	21.8	C
11	Route 15 / Chalan Lajuna	TWSC	**59.1**	**F**	45.9	E	> 180.0	F	> 180.0	F	Signalize intersection. Northbound (Route 15): Provide exclusive left-turn lane (150 feet storage).	Yes		55.6	E	25.4	C
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	49.8	D	> 180.0	F	102.3	F	Eastbound (Route 1): Add second left-turn lane. Southbound (Route 3): Provide overlap phase.	Yes	Yes	163.7	F	17.9	B
13	Route 1 / Route 16	Signalized	33.3	C	67.5	E	51.2	D	92.4	F	Eastbound (Route 1): Add one right turn lane (100 feet storage)	Yes		23.4	C	25.6	C
17	Route 28 / Route 27A	AWSC	10.9	B	**56.7**	**F**	14.5	B	113.5	F	Eastbound (Route 27A): Reconfigure approach to one shared left/through lane and one free right-turn lane. Southtbound (Route 28): Convert right-turn lane to free right-turn.	Yes		11.0	A	48.2	E
21	Route 16 / Route 27	Signalized	**82.4**	**F**	**117.4**	**F**	84.6	F	132.8	F	Westbound (Route 27): Convert existing right turn to through lane and add exclusive right-turn lane (150 feet storage).	Yes	Yes	62.5	E	94.9	F
24	Route 15 / Route 26	TWSC	**117.8**	**F**	**> 180.0**	**F**	> 180.0	F	> 180.0	F	Signalize intersection.	Yes		11.9	B	30.9	C
26	Route 1 / Route 14A	Signalized	32.1	C	**> 180.0**	**F**	36.5	D	> 180.0	F	Eastbound (Route 1): Provide exclusive right-turn lane (150 feet storage).	Yes	Yes	34.2	C	158.1	F
27	Route 1 / Route 10A	Signalized	37.7	D	**92.2**	**F**	48.3	D	108.0	F	Northbound (Route 1): Provide exclusive right-turn lane (150 feet storage) with overlap phase.	Yes	Yes	25.8	C	40.6	D
29	Route 1 / Route 14	Signalized	68.2	E	50.9	D	80.3	F	60.6	E	Southbound (Route 14): Provide right-turn overlap phase.	Yes		74.7	E	54.0	D
61[4]	Route 3 / USMC Main Gate	Signalized	-[3]	-[3]	-[3]	-[3]	28.7	C	30.0	C	New intersection to be signalized with the following lane configuration: Northbound: Provide ~~dual left-turn lanes (200 feet storage)~~ **one left-turn lane (450 feet storage)**, one through lane, and one shared through/right-turn lane. Southbound: Provide one left-turn lane (~~100~~ **200** feet storage), one through lane, and ~~one exclusive right-turn lane (100 feet)~~ one shared through/right-turn lane. Westbound and Eastbound (USMC Main Gate): Provide one left-turn lane (~~150ft~~ **300** feet storage for EBL and ~~150ft~~ **100** feet storage for WBL) and one shared through/right turn-lane.	Yes	Yes	28.7	C	30.0	C
62[4]	Route 3 / USMC Secondary Gate	Signalized	-[3]	-[3]	-[3]	-[3]	10.4	B	11.9	B	New "T" intersection to be signalized with the following lane configuration: Northbound (Route 3): Provide one left-turn lane (200 feet storage) and two through lane. Southbound (Route 3): Provide one through lane and one shared through/right-turn lane Eastbound (USMC Secondary Gate): Provide one left-turn lane (100 feet storage) and one right-turn lane.	Yes	Yes	10.4	B	11.9	B

Notes:

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

[3] Intersection does not exist in Year 2021 No Build conditions.

[4] Intersections 61 and 62 are design features of the project rather than mitigation measures.

LOS – level of service

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

Bold indicates LOS "F" conditions. Red indicates significant impact.

New Significant Impact

XYZ New Mitigation Measure

~~XYZ~~ Mitigation no longer needed

Exhibit 11: Intersection-Level Mitigation Measures for Revised Preferred Alternative, 2021

2.5 Traffic Impacts at Full Build-Out

Once the Project is fully built out (2030) there would be no construction-related traffic using the Tactical/Commercial Gate, but the amount of commercial traffic would be higher than in 2021 because the number of Marines and their dependents would reach its peak of approximately 7,900. The net change in Preferred Alternative traffic from the shifting of the commercial traffic from the Main Gate to the Tactical/Commercial gate is shown in Exhibit 12.

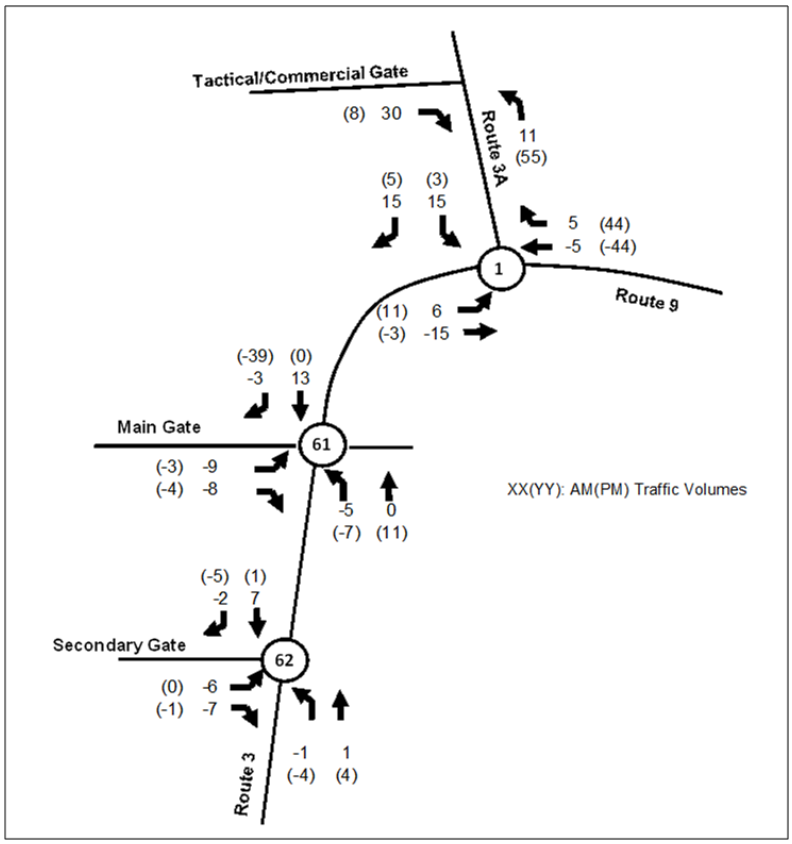

Exhibit 12: Change in Traffic Volumes Due to Shifting Commercial Traffic at Full Build-Out

Roadway-Level Impacts

The roadway-level impacts of the Preferred Alternative at full build-out are summarized in Exhibit 13, Exhibit 14, and Exhibit 15, which correspond to Exhibits 98, 92, and 93 in the *Traffic Operations Report* respectively. In Exhibit 13 items that would be adversely affected by the change in the use of the gates are outlined in red while those that are positively affected are outlined in green. The shifting of construction and commercial traffic to the tactical/commercial gate would:

- Decrease AM peak-hour traffic northbound on Route 3 between the Secondary Gate and the Route 3/3A/9 intersection. The decrease is due to traffic that would have turned left out of the Main Gate or Secondary Gate and gone north on Route 3, and which would instead exit the Tactical/Commercial Gate and turn left at the Route 3/3A/9 intersection. This eliminates a significant impact that would have occurred southbound in the PM peak hour.

Roadway		No Build Alternative				Revised Preferred Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.49	0.68	0.67	0.71	0.55	0.69	0.75	0.76
Route 1	Route 29 to Chalan Lujuna	0.71	**1.10**	0.86	0.89	0.74	**1.10**	0.93	0.93
Route 1	Chalan Lujuna to Route 28	0.73	**1.38**	**1.29**	0.93	0.75	**1.38**	**1.29**	0.95
Route 1	Route 28 to Route 26	0.54	**1.04**	**1.05**	0.71	0.55	**1.05**	**1.05**	0.73
Route 1	Route 26 to Route 27	0.56	**1.10**	1.00	0.60	0.57	**1.10**	1.00	0.61
Route 1	Route 27 to Route 27A *	0.32	0.63	0.54	0.41	0.32	0.64	0.55	0.41
Route 1	Route 27A to Route 3 *	0.31	0.71	0.59	0.40	0.31	0.73	0.61	0.40
Route 1	Route 3 to Route 34	0.40	**1.53**	**1.01**	0.68	0.44	**1.60**	**1.08**	0.74
Route 1	Route 34 to Route 16	0.44	**1.35**	0.97	0.71	0.47	**1.41**	**1.04**	0.77
Route 1	Route 16 to Route 14 (N)	0.49	**1.26**	**1.20**	0.89	0.51	**1.30**	**1.24**	0.92
Route 1	Route 14 (N) to Route 14A	0.62	**1.12**	**1.32**	**1.08**	0.63	**1.15**	**1.36**	**1.10**
Route 3	Route 3A/9 to Fin. Main Gate	0.50	0.75	0.57	0.52	0.82	**1.06**	0.85	0.89
Route 3	Fin. Main Gate to Secondary Gate	0.49	**1.24**	0.68	0.56	0.92	**1.43**	0.97	0.95
Route 3	Fin. Secondary Gate to Route 28	0.70	**1.36**	0.91	0.74	0.97	**1.61**	**1.21**	**1.08**
Route 3	Route 28 to S. Fin. Main Gate	0.44	**1.25**	0.79	0.51	0.53	**1.36**	0.91	0.64
Route 3	S. Fin. Main Gate to Route 1	0.53	**1.35**	0.81	0.54	0.61	**1.45**	0.94	0.66
Route 3A	North of Route 3/9	0.11	0.03	0.02	0.13	0.16	0.15	0.24	0.24
Route 9	Route 3/3A to ACE Gate	0.24	0.28	0.21	0.20	0.41	0.38	0.30	0.44
Route 9	ACE Gate to AAFB Main Gate (Rte 1)	0.26	0.19	0.15	0.23	0.30	0.25	0.22	0.35
Route 14	Route 1 to Gun Beach Rd.	0.26	0.64	0.64	0.63	0.27	0.65	0.65	0.64
Route 14	Gun Beach Rd. to Route 14A	0.51	0.36	0.36	0.76	0.51	0.36	0.37	0.76
Route 15	AAFB to Route 29	0.86	0.72	0.43	0.61	0.87	0.73	0.44	0.62
Route 15	Route 29 to Route 26	0.57	**1.08**	0.78	0.66	0.59	**1.08**	0.79	0.69
Route 16	Route 1 to Route 27A	0.35	0.50	0.53	0.48	0.37	0.52	0.56	0.51
Route 16	Route 27A to Route 27	0.36	0.74	0.73	0.52	0.38	0.76	0.76	0.55
Route 16	Route 27 to Route 10A	0.75	0.98	0.96	0.84	0.77	1.00	0.98	0.86
Route 26	Route 1 to Route 25 **	0.73	0.83	0.74	0.88	0.74	0.84	0.74	0.89
Route 27	Route 16 to Route 1	0.41	0.75	0.84	0.44	0.42	0.76	0.84	0.46
Route 27A	Route 16 to Route 1	0.72	**1.63**	**1.49**	0.96	0.73	**1.63**	**1.52**	0.96
Route 27A	Route 1 to Route 28	0.48	0.98	0.69	0.70	0.48	0.98	0.69	0.70
Route 28	Route 1 to Route 27A	0.51	0.90	0.99	0.79	0.51	0.91	1.00	0.80
Route 28	Route 27A to Chalan Balako	0.57	**1.16**	0.82	0.91	0.61	**1.17**	0.84	0.92
Route 28	Chalan Balako to Route 3	0.54	**1.48**	0.98	0.57	0.57	**1.56**	**1.04**	0.62
Route 29	Route 1 to Route 15	0.64	0.90	0.56	0.58	0.64	0.93	0.58	0.58
Route 34	North of Route 1	0.22	0.13	0.23	0.28	0.22	0.13	0.23	0.28
Chln Lujuna	Route 1 to Route 15	0.38	0.46	0.40	0.42	0.39	0.47	0.40	0.45

Notes:
* The widening of Route 27 will divert some traffic from Route 1.
** Route 26 will be widened so the volume-to-capacity ratio will decrease.
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Conditions Better than for the Preferred Alternative
Conditions Worse than for the Preferred Alternative
Impact No Longer Significant

Exhibit 13: Roadway V/C for Revised Preferred Alternative, North Region, 2030

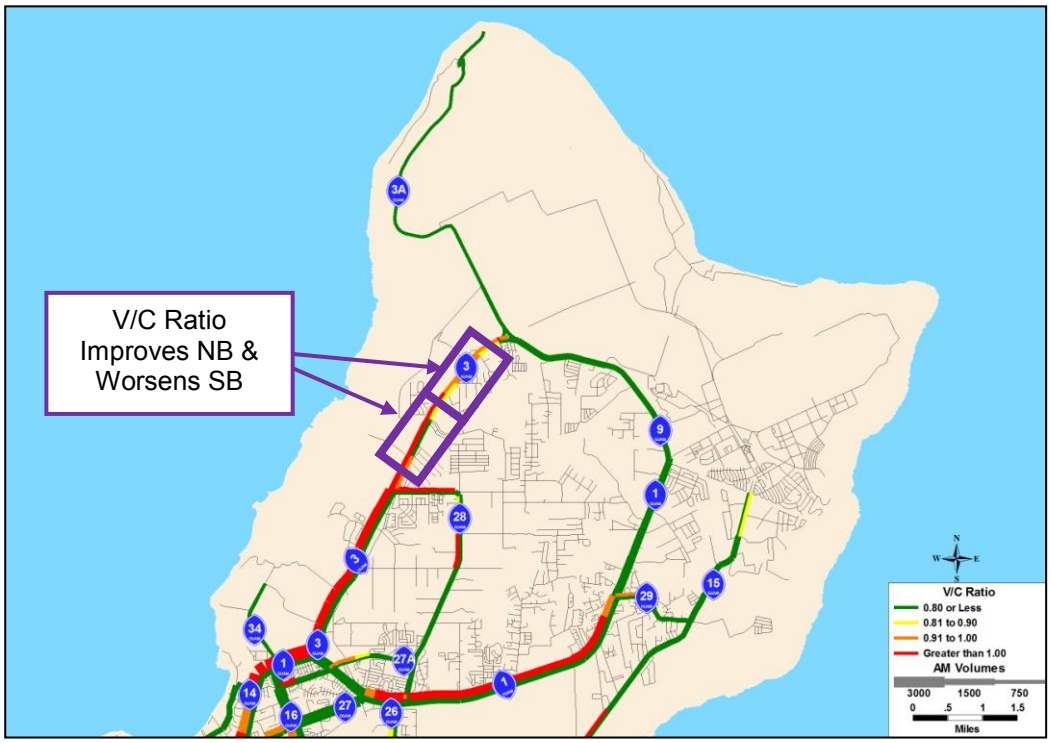

Exhibit 14: Roadway V/C for Revised Preferred Alternative, AM Peak Hour, North Region, 2030

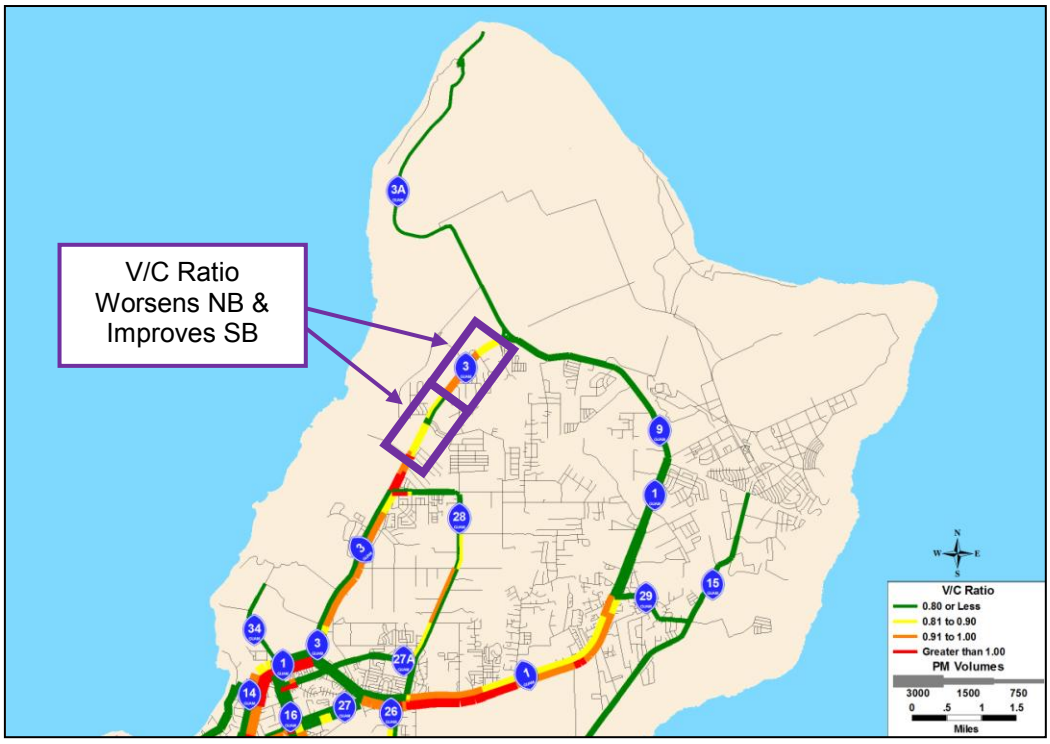

Exhibit 15: Roadway V/C for Revised Preferred Alternative, PM Peak Hour, North Region, 2030

- Increase AM peak-hour traffic southbound on Route 3 between the Secondary Gate and the Route 3/3A/9 intersection. The increase is due to traffic that would have turned right out of the Main Gate and gone south on Route 3, and which would instead exit the Tactical/Commercial Gate and turn right at the Route 3/3A/9 intersection
- Increase PM peak-hour traffic northbound on Route 3 between the Secondary Gate and the Route 3/3A/9 intersection. The increase is due to traffic that would have turned left into the Main Gate from Route 3, and which would instead continue north on Route 3 and turn left at the Route 3/3A/9 intersection to go to the Tactical/Commercial Gate.
- Decrease PM peak-hour traffic southbound on Route 3 between the Secondary Gate and the Route 3/3A/9 intersection. The decrease is due to traffic that would have turned right into the Main Gate from Route 3, and which would instead turn right at the Route 3/3A/9 intersection to go to the Tactical/Commercial Gate.
- Increase traffic on Route 3A, but not to the point where widening would be needed.

Intersection-Level Impacts

The intersection-level impacts of the Preferred Alternative with the revised role for the Tactical/Commercial Gate during construction are shown in Exhibit 16, Exhibit 17, and Exhibit 18, which correspond to Exhibits 116, 119, and 120 in the *Traffic Operations Report* respectively.

The shifting of construction and commercial traffic to the tactical/commercial gate would:

- Worsen the LOS at Intersections 1 and 3, the two existing entries into Route 3A, in the AM peak hours. These intersections will receive the commercial traffic that is re-directed from the Main Gate to the Tactical/Commercial Gate. The LOS would still be within the target level of "E" or better, so this would not result in a significant impact.
- Reduce the average delay very slightly (0.2 seconds) at Intersections 1 and 3 in the PM peak hour. This is due to commercial traffic from Route 9 turning right on Route 3A towards the Tactical/Commercial Gate rather than going through to the Main Gate.
- Reduce the average delay at Intersection 2, which is between Intersections 1 and 3. Commercial traffic that would have passed through this intersection would instead turn off at either of the two adjacent intersections, so the volumes would decrease at Intersection 2.
- Improve the LOS at intersections 61 and 62, the Main and Secondary Gates, respectively. Northbound commercial traffic that would have turned left into the gates against conflicting southbound traffic would instead travel north to the Tactical/Commercial Gate.

There would be no change in significant impacts at the intersection level from the Preferred Alternative.

Intersection			No Build Alternative				Revised Preferred Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	16.1	C	11.5	B	37.2	E	18.4	C
2	Route 3/9 / Chalan Santa Anita	TWSC	37.7	E	15.0	B	> 180.0	F	31.1	D
3	Route 9 / Route 3A	TWSC	14.7	B	13.6	B	37.1	E	24.5	C
4	Route 3 / Bullard Avenue	TWSC	19.0	C	12.4	B	- [3]	- [3]	- [3]	- [3]
5	Route 3 / Route 28	Signalized	33.7	C	23.2	C	40.4	D	26.4	C
6	Route 3 / Royal Palm Drive	TWSC	36.4	E	14.8	B	57.8	F	16.1	C
7	Route 1/9 / AAFB Main Gate	Signalized	10.4	B	11.6	B	11.3	B	14.1	B
8	Route 1 / Route 29	Signalized	34.2	C	23.3	C	35.0	C	24.6	C
9	Route 15 / Route 29	TWSC	**102.0**	**F**	31.2	D	**113.0**	**F**	31.6	D
10	Route 1 / Chalan Lajuna	Signalized	19.9	B	13.8	B	20.5	C	14.1	B
11	Route 15 / Chalan Lajuna	TWSC	**75.8**	**F**	**82.6**	**F**	**86.0**	**F**	**92.7**	**F**
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	63.4	E	> 180.0	F	90.1	F
13	Route 1 / Route 16	Signalized	21.9	C	45.3	D	25.9	C	62.3	E
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	32.4	C	43.2	D	37.6	D	47.0	D
15	Route 16 / Route 27A	Signalized	24.0	C	18.8	B	24.1	C	18.9	B
16	Route 1 / Route 27A	Signalized	37.3	D	46.4	D	37.9	D	46.7	D
17	Route 28 / Route 27A	AWSC	11.7	B	**65.0**	**F**	12.1	B	**65.0**	**F**
18	Route 1 / Route 27	Signalized	**118.3**	**F**	50.2	D	118.5	F	54.6	D
19	Route 1 / Route 26	Signalized	34.4	C	**87.6**	**F**	36.4	D	89.4	F
20	Route 1 / Route 28	Signalized	53.5	D	37.1	D	54.1	D	37.6	D
21	Route 16 / Route 27	Signalized	**> 180.0**	**F**	**154.7**	**F**	> 180.0	F	159.0	F
61	Route 3 / USMC Main Gate	Signalized	- [4]	- [4]	- [4]	- [4]	22.4	C	21.4	C
62	Route 3 / USMC Secondary Gate	Signalized	- [4]	- [4]	- [4]	- [4]	7.4	A	5.0	A
63	Route 9 / ACE Gate	TWSC	- [5]	- [5]	- [5]	- [5]	19.6	C	13.5	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in No Build conditions.
[5] ACE Gate assumed to remain closed in No Build conditions.

Conditions Better than for the Preferred Alternative

Conditions Worse than for the Preferred Alternative

Exhibit 16: Intersection LOS for Revised Preferred Alternative, North Region, 2030

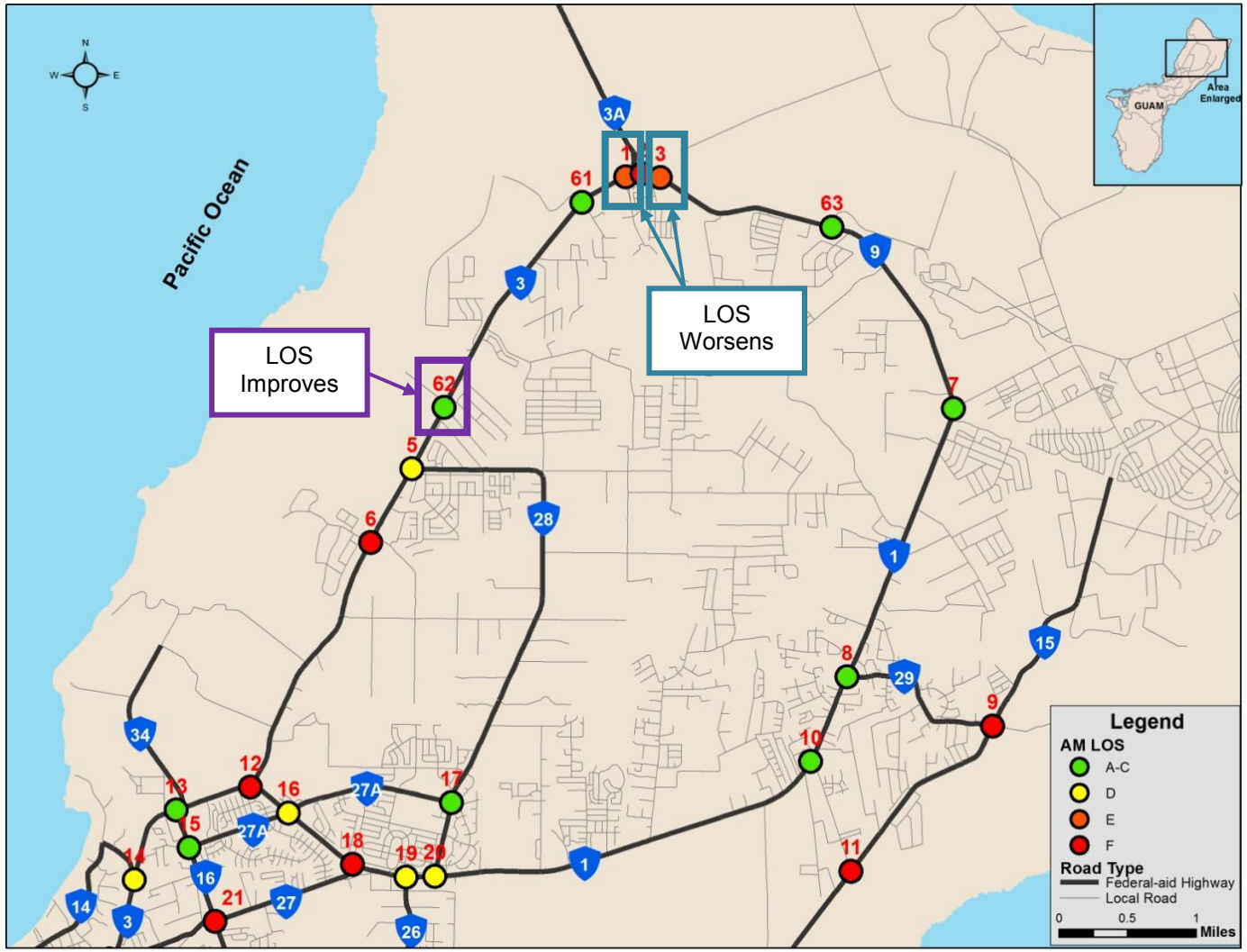

Exhibit 17: Intersection LOS for Revised Preferred Alternative, AM Peak Hour – North Region, 2030

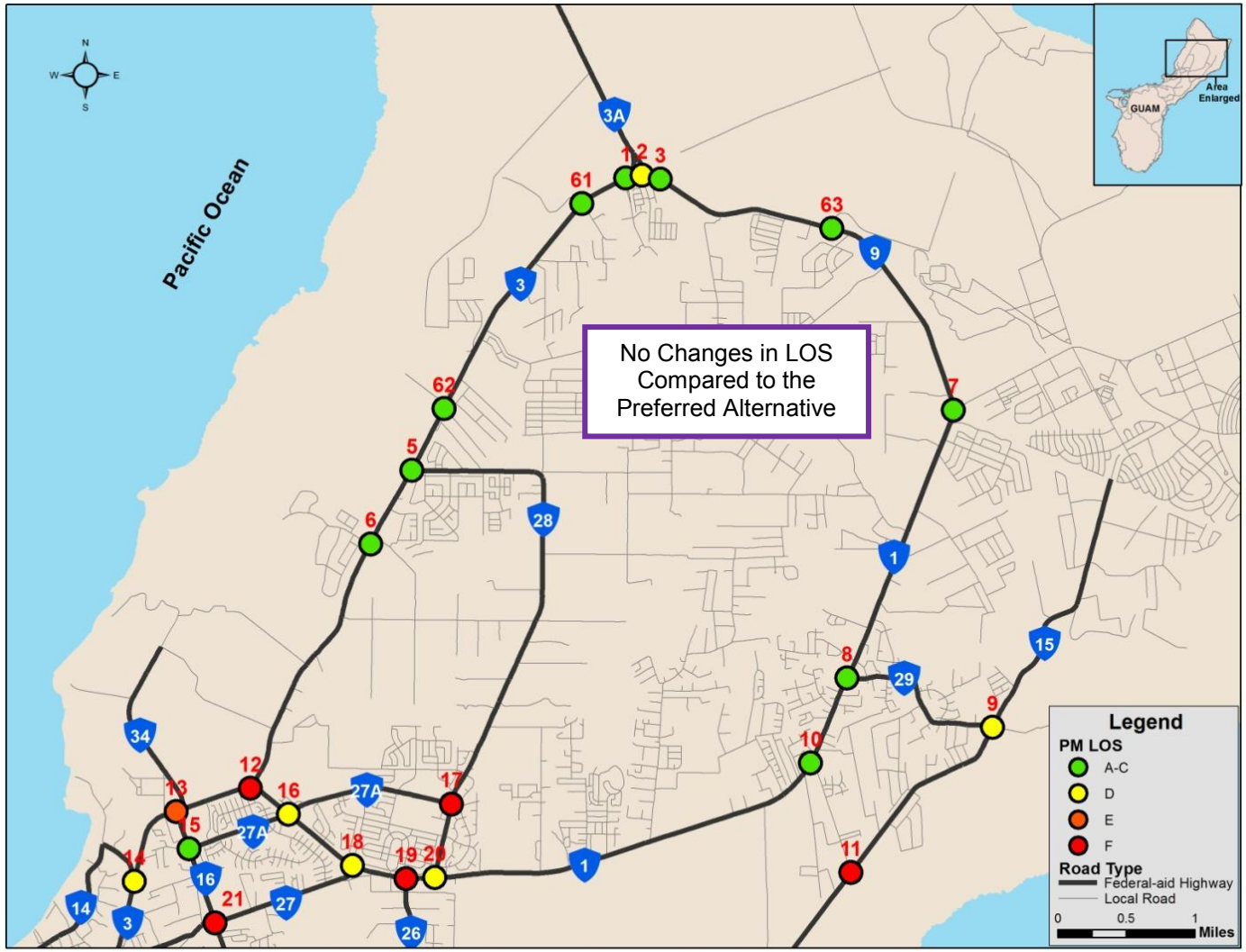

Exhibit 18: Intersection LOS for Revised Preferred Alternative, PM Peak Hour – North Region, 2030

Impacts to Bicycle, Pedestrian, and Bus Transit

The shifting of construction and commercial traffic to the tactical/commercial gate would have no appreciable effect on bicycle or pedestrian movements, or on transit services.

2.6 Recommended Mitigation Measures for 2030 Impacts

Mitigations for Roadway-Level Impacts

The measures needed to mitigate the Revised Preferred Alternative's roadway-level impacts during construction are shown in Exhibit 19, which corresponds to Exhibit 123 in the *Traffic Operations Report*. The shifting of construction and commercial traffic would change the volume-to-capacity ratio on the northernmost sections of Route 3, but the effect would be small. The mitigation measures would be the same as those that would have been the case for the Preferred Alternative.

Mitigations for Intersection-Level Impacts

The measures needed to mitigate the Revised Preferred Alternative's intersection-level construction impacts are summarized in Exhibit 20, which corresponds to Exhibit 124 in the *Traffic Operations Report*. The shifting of construction and commercial traffic would change the mitigation measures for intersection-level impacts in three ways:

- Intersections 1, 2, and 3, which are already planned to combined into a four-legged single intersection, would need northbound and southbound left-turn pockets, which would not be needed for the Preferred Alternative without the change in use of the Tactical/Commercial Gate.
- Intersection 61, which is Route 3 at the USMC Main Gate, would require a dedicated through lane in both the northbound and southbound direction.
- Intersection 62, which is Route 3 at the USMC Secondary Gate, would also require a dedicated through lane in both the northbound and southbound direction.

Roadway			No Build Alternative				Revised Preferred Alternative				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Proposed Mitigation Measures Feasible?	V/C After Feasible Mitigations are Implemented			
Route	Segment	Approximate Length	AM Peak		PM Peak		AM Peak		PM Peak				AM Peak		PM Peak	
			NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB			NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 3 to Route 34	0.50 miles (2,700 ft)	0.40	**1.53**	**1.01**	0.68	0.44	**1.60**	1.08	0.74	Add additional EB lane.	Yes	0.33		0.82	
Route 1	Route 34 to Route 16	0.06 miles (300 ft)	0.44	**1.35**	0.97	0.71	0.47	**1.41**	1.04	0.77	Add additional EB lane.	Yes	0.36		0.79	
Route 3	Route 3A/9 to Fin. Main Gate	0.49 miles (2,600 ft)	0.50	0.75	0.57	0.52	0.82	1.06	0.85	0.89	Add additional SB lane.	Yes		0.62		0.52
Route 3	Fin. Main Gate to Secondary Gate	1.75 miles (9,200 ft)	0.49	**1.24**	0.68	0.56	0.92	1.43	0.97	0.95	Add additional SB lane.	Yes		0.84		0.56
Route 3	Fin. Secondary Gate to Route 28	0.54 miles (2,900 ft)	0.70	**1.36**	0.91	0.74	0.97	1.61	1.21	1.08	Add additional lane in both directions.	Yes	0.57	0.94	0.71	0.63
Route 3	Route 28 to S. Fin. Main Gate	0.92 miles (4,900 ft)	0.44	**1.25**	0.79	0.51	0.53	1.36	0.91	0.64	Add additional SB lane.	Yes		0.90		0.42
Route 3	S. Fin. Main Gate to Route 1	1.71 miles (9,000 ft)	0.53	**1.35**	0.81	0.54	0.61	1.45	0.94	0.66	Add additional SB lane.	Yes		0.95		0.43
Route 28	Chalan Balako to Route 3	0.97 miles (5,100 ft)	0.54	**1.48**	0.98	0.57	0.57	1.56	1.04	0.62	Add additional lane in both directions.	Yes	0.32	0.88	0.59	0.35

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Impact No Longer Significant

Conditions Better than for the Preferred Alternative

Conditions Worse than for the Preferred Alternative

Exhibit 19: Roadway-Level Mitigation Measures for Revised Preferred Alternative 2030

Intersection			2030 No Build Conditions				2030 With Finegayan AAFB/NWF Conditions				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	LOS After Feasible Mitigations are Implemented			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS			Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3/9 / Route 3A	TWSC	37.7	E	15.0	B	> 180.0	F	31.1	D	Combine Route 3, 3A, and 9 into one signalized intersection with the following lane configuration: Northbound (Chalan Santa Anita): **one left turn lane (150 feet storage)** and one shared ~~left~~/through/right-turn lane. Southbound (Route 3A): ~~one right-turn lane (150 ft storage)~~ **one left turn lane (200 feet storage)** and one shared ~~left~~through/right-turn lane. Eastbound (Route 3) and Westbound (Route 9): one left-turn lane (~~150 ft~~ **200 feet** storage), one through lane, and one shared through/right turn lane.	Yes	18.5	B	13.2	B
6	Route 3 / Royal Palm Drive	TWSC	36.4	E	14.8	B	57.8	F	16.1	C	Eastbound (Royal Palm Drive): Provide exclusive right-turn lane (100 feet storage).	Yes	48.0	E	15.6	C
12	Route 1 / Route 3	Signalized	> 180.0	F	63.4	E	> 180.0	F	90.1	F	Westbound (Route 1): Provide exclusive right-turn lane (200 feet storage). Eastbound (Route 1): Add second left-turn lane.	Yes	127.8	F	14.9	B
18	Route 1 / Route 27	Signalized	118.3	F	50.2	D	118.5	F	54.6	D	Southbound (Salisbury Street): Restripe to one left-turn lane (80 feet storage), one through lane, one right-turn lane (50 feet storage). Northbound (Route 27): Provide right-turn overlap phase.	Yes	81.7	F	38.8	D
19	Route 1 / Route 26	Signalized	34.4	C	87.6	F	36.4	D	89.4	F	Northbound (Route 26): Provide right-turn overlap phase.	Yes	37.2	D	63.8	E
21	Route 16 / Route 27	Signalized	> 180.0	F	154.7	F	> 180.0	F	159.0	F	Westbound (Route 27): Convert existing right turn to through lane and provide exclusive right-turn lane (150 feet storage). Eastbound (Route 27): Provide exclusive right-turn lane (150 feet storage).	Yes	116.0	F	117.6	F
22	Route 16 / Route 10A	Signalized	> 180.0	F	49.1	D	> 180.0	F	53.9	D	Southbound (Route 16): Provide free right-turn.	Yes	55.4	E	52.2	D
26	Route 1 / Route 14A	Signalized	35.2	D	> 180.0	F	37.3	D	> 180.0	F	Eastbound (Route 1): Provide exclusive right-turn lane (150 feet storage).	Yes	37.4	D	161.9	F
27	Route 1 / Route 10A	Signalized	53.0	D	139.3	F	54.5	D	144.7	F	Northbound (Route 1): Provide free right-turn lane (150 feet storage).	Yes	38.4	D	69.1	E
61[4]	Route 3 / USMC Main Gate	Signalized	-[3]	-[3]	-[3]	-[3]	22.4	C	21.4	C	New intersection to be signalized with the following lane configuration: Northbound and Southbound (Route 3): Provide one left-turn lane (~~100 feet~~ **250 feet storage for NBL and 200 feet storage for SBL**), **one through lane**, and one shared through/right-turn lane. Westbound and Eastbound (USMC Main Gate): Provide one left-turn lane (~~100 feet~~ **200 feet storage for EBL and 100 feet storage for WBL**) and one shared through/right turn-lane.	Yes	22.4	C	21.4	C
62[4]	Route 3 / USMC Secondary Gate	Signalized	-[3]	-[3]	-[3]	-[3]	7.4	A	5.0	A	New "T" intersection to be signalized with the following lane configuration: Northbound (Route 3): Provide one left-turn lane (~~100 feet~~ **200 feet storage**) and ~~one~~ **two** through lanes. Southbound (Route 3): Provide **one through lane** and one shared through/right-turn lane Eastbound (USMC Secondary Gate): Provide one left-turn lane (100 feet storage) and one right-turn lane.	Yes	7.4	A	5.0	A

Notes:

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

[3] Intersection does not exist in Year 2030 No Build conditions.

[4] Intersections 61 and 62 are design features of the project rather than mitigation measures.

LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.

XYZ New Mitigation Measure

~~XYZ~~ Mitigation no longer needed

Exhibit 20: Intersection-Level Mitigation Measures for Revised Preferred Alternative, 2030

3. FINEGAYAN/AAFB ALTERNATIVE

3.1 Description of the Alternative

Like the Preferred Alternative, the Finegayan/AAFB Alternative features the relocation of approximately 5,000 Marines and 1,300 dependents to Guam, with the Main Cantonment at the site of the existing NGBTS. There would be approximately 338 civilian workers at the Main Cantonment, not including USMC dependents working at the base. Most Marine training activities would take place at the proposed LFTRC which would be located at AAFB-NWF with a smaller amount taking place at AAFB-AS. The staff of the USMC Air Combat Element (ACE) would live at the USMC Main Cantonment or Family Housing and work at AAFB.

The difference between the Finegayan/AAFB Alternative and the Preferred Alternative is that the Preferred Alternative assumed that USMC Family Housing would be located at the southern end of the Project site in Finegayan, adjacent to and within the same perimeter fence as the Main Cantonment. The Finegayan/AAFB Alternative instead assumes that USMC Family Housing would be built inside Andersen Air Force Base (AAFB) in conjunction with the replacement and re-configuration of existing AAFB housing (see Exhibit 21). So instead of USMC Family Housing being located on the western side of Guam and accessed via Route 3, it would be on the eastern side of Guam and be accessed via Route 1 and Route 15. A consequence of shifting Family Housing to AAFB would be to eliminate commuting trips along Routes 3 and 9 for the approximately 70 Marines living in Family Housing and working at ACE in AAFB. However, it would necessitate commute trips in the reverse direction for a much larger group of Marines (approximately 465) who would also live in Family Housing and would now have to drive to the Main Cantonment along Routes 3 and 9, as opposed to using internal roads in the Preferred Alternative.

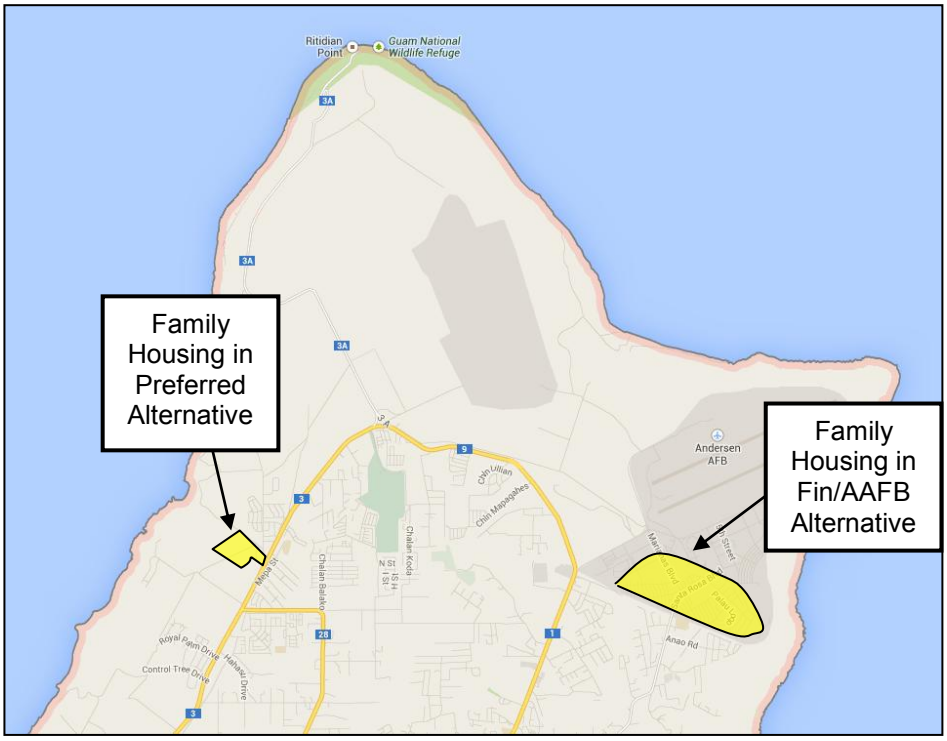

Exhibit 21: Location of Family Housing

Like the Revised Preferred Alternative discussed in the previous chapter, the Finegayan/AAFB Alternative would have construction and commercial traffic use the Tactical/Commercial Gate off Route 3A.

3.2 Traffic Impacts During Construction

The year 2021 was selected for analysis of the USMC 2012 Roadmap Adjustments project because it is expected to be the worst case in terms of traffic impacts. This is due to a combination of a high population of construction workers from off-island and heavy volumes of trucks delivering construction materials, along with Marines and their dependents who will arrive prior to completion of construction.

Roadway-Level Impacts

The roadway-level impacts of the Finegayan/AAFB Alternative during construction are summarized in Exhibit 22, Exhibit 23, and Exhibit 24, which correspond to Exhibits 98, 92, and 93 in the *Traffic Operations Report* respectively. In Exhibit 22 places where the volume-to-capacity ratio is increased more than 1% from the Preferred Alternative are outlined in red while those that are positively affected are outlined in green. The shifting of USMC Family Housing to AAFB and the shifting of construction and commercial traffic to the tactical/commercial gate would:

- Increase traffic (and so the volume-to-capacity ratio) on Route 3A, Route 9, Route 15, the portion of Route 3 between the USMC Main Gate and the Route 3/3A/9 intersection, and the portion of Route 1 between Route 27 to the AAFB Main Gate.
- Decrease traffic (and so the volume-to-capacity ratio) Route 28, the portion of Route 3 south of the USMC Main Gate, and the portion of Route 1 between Route 14 and Route 3.

Compared to the Preferred Alternative, the Finegayan/AAFB would eliminate significant traffic impacts in some places but create new significant traffic impacts in others (see Exhibit 22). Specifically:

New Significant Impacts

- There would be a new significant impact on Route 1 between the AAFB Main Gate and Route 29 southbound in the PM peak hour. This section would operate at 98% capacity in the Preferred Alternative; the Finegayan/AAFB Alternative would increase this to 11% over-capacity.
- There would be new significant impacts on Route 1 between Route 29 and Chalan Lujuna northbound in both the AM and the PM peak hours. This section would operate at 97% capacity in the Preferred Alternative; the Finegayan/AAFB Alternative would increase this to 2%-to-10% over-capacity.
- There would be new significant impacts on Route 3 between the USMC Main Gate and the Route 3/3A/9 intersection northbound in the AM peak hour and southbound in the PM peak hour. These are related to the shifting of construction and commercial traffic to the Tactical/Commercial Gate.
- There would be new significant impacts on Route 3A eastbound in the AM peak hour and westbound in the PM peak hour. These are related to the shifting of construction and commercial traffic to the Tactical/Commercial Gate.

Significant Impacts Eliminated

- The Preferred Alternative has a significant traffic impact southbound on Route 1 between Route 3 and Route 34, and between Route 34 and Route 16, in the AM peak hour. The Finegayan/AAFB Alternative would add less traffic to these sections. Since the increase would be less than the 5% threshold for a significant impact, the impact would be less-than-significant.

Roadway		No Build Alternative				Finegayan / AAFB / NWF Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.50	0.64	0.63	0.70	0.97	0.75	0.84	**1.11**
Route 1	Route 29 to Chalan Lujuna	0.70	**1.06**	0.83	0.88	**1.10**	**1.16**	**1.02**	**1.27**
Route 1	Chalan Lujuna to Route 28	0.72	**1.33**	**1.23**	0.90	0.91	**1.34**	**1.23**	**1.07**
Route 1	Route 28 to Route 26	0.51	1.00	0.99	0.68	0.66	**1.01**	0.99	0.84
Route 1	Route 26 to Route 27	0.53	**1.08**	0.95	0.62	0.66	**1.08**	0.95	0.76
Route 1	Route 27 to Route 27A *	0.33	0.70	0.62	0.46	0.41	0.71	0.62	0.54
Route 1	Route 27A to Route 3 *	0.34	0.75	0.65	0.45	0.35	0.75	0.65	0.52
Route 1	Route 3 to Route 34	0.41	**1.53**	**1.03**	0.70	0.50	**1.58**	**1.11**	0.81
Route 1	Route 34 to Route 16	0.45	**1.34**	**1.04**	0.72	0.54	**1.40**	**1.12**	0.81
Route 1	Route 16 to Route 14 (N)	0.50	**1.42**	**1.36**	0.92	0.57	**1.47**	**1.43**	0.97
Route 1	Route 14 (N) to Route 14A	0.58	**1.22**	**1.27**	**1.11**	0.63	**1.26**	**1.32**	**1.16**
Route 3	Route 3A/9 to Fin. Main Gate	0.47	0.71	0.54	0.48	**1.93**	**1.18**	0.97	**1.48**
Route 3	Fin. Main Gate to Secondary Gate	0.48	**1.18**	0.64	0.55	**1.68**	**1.42**	**1.04**	**1.65**
Route 3	Fin. Secondary Gate to Route 28	0.69	**1.31**	0.86	0.71	**1.66**	**1.54**	**1.21**	**1.66**
Route 3	Route 28 to S. Fin. Main Gate	0.43	**1.21**	0.76	0.49	0.88	**1.31**	0.90	0.92
Route 3	S. Fin. Main Gate to Route 1	0.52	**1.30**	0.77	0.50	0.95	**1.39**	0.91	0.92
Route 3A	North of Route 3/9	0.11	0.03	0.02	0.13	**1.55**	0.68	0.57	**1.49**
Route 9	Route 3/3A to ACE Gate	0.22	0.27	0.20	0.18	0.36	0.67	0.59	0.42
Route 9	ACE Gate to AAFB Main Gate (Rte 1)	0.24	0.18	0.14	0.21	0.30	0.51	0.49	0.38
Route 14	Route 1 to Gun Beach Rd.	0.25	0.62	0.61	0.57	0.26	0.63	0.62	0.58
Route 14	Gun Beach Rd. to Route 14A	0.48	0.39	0.43	0.71	0.48	0.39	0.44	0.72
Route 15	AAFB to Route 29	0.87	0.70	0.41	0.60	0.93	0.71	0.42	0.64
Route 15	Route 29 to Route 26	0.59	**1.03**	0.71	0.64	0.87	**1.08**	0.73	0.97
Route 16	Route 1 to Route 27A	0.45	0.43	0.47	0.51	0.49	0.48	0.49	0.53
Route 16	Route 27A to Route 27	0.45	0.60	0.62	0.56	0.49	0.61	0.64	0.59
Route 16	Route 27 to Route 10A	0.76	0.95	0.91	0.84	0.81	0.96	0.92	0.89
Route 26	Route 1 to Route 25 **	**1.07**	**1.20**	**1.05**	**1.14**	**1.12**	**1.23**	**1.08**	**1.17**
Route 27	Route 16 to Route 1	0.35	0.65	0.70	0.42	0.40	0.66	0.70	0.47
Route 27A	Route 16 to Route 1	0.73	**1.61**	**1.48**	0.94	0.96	**1.61**	**1.48**	0.96
Route 27A	Route 1 to Route 28	0.49	0.94	0.64	0.69	0.51	0.94	0.64	0.73
Route 28	Route 1 to Route 27A	0.46	0.82	0.93	0.77	0.56	0.83	0.94	0.94
Route 28	Route 27A to Chalan Balako	0.56	**1.10**	0.76	0.89	0.72	**1.12**	0.78	**1.12**
Route 28	Chalan Balako to Route 3	0.53	**1.45**	0.93	0.53	0.61	**1.47**	0.96	0.57
Route 29	Route 1 to Route 15	0.59	0.88	0.54	0.53	0.62	0.98	0.59	0.55
Route 34	North of Route 1	0.19	0.14	0.23	0.24	0.19	0.37	0.45	0.24
Chln Lujuna	Route 1 to Route 15	0.37	0.45	0.35	0.39	0.74	0.62	0.57	0.76

Notes:
* The widening of Route 27 will divert some traffic from Route 1.
** Route 26 will be widened so the volume-to-capacity ratio will decrease.
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

New Significant Impact

Impact No Longer Significant

Exhibit 22: Roadway V/C for Finegayan/AAFB Alternative, North Region, 2021

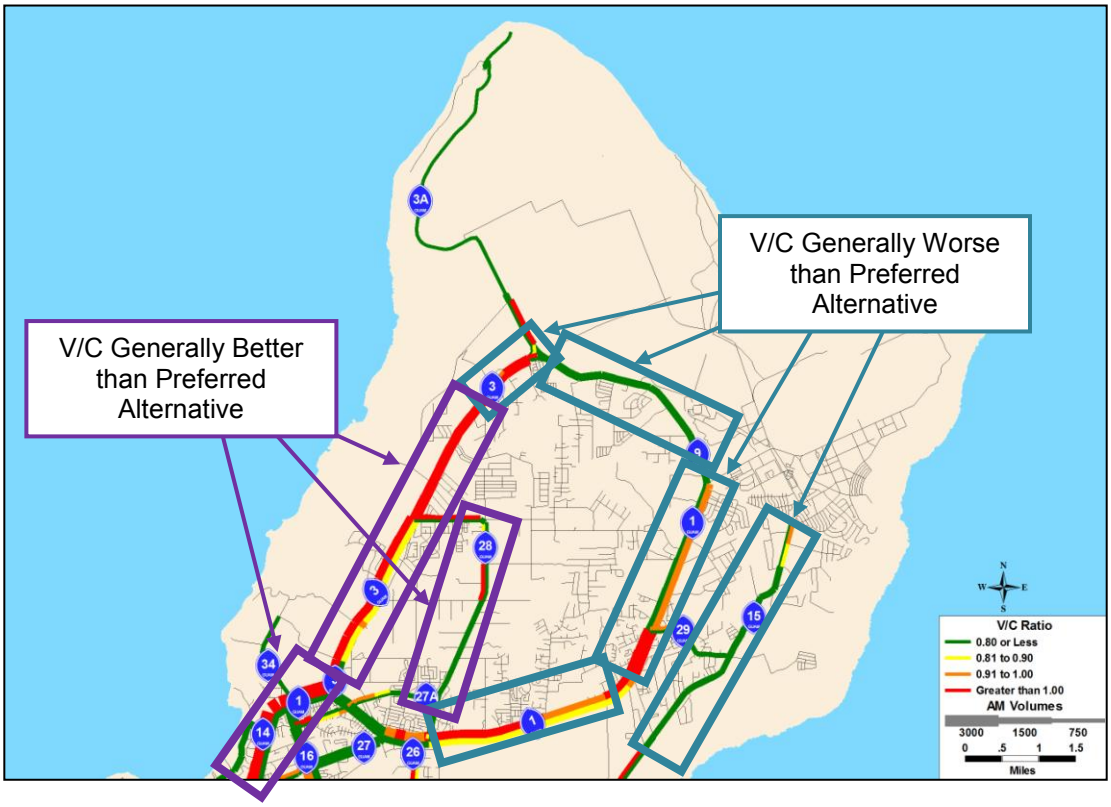

Exhibit 23: Roadway V/C for Finegayan/AAFB Alternative, AM Peak Hour, North Region, 2021

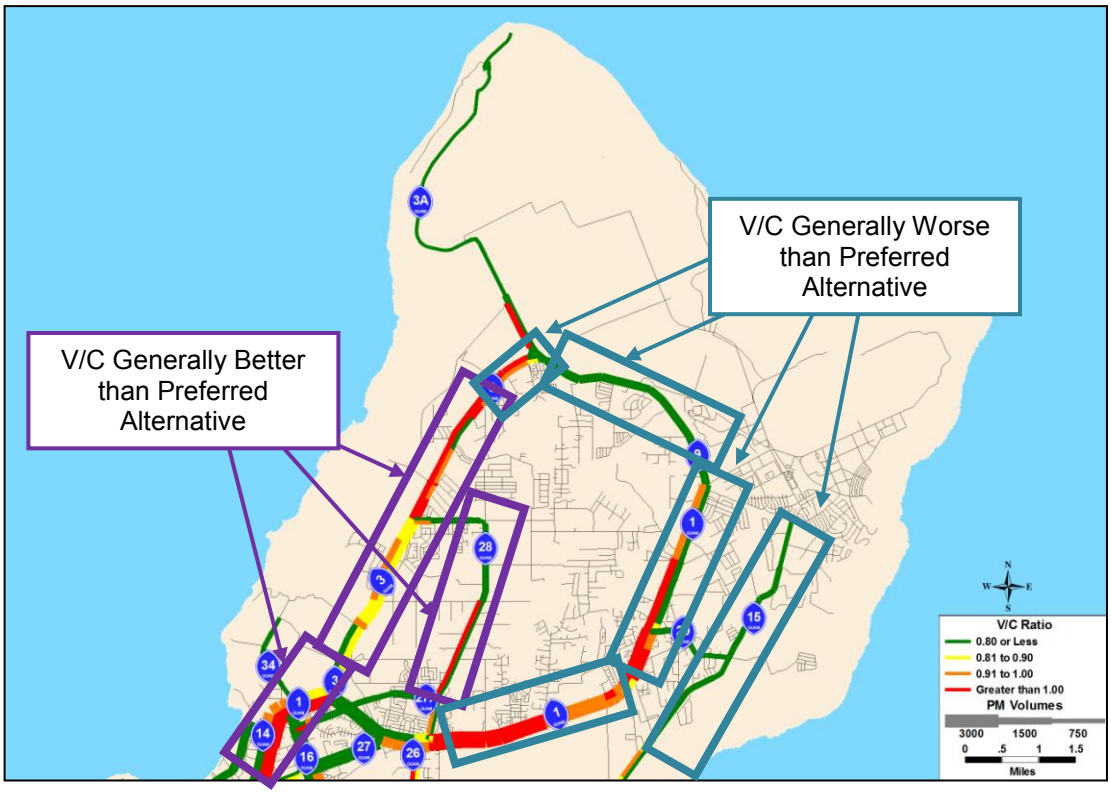

Exhibit 24: Roadway V/C for Finegayan/AAFB Alternative, PM Peak Hour, North Region, 2021

- The Preferred Alternative has a significant traffic impact northbound on Route 1 between Route 16 and Route 14, and between Route 14 and Route 14A, in the PM peak hour. The Finegayan/AAFB Alternative would add less traffic to these sections, falling below a 5% increase and so the impact would be less-than-significant. This also occurs for Route 1 between Route 14 and Route 14A southbound in the PM peak hour.
- The Preferred Alternative has a significant traffic impact northbound on Route 26 between Route 1 and Route 25 in the AM peak hour. The Finegayan/AAFB Alternative would add less traffic to this section, falling below a 5% increase and so the impact would be less-than-significant.
- The Preferred Alternative has a significant traffic impact southbound on Route 28 between Route 1 and Route 27A in the PM peak hour. The Finegayan/AAFB Alternative would add less traffic to this section, which would no longer be operating above its capacity.

Intersection-Level Impacts

The intersection-level impacts of the Preferred Alternative with the revised role for the Tactical/Commercial Gate during construction are shown in Exhibit 25, Exhibit 26 and Exhibit 27, which correspond to Exhibits 105, 101, and 102 in the *Traffic Operations Report* respectively. As can be seen in Exhibit 25, the average delay would be different from that of the Preferred Alternative at nearly every intersection. However, the LOS would change in only 14 places; in the other places the average delay would change but remain within the range of the LOS level for the Preferred Alternative.

Compared to the Preferred Alternative as described in the *Traffic Operations Report*, the Finegayan/AAFB Alternative in combination with the shifting of construction and commercial traffic to the tactical/commercial gate would:

- Worsen the LOS at Intersection 1 to LOS “F” in both the AM and PM peak hour. This would be two new significant impacts. This is due to the shifting of construction and commercial traffic to the Tactical/Commercial Gate.
- Improve the LOS at Intersection 2. Construction and commercial traffic that would have passed through this intersection would instead turn off at either of the two adjacent intersections, so the volumes would decrease at Intersection 2.
- Worsen the LOS at Intersection 7, the AAFB Main Gate, in the PM peak hour. The LOS would degrade to LOS “C”, but LOS “C” is still considered to be a good level of service and well above the threshold for a significant impact.
- Worsen the LOS at Intersection 8, 15, and 19 in the AM peak hour. These intersections are on the path between AAFB and the main residential and commercial areas in the central part of Guam. Although the LOS would be worse than for the Preferred Alternative, they would nevertheless remain above the threshold for a significant impact (“F”).
- Improve the LOS of Intersections 20, which is on the Route 28; a path to the site of Family Housing in the Preferred Alternative.
- Improve the LOS at intersections 61 and 62, the Main and Secondary Gates, respectively. NB construction and commercial traffic that would have turned left into the gates against conflicting southbound traffic would instead travel north to the Tactical/Commercial Gate.
- Worsen the LOS at Intersection 63, the ACE Gate. Marines that would live in Family Housing at AAFB and work in the Main Cantonment would have to pass through this intersection in the Finegayan/AAFB Alternative, whereas in the Preferred Alternative they would go to the Main Cantonment via an internal road between Family Housing and the Main Cantonment.

Intersection			No Build Alternative				Finegayan AAFB NWF Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	15.6	C	11.1	B	> 180.0	F	138.0	F
2	Route 3/9 / Chalan Santa Anita	TWSC	26.8	D	13.8	B	> 180.0	F	30.9	D
3	Route 9 / Route 3A	TWSC	14.1	B	13.1	B	> 180.0	F	> 180.0	F
4	Route 3 / Bullard Avenue	TWSC	18.1	C	12.2	B	-[3]	-[3]	-[3]	-[3]
5	Route 3 / Route 28	Signalized	32.6	C	22.3	C	114.6	F	22.8	C
6	Route 3 / Royal Palm Drive	TWSC	33.8	D	14.4	B	50.9	F	19.9	C
7	Route 1/9 / AAFB Main Gate	Signalized	10.2	B	10.4	B	12.1	B	33.2	C
8	Route 1 / Route 29	Signalized	33.1	C	22.1	C	66.1	E	25.5	C
9	Route 15 / Route 29	TWSC	80.8	F	26.6	D	125.6	F	29.4	D
10	Route 1 / Chalan Lajuna	Signalized	19.3	B	12.9	B	27.3	C	16.9	B
11	Route 15 / Chalan Lajuna	TWSC	59.1	F	45.9	E	> 180.0	F	> 180.0	F
12	Route 1 / Route 3	Signalized	> 180.0	F	49.8	D	> 180.0	F	102.2	F
13	Route 1 / Route 16	Signalized	33.3	C	67.5	E	51.6	D	86.1	F
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	56.7	E	40.9	D	71.6	E	49.4	D
15	Route 16 / Route 27A	Signalized	16.9	B	16.6	B	34.0	C	16.4	B
16	Route 1 / Route 27A	Signalized	39.5	D	45.6	D	48.9	D	46.1	D
17	Route 28 / Route 27A	AWSC	10.9	B	56.7	F	12.5	B	84.8	F
18	Route 1 / Route 27	Signalized	65.4	E	49.1	D	69.9	E	63.7	E
19	Route 1 / Route 26	Signalized	22.5	C	43.3	D	49.5	D	43.0	D
20	Route 1 / Route 28	Signalized	44.6	D	35.3	D	50.9	D	42.4	D
21	Route 16 / Route 27	Signalized	82.4	F	117.4	F	85.0	F	130.9	F
61	Route 3 / USMC Main Gate	Signalized	-[4]	-[4]	-[4]	-[4]	30.5	C	28.2	C
62	Route 3 / USMC Secondary Gate	Signalized	-[4]	-[4]	-[4]	-[4]	4.6	A	4.5	A
63	Route 9 / ACE Gate	TWSC	-[5]	-[5]	-[5]	-[5]	25.9	D	13.2	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in Year 2021 No Build conditions.
[5] ACE Gate assumed to remain closed in Year 2021 No Build conditions.

Condtions Better than for the Preferred Alternative

Condtions Worse than for the Preferred Alternative

Significant Impact not in Preferred Alternative

Exhibit 25: Intersection LOS for Finegayan/AAFB Alternative, North Region, 2021

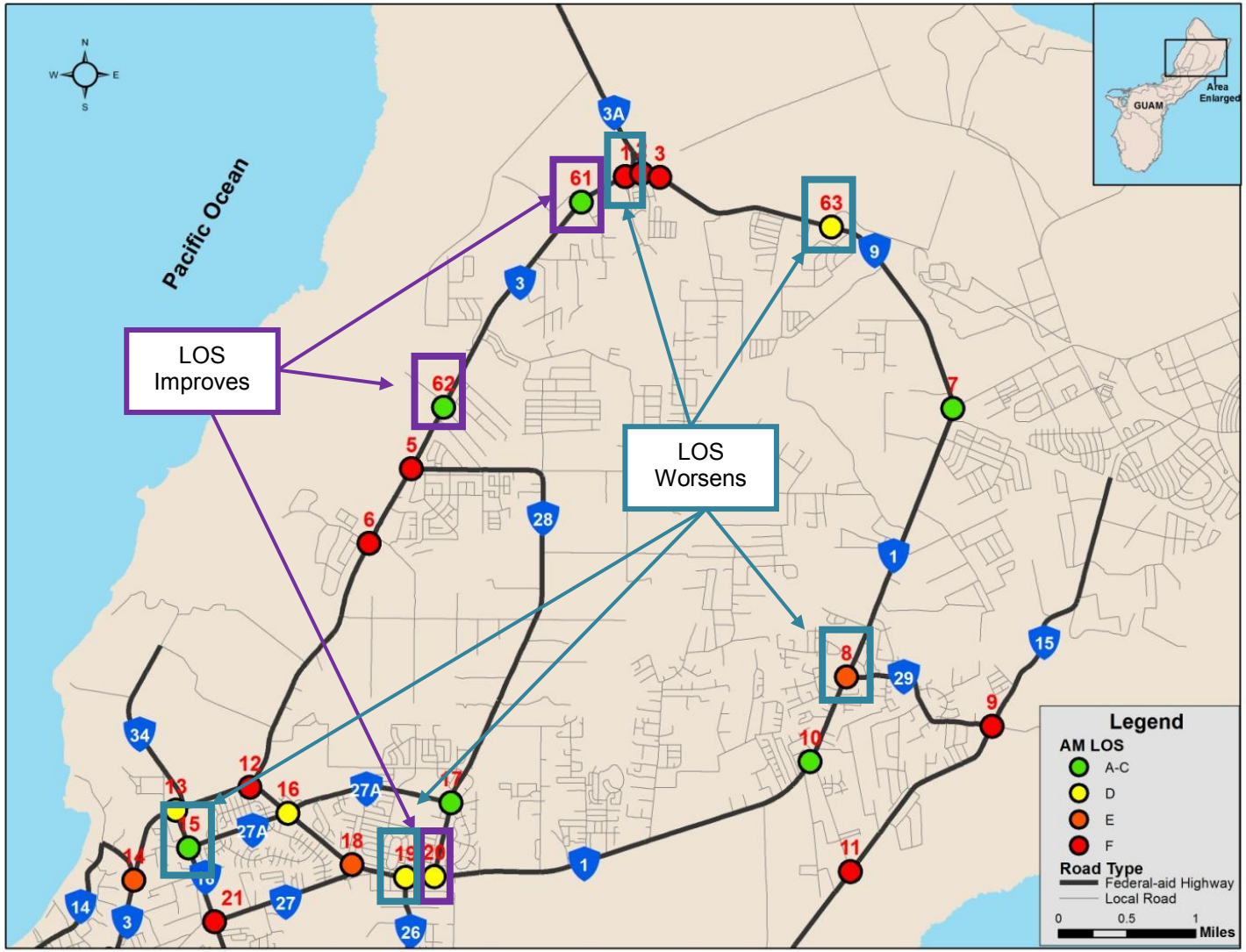

Exhibit 26: Intersection LOS for Finegayan/AAFB Alternative, AM Peak Hour – North Region, 2021

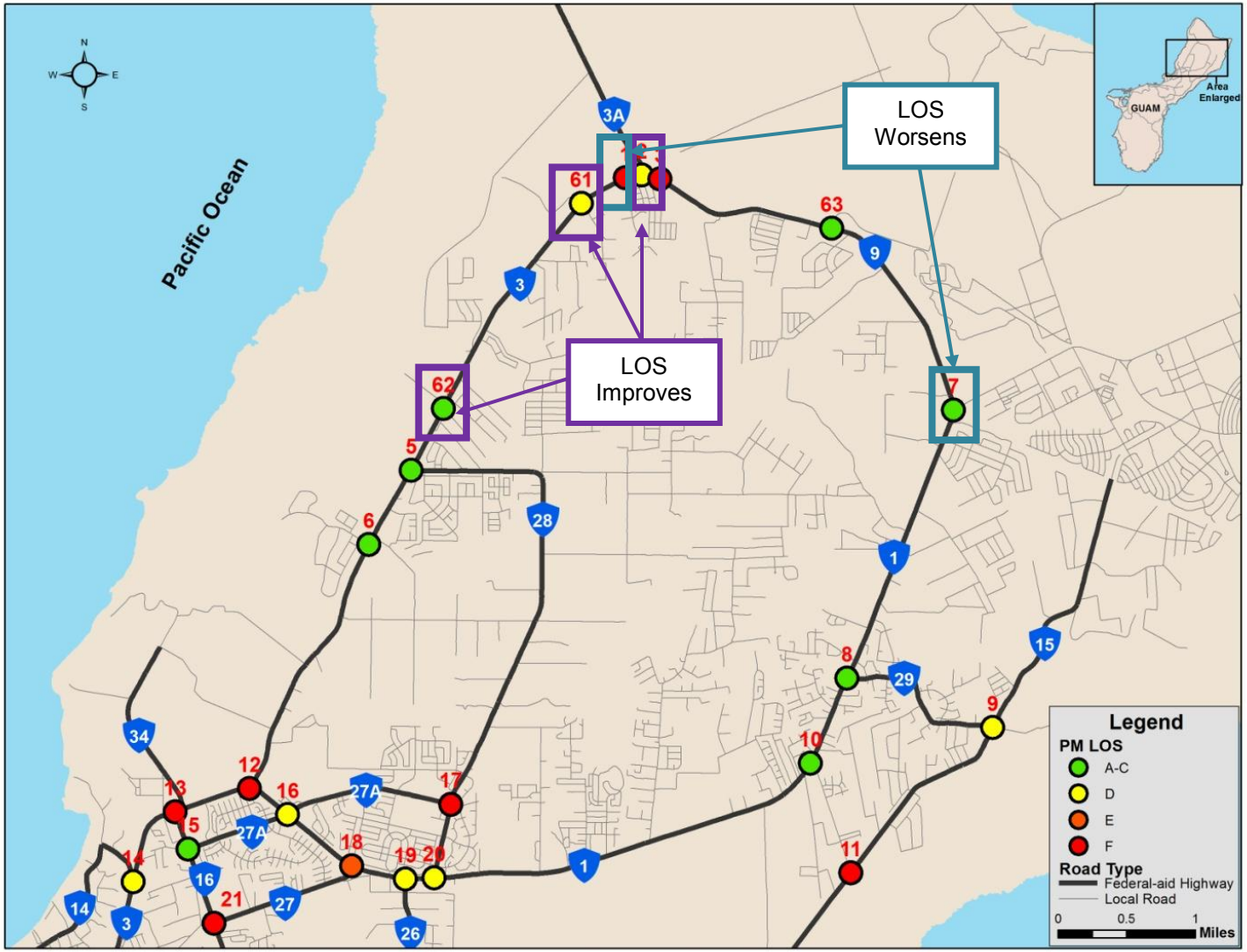

Exhibit 27: Intersection LOS for Finegayan/AAFB Alternative, PM Peak Hour – North Region, 2021

3.3 Recommended Mitigation Measures for 2021 Impacts

Mitigations for Roadway-Level Impacts

The measures needed to mitigate the Finegayan/AAFB Alternative's roadway-level impacts during construction are shown in Exhibit 28, which corresponds to Exhibit 109 in the *Traffic Operations Report*. The shifting of Family Housing to AAFB and the shifting of construction and commercial traffic would necessitate several mitigation measures not required for the Preferred Alternative as described in the *Traffic Operations Report*, namely:

- Adding a northbound lane to Route 3 between the Main Gate and Route 3A, and widening Route 3A in both directions. These additional widening are due to the shifting of construction traffic to the Tactical/Commercial Gate.

The Finegayan/AAFB Alternative would not need several mitigation measures required for the Preferred Alternative, namely:

- The widening of Route 1 northbound between Chalan Lujuna and Route 28 and between Route 16 to Route 14 (N).
- The widening of Route 1 southbound between Route 3 and Route 34, and between Route 34 and Route 16.
- The widening of Route 1 in both directions between Route 14 (north) and Route 14A
- The widening of Route 3 northbound from Route 1 to Royal Palm Drive
- The widening of Route 26 northbound between Route 1 and Route 25.
- The widening of Route 28 from Route 1 to Route 27A to include a median with left turn pockets.

All other roadway-level mitigation measures identified in the *Traffic Operations Report* would remain unchanged.

Roadway		No Build Alternative				Finegayan/AAFB Alternative				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	Are These Mitigation Measures Needed in 2030?	V/C After Feasible Mitigations are Implemented			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak					AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB				NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.50	0.64	0.63	0.70	0.97	0.75	0.84	1.11	Add additional SB lane.	Yes		0.64	0.50	0.56	0.73
Route 1	Route 29 to Chalan Lujuna	0.70	**1.06**	0.83	0.88	**1.10**	**1.16**	**1.02**	**1.27**	Add additional NB and SB lane.	Yes		0.73	0.77	0.67	0.84
Route 1	Chalan Lujuna to Route 28	0.72	**1.33**	**1.23**	0.90	0.91	**1.34**	**1.23**	**1.07**	Add additional ~~NB and~~ SB lane.	Yes		0.60	0.89	0.81	0.71
Route 1	Route 3 to Route 34	0.41	**1.53**	**1.03**	0.70	0.50	**1.58**	1.11	0.81	Add additional lane in NB ~~and SB~~ direction.	Yes	Yes	0.38	**1.19**	0.84	0.61
Route 1	Route 34 to Route 16	0.45	**1.34**	**1.04**	0.72	0.54	**1.40**	1.12	0.81	Add additional lane in NB ~~and SB~~ direction.	Yes	Yes	0.41	**1.06**	0.85	0.61
Route 1	Route 16 to Route 14 (N)	0.50	**1.42**	**1.36**	0.92	0.57	**1.47**	**1.43**	0.97	~~Add additional NB lane.~~	**No**					
Route 1	Route 14 (N) to Route 14A	0.58	**1.22**	**1.27**	**1.11**	0.63	**1.26**	**1.32**	**1.16**	~~Add additional lane in both directions.~~	**No**					
Route 3	Route 3A/9 to Main Gate	0.47	0.71	0.54	0.48	**1.93**	1.18	0.97	1.48	Add additional **NB and** SB lane.	Yes	Yes	**1.13**	0.69	0.57	0.87
Route 3	Main Gate to Secondary Gate	0.48	**1.18**	0.64	0.55	**1.68**	**1.42**	**1.04**	**1.65**	Add additional lane in both directions.	Yes	Yes	0.98	0.83	0.61	0.97
Route 3	Secondary Gate to Route 28	0.69	**1.31**	0.86	0.71	**1.66**	**1.54**	**1.21**	**1.66**	Add additional lane in both directions.	Yes	Yes	0.97	0.90	0.71	0.97
Route 3	Route 28 to Royal Palm Dr.	0.43	**1.21**	0.76	0.49	0.88	**1.31**	0.90	0.92	Add additional SB lane.	Yes	Yes	0.58	0.86	0.59	0.61
Route 3	Royal Palm Dr. to Route 1	0.52	**1.30**	0.77	0.50	0.95	**1.39**	0.91	0.92	Add additional lane in ~~NB and~~ SB direction.	Yes	Yes	0.63	0.92	0.60	0.61
Route 3A	North of Route 3/9	0.11	0.03	0.02	0.13	**1.55**	0.68	0.57	**1.49**	**Add additional lane in both directions.**	Yes		0.91	0.40	0.33	0.87
Route 15	Route 29 to Route 26	0.59	**1.03**	0.71	0.64	0.87	**1.08**	0.73	0.97	Add additional SB lane.	Yes		0.49	0.61	0.41	0.55
Route 26	Route 1 to Route 25	**1.07**	**1.20**	**1.05**	**1.14**	**1.12**	**1.23**	**1.08**	**1.17**	~~Add additional NB lane.~~	Yes					
Route 28	Route 1 to Route 27A	0.46	0.82	0.93	0.77	0.56	0.83	0.94	0.94	~~Construct divided road with left turn lanes.~~	Yes					
Route 28	Route 27A to Chalan Balako	0.56	**1.10**	0.76	0.89	0.72	**1.12**	0.78	**1.12**	Add additional NB lane.	Yes	Yes	0.41	0.63	0.44	0.63
Route 1	Route 14A to Route 10A	0.70	0.85	**1.18**	**1.11**	0.74	0.90	**1.24**	**1.16**	Add additional NB lane.	**No**		0.56	0.68	0.94	0.88
Route 1	Route 10A to Route 14B	0.71	**1.05**	**1.19**	0.94	0.75	**1.10**	**1.25**	0.98	Add additional NB lane.	**No**		0.57	0.83	0.95	0.74
Route 1	Route 14B to Route 14 (S)	0.75	0.92	**1.10**	0.88	0.79	0.97	**1.16**	0.92	Add additional NB lane.	**No**		0.60	0.73	0.88	0.70
Route 1	Route 6 (N) to Route 11	0.87	**1.04**	0.99	0.76	0.93	**1.09**	**1.04**	0.82	Add additional lane in both directions.	Yes		0.61	0.72	0.68	0.54
Route 4	Route 10 to Route 17	**1.56**	0.83	**1.18**	**1.37**	**1.64**	0.88	**1.25**	**1.46**	Add additional lane in both directions.	Yes		0.92	0.58	0.70	0.97
Route 10	Route 32 to Route 4	**1.07**	0.86	0.80	0.86	**1.13**	0.87	0.81	0.90	Add additional NB lane.	Yes		0.75	0.58	0.54	0.60
Route 15	Route 26 to Bar. South Gate	0.74	**1.13**	**1.05**	0.86	**1.01**	**1.16**	**1.09**	**1.06**	Add additional lane in both directions.	Yes		0.57	0.65	0.61	0.60
Route 16	Bar. Main Gate to Route 8	0.93	0.97	0.95	0.97	0.95	**1.01**	**1.01**	0.99	Add additional NB lane.	Yes		0.63	0.67	0.67	0.65

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

New Significant Impact
XYZ New Mitigation Measure
Impact No Longer Significant
~~XYZ~~ Mitigation no longer needed

Exhibit 28: Roadway-Level Mitigation Measures for Finegayan/AAFB Alternative, 2021

Mitigations for Intersection-Level Impacts

The measures needed to mitigate the Finegayan/AAFB Alternative's intersection-level construction impacts are summarized in Exhibit 29, which corresponds to Exhibit 110 in the *Traffic Operations Report*. The shifting of construction and commercial traffic would change the mitigation measures for intersection-level impacts in two ways:

- Intersections 1, 2, and 3, which were to be combined into a four-legged single intersection, would need northbound and southbound left-turn pockets, which would not be needed for the Preferred Alternative without the change in use of the Tactical/Commercial Gate.
- Intersection 61, which is Route 3 at the USMC Main Gate, would no longer require two northbound left-turn lanes[5]. A single, somewhat longer lane would suffice to handle the reduced volume of left-turning traffic.

These are the same mitigations as would be required for the Revised Preferred Alternative in 2021 as described in the previous chapter of this report.

Policy Regarding Temporary Mitigations

The approach to be taken when a mitigation is only needed temporarily during construction is a matter of policy involving tradeoffs between funding constraints, the severity and duration of impacts, possible secondary impacts caused by the mitigation measures themselves, etc. This report presents technical information and analysis that can be used to inform the policy decisions that will be made in the future by DOD and GovGuam but does not reach a conclusion regarding temporary measures. Additional information, especially regarding the cost of the measures, would be needed to adequately assess the trade-offs involved.

[5] Exhibit 110 in the *Traffic Operations Report* erroneously says that only one northbound left-turn pocket is needed for Intersection 61. This is true for 2035, but not for 2021. The Synchro analysis shown in Appendix J of the *Traffic Operations Report* correctly shows that two northbound left-turn lanes are needed.

Intersection			No Build Alternative				Finegayan AAFB NWF Alternative				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	Are These Mitigation Measures Needed in 2030?	LOS After Feasible Mitigations are Implemented			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour					AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS				Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3/9 / Route 3A	TWSC	26.8	D	13.8	B	**> 180.0**	**F**	30.9	D	Combine Route 3, 3A, and 9 into one signalized intersection with the following lane configuration: Northbound (Chalan Santa Anita): **one left turn lane (350 feet storage) and** one shared through/right-turn lane. Southbound (Route 3A): ~~one right-turn lane (150 ft storage)~~ **one left turn lane (300 feet storage)** and one shared through/right-turn lane. Eastbound (Route 3) and Westbound (Route 9): one left-turn lane (~~150ft~~ **600** feet storage for EBL and ~~150ft~~ **200** feet storage for WBL), one through lane, and one shared through/right turn lane.	Yes	Yes	64.1	E	25.4	C
5	Route 3 / Route 28	Signalized	32.6	C	22.3	C	**114.6**	**F**	22.8	C	Northbound (Route 3): Restripe right turn lane to through lane and add exclusive right turn lane (150 feet storage) Westbound (Route 28): Provide excluse right-turn lane (150 feet storage).	Yes		32.3	C	18.0	B
6	Route 3 / Royal Palm Drive	TWSC	33.8	D	14.4	B	**50.9**	**F**	19.9	C	Eastbound (Royal Palm Drive): Provide exclusive right-turn lane (100 feet storage).	Yes	Yes	43.2	E	19.4	C
11	Route 15 / Chalan Lajuna	TWSC	**59.1**	**F**	45.9	E	**> 180.0**	**F**	**> 180.0**	**F**	Signalize intersection. Northbound (Route 15): Provide exclusive left-turn lane (150 feet storage).	Yes		53.1	D	23.7	C
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	49.8	D	**> 180.0**	**F**	**102.2**	**F**	Eastbound (Route 1): Add second left-turn lane. Southbound (Route 3): Provide overlap phase.	Yes	Yes	153.9	F	22.0	C
13	Route 1 / Route 16	Signalized	33.3	C	67.5	E	51.6	D	**86.1**	**F**	Eastbound (Route 1): Add one right turn lane (100 feet storage)	Yes		27.6	C	23.3	C
17	Route 28 / Route 27A	AWSC	10.9	B	**56.7**	**F**	12.5	B	**84.8**	**F**	Eastbound (Route 27A): Reconfigure approach to one shared left/through lane and one free right-turn lane. Southtbound (Route 28): Convert right-turn lane to free right-turn.	Yes		9.9	A	33.1	D
21	Route 16 / Route 27	Signalized	**82.4**	**F**	**117.4**	**F**	**85.0**	**F**	**130.9**	**F**	Westbound (Route 27): Convert existing right turn to through lane and add exclusive right-turn lane (150 feet storage).	Yes	Yes	63.0	E	95.7	F
24	Route 15 / Route 26	TWSC	**117.8**	**F**	**> 180.0**	**F**	**> 180.0**	**F**	**> 180.0**	**F**	Signalize intersection.	Yes		11.9	B	30.9	C
26	Route 1 / Route 14A	Signalized	32.1	C	**> 180.0**	**F**	36.5	D	**> 180.0**	**F**	Eastbound (Route 1): Provide exclusive right-turn lane (150 feet storage).	Yes	Yes	34.2	C	158.1	F
27	Route 1 / Route 10A	Signalized	37.7	D	**92.2**	**F**	48.3	D	**108.0**	**F**	Northbound (Route 1): Provide exclusive right-turn lane (150 feet storage) with overlap phase.	Yes	Yes	25.8	C	40.6	D
29	Route 1 / Route 14	Signalized	68.2	E	50.9	D	**80.3**	**F**	60.6	E	Southbound (Route 14): Provide right-turn overlap phase.	Yes		74.7	E	54.0	D
61[4]	Route 3 / USMC Main Gate	Signalized	-[3]	-[3]	-[3]	-[3]	30.5	C	28.2	C	New intersection to be signalized with the following lane configuration: Northbound: Provide ~~dual left-turn lanes (200 feet storage)~~ **one left-turn lane (450 feet storage)**, one through lane, and one shared through/right-turn lane. Southbound: Provide one left-turn lane (~~100~~ **200** feet storage), one through lane, and ~~one exclusive right-turn lane (100 feet)~~ one shared through/right-turn lane. Westbound and Eastbound (USMC Main Gate): Provide one left-turn lane (~~150ft~~ **250** feet storage for EBL and ~~150ft~~ **100** feet storage for WBL) and one shared through/right turn-lane.	Yes	Yes	30.5	C	28.2	C
62[4]	Route 3 / USMC Secondary Gate	Signalized	-[3]	-[3]	-[3]	-[3]	4.6	A	4.5	A	New "T" intersection to be signalized with the following lane configuration: Northbound (Route 3): Provide one left-turn lane (200 feet storage) and two through lane. Southbound (Route 3): Provide one through lane and one shared through/right-turn lane Eastbound (USMC Secondary Gate): Provide one left-turn lane (100 feet storage) and one right-turn lane.	Yes	Yes	4.6	A	4.5	A

Notes:

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

[3] Intersection does not exist in Year 2021 No Build conditions.

[4] Intersections 61 and 62 are design features of the project rather than mitigation measures.

LOS – level of service

TWSC – two-way stop-controlled

AWSC – all-way stop-controlled

Bold indicates LOS "F" conditions. Red indicates significant impact.

XYZ New Mitigation Measure

~~XYZ~~ Mitigation no longer needed

Exhibit 29: Intersection-Level Mitigation Measures for Finegayan/AAFB Alternative, 2021

3.4 Traffic Impacts at Full Build-Out

Once the Project is fully built out (2030) there would be no construction-related traffic using the Tactical/Commercial Gate, but the amount of commercial traffic would be higher than in 2021 because the number of Marines and their dependents would reach its peak of approximately 7,900.

Roadway-Level Impacts

The roadway-level impacts of the Preferred Alternative at full build-out are summarized in Exhibit 30, Exhibit 31, and Exhibit 32, which correspond to Exhibits 98, 92, and 93 in the *Traffic Operations Report* respectively. In Exhibit 30 items that would be adversely affected by the change in the use of the gates are outlined in red while those that are positively affected are outlined in green.

Compared to the Preferred Alternative as described in the *Traffic Operations Report*, the Finegayan/AAFB Alternative in combination with the shifting of construction and commercial traffic to the tactical/commercial gate would:

- Generally decrease traffic on Route 3 and increase traffic on Route 9 and on Route 1 north of Route 28 (see Exhibit 31 and Exhibit 32). This is to be expected when Marines and their dependents are shifted from living at a site on Route 3 to one on Routes 1 and 9.
- Decrease PM peak-hour traffic southbound on Route 3 between the Main Gate and the Route 3/3A/9 intersection, and increase northbound traffic on same section of Route 3. The decrease in southbound traffic stems from Marines working at ACE that would have been returning southbound to Family Housing at Finegayan (in the Preferred Alternative) and would instead go to Family Housing in AAFB. The increase in northbound traffic is from Marines working at the Main Cantonment that would have traveled to Family Housing at Finegayan (in the Preferred Alternative) and would instead go to Family Housing in AAFB via the Main Gate, Route 3, and Route 9. This change would substitute a significant impact in the southbound direction for a significant impact in the northbound direction.
- Increase peak-hour traffic on Route 9 westbound in the AM peak hour and eastbound in the PM peak hour. This is due to Marines working at the Main Cantonment that would have traveled back and forth to Family Housing at Finegayan (in the Preferred Alternative) and would instead go to Family Housing in AAFB via the Main Gate, Route 3, and Route 9.

Roadway		No Build Alternative				Finegayan / AAFB / NWF Alternative			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.49	0.68	0.67	0.71	0.53	0.71	0.77	0.75
Route 1	Route 29 to Chalan Lujuna	0.71	**1.10**	0.86	0.89	0.73	**1.12**	0.96	0.92
Route 1	Chalan Lujuna to Route 28	0.73	**1.38**	**1.29**	0.93	0.74	**1.39**	**1.31**	0.95
Route 1	Route 28 to Route 26	0.54	**1.04**	**1.05**	0.71	0.55	**1.04**	**1.07**	0.72
Route 1	Route 26 to Route 27	0.56	**1.10**	1.00	0.60	0.57	**1.10**	**1.02**	0.61
Route 1	Route 27 to Route 27A *	0.32	0.63	0.54	0.41	0.32	0.65	0.55	0.41
Route 1	Route 27A to Route 3 *	0.31	0.71	0.59	0.40	0.31	0.74	0.61	0.40
Route 1	Route 3 to Route 34	0.40	**1.53**	**1.01**	0.68	0.44	**1.58**	1.06	0.74
Route 1	Route 34 to Route 16	0.44	**1.35**	0.97	0.71	0.48	**1.39**	1.03	0.77
Route 1	Route 16 to Route 14 (N)	0.49	**1.26**	**1.20**	0.89	0.51	**1.29**	**1.24**	0.92
Route 1	Route 14 (N) to Route 14A	0.62	**1.12**	**1.32**	**1.08**	0.64	**1.15**	**1.35**	**1.10**
Route 3	Route 3A/9 to Fin. Main Gate	0.50	0.75	0.57	0.52	0.80	1.30	1.08	0.91
Route 3	Fin. Main Gate to Secondary Gate	0.49	**1.24**	0.68	0.56	0.91	1.41	0.95	0.93
Route 3	Fin. Secondary Gate to Route 28	0.70	**1.36**	0.91	0.74	0.99	1.52	1.14	1.08
Route 3	Route 28 to S. Fin. Main Gate	0.44	**1.25**	0.79	0.51	0.54	1.32	0.89	0.64
Route 3	S. Fin. Main Gate to Route 1	0.53	**1.35**	0.81	0.54	0.63	1.42	0.91	0.65
Route 3A	North of Route 3/9	0.11	0.03	0.02	0.13	0.21	0.10	0.21	0.24
Route 9	Route 3/3A to ACE Gate	0.24	0.28	0.21	0.20	0.39	0.53	0.44	0.44
Route 9	ACE Gate to AAFB Main Gate (Rte 1)	0.26	0.19	0.15	0.23	0.30	0.41	0.36	0.37
Route 14	Route 1 to Gun Beach Rd.	0.26	0.64	0.64	0.63	0.27	0.65	0.65	0.64
Route 14	Gun Beach Rd. to Route 14A	0.51	0.36	0.36	0.76	0.52	0.36	0.37	0.76
Route 15	AAFB to Route 29	0.86	0.72	0.43	0.61	0.87	0.73	0.44	0.61
Route 15	Route 29 to Route 26	0.57	**1.08**	0.78	0.66	0.58	**1.09**	0.80	0.67
Route 16	Route 1 to Route 27A	0.35	0.50	0.53	0.48	0.38	0.51	0.55	0.51
Route 16	Route 27A to Route 27	0.36	0.74	0.73	0.52	0.38	0.75	0.75	0.55
Route 16	Route 27 to Route 10A	0.75	0.98	0.96	0.84	0.77	0.99	0.98	0.87
Route 26	Route 1 to Route 25 **	0.73	0.83	0.74	0.88	0.75	0.84	0.75	0.90
Route 27	Route 16 to Route 1	0.41	0.75	0.84	0.44	0.42	0.75	0.85	0.46
Route 27A	Route 16 to Route 1	0.72	**1.63**	**1.49**	0.96	0.73	**1.63**	**1.50**	0.96
Route 27A	Route 1 to Route 28	0.48	0.98	0.69	0.70	0.48	0.98	0.70	0.71
Route 28	Route 1 to Route 27A	0.51	0.90	0.99	0.79	0.51	0.90	1.00	0.80
Route 28	Route 27A to Chalan Balako	0.57	**1.16**	0.82	0.91	0.62	**1.16**	0.84	0.93
Route 28	Chalan Balako to Route 3	0.54	**1.48**	0.98	0.57	0.56	1.57	1.05	0.60
Route 29	Route 1 to Route 15	0.64	0.90	0.56	0.58	0.64	0.93	0.58	0.59
Route 34	North of Route 1	0.22	0.13	0.23	0.28	0.22	0.13	0.23	0.28
Chln Lujuna	Route 1 to Route 15	0.38	0.46	0.40	0.42	0.40	0.47	0.41	0.43

Notes:

* The widening of Route 27 will divert some traffic from Route 1.

** Route 26 will be widened so the volume-to-capacity ratio will decrease.

Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.

Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Conditions Better than for the Preferred Alt.

Conditions Worse than for the Preferred Alt.

New Significant Impact

Impact No Longer Significant

Exhibit 30: Roadway V/C for Finegayan/AAFB Alternative, North Region, 2030

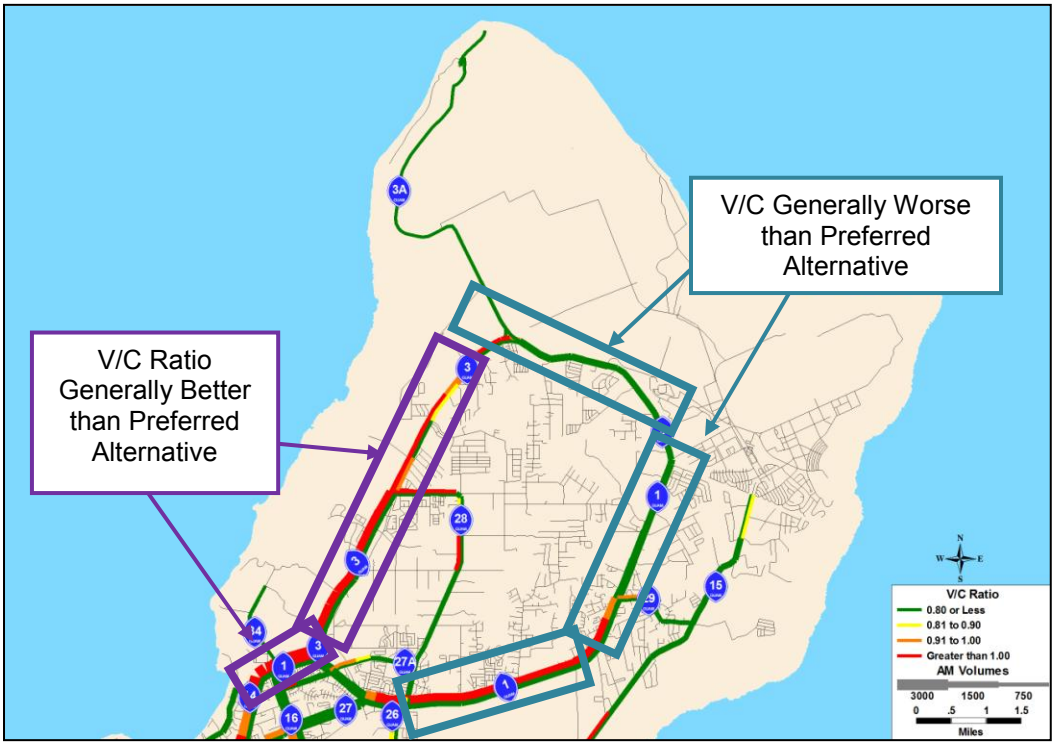

Exhibit 31: Roadway V/C for Finegayan/AAFB Alternative, AM Peak Hour, North Region, 2030

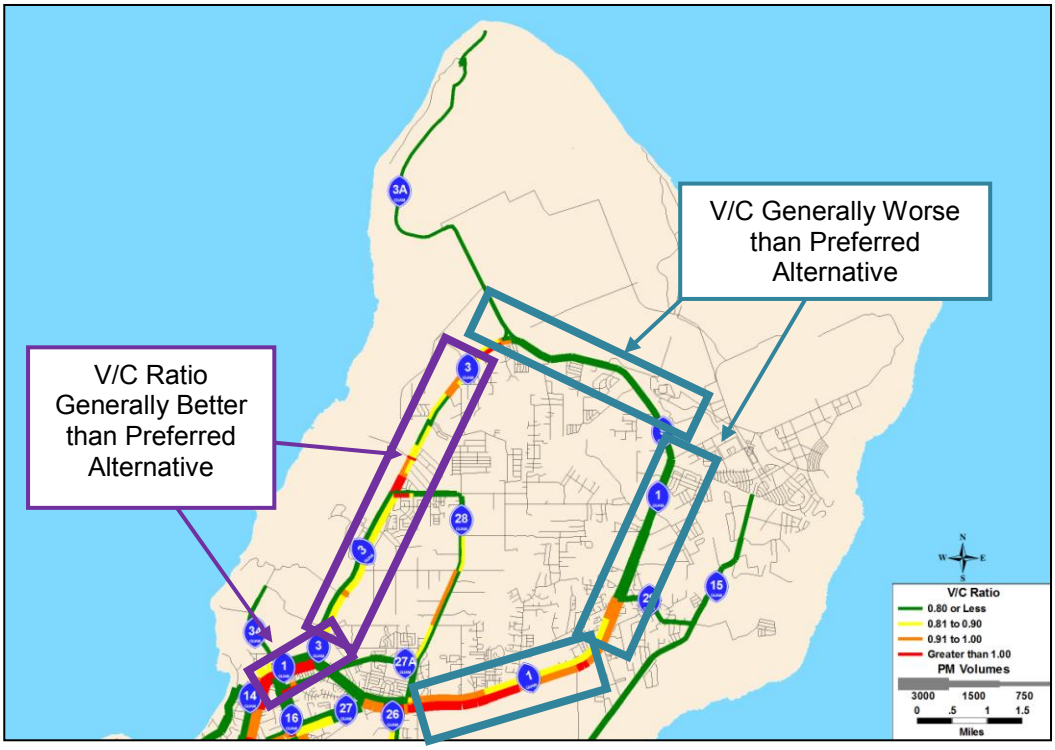

Exhibit 32: Roadway V/C for Finegayan/AAFB Alternative, PM Peak Hour, North Region, 2030

Intersection-Level Impacts

The intersection-level impacts of the Finegayan/AAFB Alternative with the revised role for the Tactical/Commercial Gate during construction are shown in Exhibit 33, Exhibit 34, and Exhibit 35, which correspond to Exhibits 116, 119, and 120 in the *Traffic Operations Report* respectively. Please where average delay increased by a second or more are outlined in red in Exhibit 33, while those where average delay decreased by a second or more are outlined in green.

Intersection			No Build Alternative				Finegayan AAFB NWF Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	16.1	C	11.5	B	54.7	F	20.3	C
2	Route 3/9 / Chalan Santa Anita	TWSC	37.7	E	15.0	B	> 180.0	F	48.6	E
3	Route 9 / Route 3A	TWSC	14.7	B	13.6	B	47.7	E	40.7	E
4	Route 3 / Bullard Avenue	TWSC	19.0	C	12.4	B	-[3]	-[3]	-[3]	-[3]
5	Route 3 / Route 28	Signalized	33.7	C	23.2	C	41.2	D	25.4	C
6	Route 3 / Royal Palm Drive	TWSC	36.4	E	14.8	B	54.1	F	16.0	C
7	Route 1/9 / AAFB Main Gate	Signalized	10.4	B	11.6	B	12.0	B	20.7	C
8	Route 1 / Route 29	Signalized	34.2	C	23.3	C	35.3	D	24.8	C
9	Route 15 / Route 29	TWSC	**102.0**	**F**	31.2	D	**138.1**	**F**	34.2	D
10	Route 1 / Chalan Lajuna	Signalized	19.9	B	13.8	B	20.2	C	13.9	B
11	Route 15 / Chalan Lajuna	TWSC	**75.8**	**F**	**82.6**	**F**	**87.2**	**F**	**90.2**	**F**
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	63.4	E	**> 180.0**	**F**	**83.0**	**F**
13	Route 1 / Route 16	Signalized	21.9	C	45.3	D	24.6	C	58.5	E
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	32.4	C	43.2	D	36.1	D	46.4	D
15	Route 16 / Route 27A	Signalized	24.0	C	18.8	B	24.1	C	18.7	B
16	Route 1 / Route 27A	Signalized	37.3	D	46.4	D	37.9	D	46.6	D
17	Route 28 / Route 27A	AWSC	11.7	B	**65.0**	**F**	11.9	B	**65.0**	**F**
18	Route 1 / Route 27	Signalized	**118.3**	**F**	50.2	D	**121.6**	**F**	55.7	E
19	Route 1 / Route 26	Signalized	34.4	C	**87.6**	**F**	36.5	D	**91.9**	**F**
20	Route 1 / Route 28	Signalized	53.5	D	37.1	D	56.6	E	37.4	D
21	Route 16 / Route 27	Signalized	**> 180.0**	**F**	**154.7**	**F**	**> 180.0**	**F**	**160.9**	**F**
61	Route 3 / USMC Main Gate	Signalized	-[4]	-[4]	-[4]	-[4]	25.4	C	20.6	C
62	Route 3 / USMC Secondary Gate	Signalized	-[4]	-[4]	-[4]	-[4]	5.2	A	4.0	A
63	Route 9 / ACE Gate	TWSC	-[5]	-[5]	-[5]	-[5]	25.1	D	13.6	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in evaluated alternative.
[4] Intersection does not exist in No Build conditions.
[5] ACE Gate assumed to remain closed in No Build conditions.

Conditions Better than for the Preferred Alternative

Conditions Worse than for the Preferred Alternative

New Significant Impact

Exhibit 33: Intersection LOS for Finegayan/AAFB Alternative, North Region, 2030

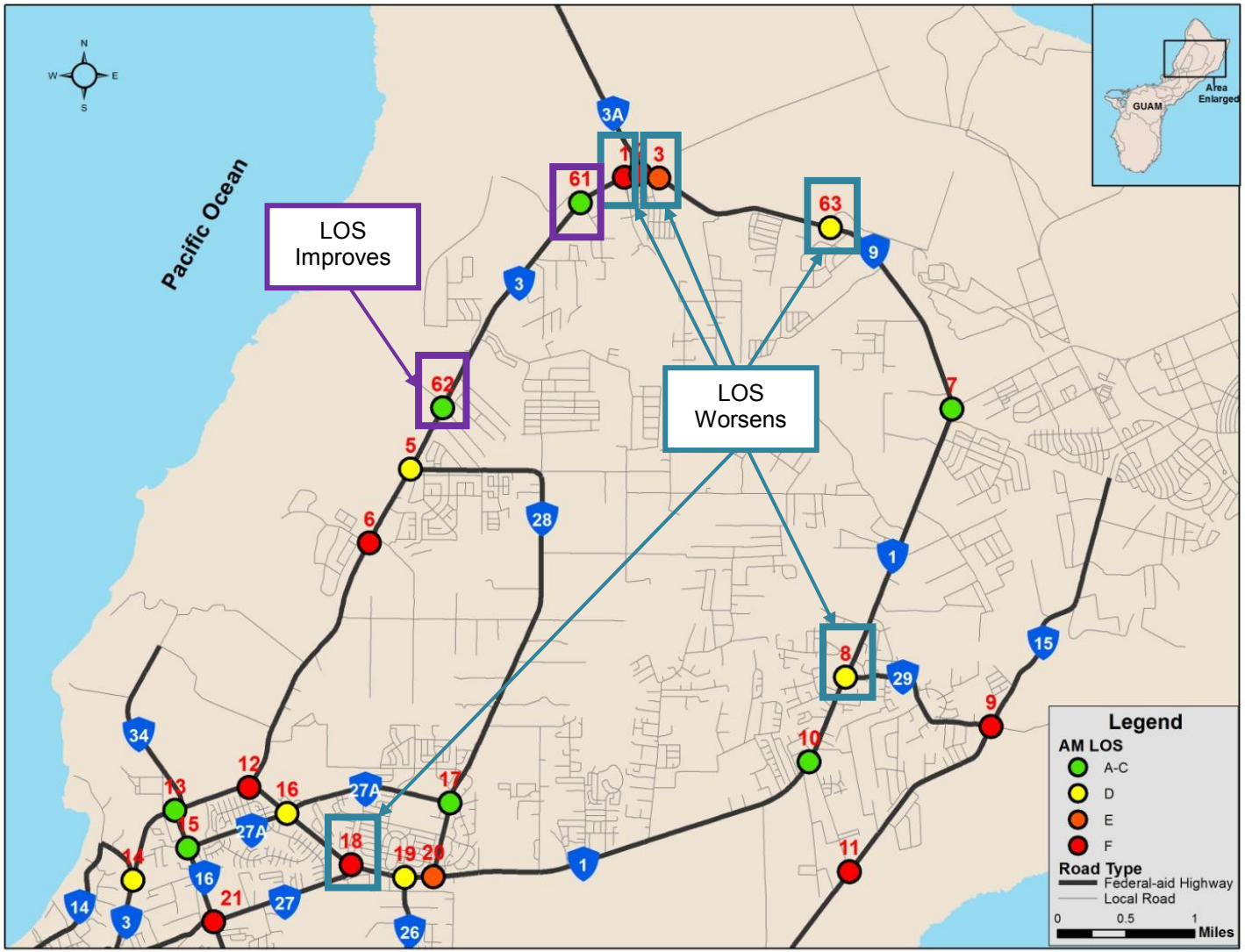

Exhibit 34: Intersection LOS for Finegayan/AAFB Alternative, AM Peak Hour – North Region, 2030

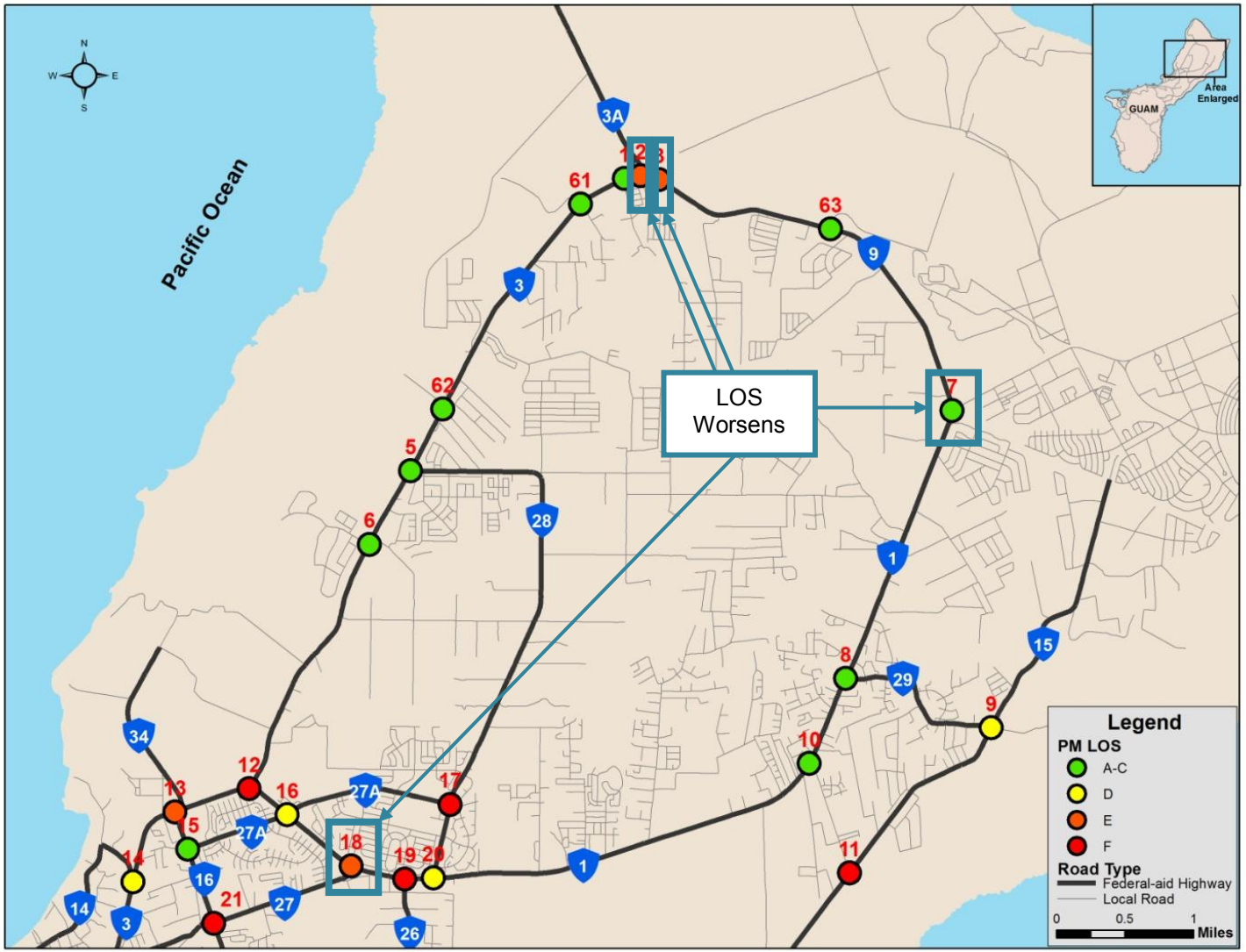

Exhibit 35: Intersection LOS for Finegayan/AAFB Alternative, PM Peak Hour – North Region, 2030

The shifting of Family Housing to AAFB and the shifting of construction and commercial traffic to the tactical/commercial gate would:

- Worsen the LOS at Intersections 1 and 3, the two existing entries into Route 3A, in the AM peak hour. These intersections will receive the commercial traffic that is re-directed from the Main Gate to the Tactical/Commercial Gate. The LOS of Intersection 3 would still be within the target level of "E" or better, so this would not result in a significant impact. However, the LOS of Intersection 1 would be "F", which would be a significant impact not found in the Preferred Alternative as described in the *Traffic Operations Report*.
- Worsen the LOS at Intersections 1 and 2 in the PM peak hour. These intersections will receive traffic from Marines working at the Main Cantonment and returning to Family Housing in AAFB in the evening. The LOS of both intersections would still be within the target level of "E" or better, so this would not result in a significant impact.
- Worsen the LOS at Intersections 8, 20, and 63 in the AM peak hour, and at Intersections 7 and 18 in the PM peak hour. The LOS of these intersections would still be within the target level of "E" or better, so this would not result in a significant impact.
- Improve the LOS at Intersections 61 and 62, the USMC Main and Secondary Gates respectively.

Impacts to Bicycle, Pedestrian, and Bus Transit

The shifting of Family Housing to AAFB and the shifting of construction and commercial traffic to the tactical/commercial gate would have no appreciable effect on bicycle or pedestrian movements, or on transit services.

3.5 Recommended Mitigation Measures for 2030 Impacts

Mitigations for Roadway-Level Impacts

The measures needed to mitigate the Finegayan/AAFB Alternative's roadway-level impacts during construction are shown in Exhibit 36, which corresponds to Exhibit 123 in the *Traffic Operations Report*. The shifting of Family Housing to AAFB and the shifting of construction and commercial traffic to the tactical/commercial gate would necessitate one mitigation measure not required for the Preferred Alternative, namely:

- Route 3 would need an additional northbound lane from the Main Gate to the Route 3/3A/9 intersection

Roadway			No Build Alternative				Finegayan/AAFB Alternative				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Proposed Mitigation Measures Feasible?	V/C After Feasible Mitigations are Implemented			
Route	Segment	Approximate Length	AM Peak		PM Peak		AM Peak		PM Peak				AM Peak		PM Peak	
			NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB			NB / EB	SB / WB	NB / EB	SB / WB
Route 1	Route 3 to Route 34	0.50 miles (2,700 ft)	0.40	**1.53**	**1.01**	0.68	0.44	**1.58**	1.06	0.74	Add additional EB lane.	Yes	0.33		0.80	
Route 1	Route 34 to Route 16	0.06 miles (300 ft)	0.44	**1.35**	0.97	0.71	0.48	**1.39**	1.03	0.77	Add additional EB lane.	Yes	0.36		0.78	
Route 3	Route 3A/9 to Main Gate	0.49 miles (2,600 ft)	0.50	0.75	0.57	0.52	0.80	1.30	1.08	0.91	Add additional **NB and** SB lane.	Yes	0.47	0.76	0.63	0.53
Route 3	Main Gate to Secondary Gate	1.75 miles (9,200 ft)	0.49	**1.24**	0.68	0.56	0.91	1.41	0.95	0.93	Add additional SB lane.	Yes		0.83		0.54
Route 3	Secondary Gate to Route 28	0.54 miles (2,900 ft)	0.70	**1.36**	0.91	0.74	0.99	1.52	1.14	1.08	Add additional lane in both directions.	Yes	0.58	0.89	0.67	0.63
Route 3	Route 28 to Royal Palm Drive	0.92 miles (4,900 ft)	0.44	**1.25**	0.79	0.51	0.54	1.32	0.89	0.64	Add additional SB lane.	Yes		0.87		0.42
Route 3	Royal Palm Drive to Route 1	1.71 miles (9,000 ft)	0.53	**1.35**	0.81	0.54	0.63	1.42	0.91	0.65	Add additional SB lane.	Yes		0.93		0.43
Route 28	Chalan Balako to Route 3	0.97 miles (5,100 ft)	0.54	**1.48**	0.98	0.57	0.56	1.57	1.05	0.60	Add additional lane in both directions.	Yes	0.32	0.88	0.59	0.34

Notes:
Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.
Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

New Significant Impact
Impact No Longer Significant

XYZ New mitigation required
~~XYZ~~ Mitigation no longer needed

Exhibit 36: Roadway-Level Mitigation Measures for Finegayan/AAFB Alternative 2030

Mitigations for Intersection-Level Impacts

The measures needed to mitigate the Finegayan/AAFB Alternative's intersection-level construction impacts are summarized in Exhibit 37, which corresponds to Exhibit 124 in the *Traffic Operations Report*. The shifting of construction and commercial traffic would change the mitigation measures for intersection-level impacts in two ways:

- Intersections 1, 2, and 3, which were to be combined into a four-legged single intersection, would need northbound and southbound left-turn pockets, which would not be needed for the Preferred Alternative without the change in use of the Tactical/Commercial Gate.
- Intersection 61, which is Route 3 at the USMC Main Gate, would no longer require two northbound left-turn lanes[6]. A single, somewhat longer lane would suffice to handle the reduced volume of left-turning traffic.

[6] Exhibit 110 in the *Traffic Operations Report* erroneously says that only one northbound left-turn pocket is needed for Intersection 61. This is true for 2035, but not for 2021. The Synchro analysis shown in Appendix J of the *Traffic Operations Report* correctly shows that two northbound left-turn lanes are needed.

Intersection			2030 No Build Conditions				2030 With Finegayan AAFB/NWF Conditions				Mitigation Measures Need to Reduce Impact to Less-Than-Significant	Are Mitigation Measures Feasible?	LOS After Feasible Mitigations are Implemented			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS			Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3/9 / Route 3A	TWSC	37.7	E	15.0	B	> 180.0	F	48.6	E	Combine Route 3, 3A, and 9 into one signalized intersection with the following lane configuration: Northbound (Chalan Santa Anita): **one left turn lane (150 feet storage)** and one shared ~~left~~/through/right-turn lane. Southbound (Route 3A): ~~one right turn lane (150 ft storage)~~ **one left turn lane (200 feet storage)** and one shared ~~left~~/through/right-turn lane. Eastbound (Route 3) and Westbound (Route 9): one left-turn lane (~~150 ft~~ **200 feet** storage), one through lane, and one shared through/right turn lane.	Yes	21.6	C	13.2	B
6	Route 3 / Royal Palm Drive	TWSC	36.4	E	14.8	B	54.1	F	16.0	C	Eastbound (Royal Palm Drive): Provide exclusive right-turn lane (100 feet storage).	Yes	45.4	E	15.7	C
12	Route 1 / Route 3	Signalized	> 180.0	F	63.4	E	> 180.0	F	83.0	F	Westbound (Route 1): Provide exclusive right-turn lane (200 feet storage). Eastbound (Route 1): Add second left-turn lane.	Yes	118.8	F	15.5	B
18	Route 1 / Route 27	Signalized	118.3	F	50.2	D	121.6	F	55.7	E	Southbound (Salisbury Street): Restripe to one left-turn lane (80 feet storage), one through lane, one right-turn lane (50 feet storage). Northbound (Route 27): Provide right-turn overlap phase.	Yes	97.3	F	44.1	D
19	Route 1 / Route 26	Signalized	34.4	C	87.6	F	36.5	D	91.9	F	Northbound (Route 26): Provide right-turn overlap phase.	Yes	35.2	D	64.2	E
21	Route 16 / Route 27	Signalized	> 180.0	F	154.7	F	> 180.0	F	160.9	F	Westbound (Route 27): Convert existing right turn to through lane and provide exclusive right-turn lane (150 feet storage). Eastbound (Route 27): Provide exclusive right-turn lane (150 feet storage).	Yes	117.1	F	91.5	F
22	Route 16 / Route 10A	Signalized	> 180.0	F	49.1	D	> 180.0	F	53.9	D	Southbound (Route 16): Provide free right-turn.	Yes	55.4	E	52.2	D
26	Route 1 / Route 14A	Signalized	35.2	D	> 180.0	F	37.3	D	> 180.0	F	Eastbound (Route 1): Provide exclusive right-turn lane (150 feet storage).	Yes	37.4	D	161.9	F
27	Route 1 / Route 10A	Signalized	53.0	D	139.3	F	54.5	D	144.7	F	Northbound (Route 1): Provide free right-turn lane (150 feet storage).	Yes	38.4	D	69.1	E
61[4]	Route 3 / USMC Main Gate	Signalized	-[3]	-[3]	-[3]	-[3]	25.4	C	20.6	C	New intersection to be signalized with the following lane configuration: Northbound and Southbound (Route 3): Provide one left-turn lane (~~100 feet~~ **300 feet storage for NBL and 200 feet storage for SBL**), **one through lane**, and one shared through/right-turn lane. Westbound and Eastbound (USMC Main Gate): Provide one left-turn lane (~~100 feet~~ **300 feet storage for EBL and 100 feet storage for WBL**) and one shared through/right turn-lane.	Yes	25.4	C	20.6	C
62[4]	Route 3 / USMC Secondary Gate	Signalized	-[3]	-[3]	-[3]	-[3]	5.2	A	4.0	A	New "T" intersection to be signalized with the following lane configuration: Northbound (Route 3): Provide one left-turn lane (~~100 feet~~ **200 feet storage**) and ~~one~~ **two** through lanes. Southbound (Route 3): Provide **one through lane** and one shared through/right-turn lane Eastbound (USMC Secondary Gate): Provide one left-turn lane (100 feet storage) and one right-turn lane.	Yes	5.2	A	4.0	A

Notes:

[1] Average intersection delay in seconds per vehicle for signalized intersections.

[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.

[3] Intersection does not exist in Year 2030 No Build conditions.

[4] Intersections 61 and 62 are design features of the project rather than mitigation measures.

LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.

XYZ New Mitigation Measure

~~XYZ~~ Mitigation no longer needed

Exhibit 37: Intersection-Level Mitigation Measures for Finegayan/AAFB Alternative, 2030

4. REVISED FINEGAYAN/SOUTH FINEGAYAN ALTERNATIVE

4.1 Description of the Alternative

Like the Preferred Alternative, the Revised Finegayan/South Finegayan Alternative features the relocation of approximately 5,000 Marines and 1,300 dependents to Guam, with the Main Cantonment at the site of the existing NGBTS. There would be approximately 338 civilian workers at the Main Cantonment, not including USMC dependents working at the base. The staff of the USMC Air Combat Element (ACE) would live at the USMC Main Cantonment or Family Housing and work at AAFB.

A major difference between the Revised Finegayan/South Finegayan Alternative and the Revised Preferred Alternative is that the Revised Preferred Alternative assumed that USMC Family Housing would be located at the southern end of the NBGTS site in Finegayan, adjacent to and within the same perimeter fence as the Main Cantonment. The Finegayan/South Finegayan Alternative instead assumes that USMC Family Housing would be built further south on Route 3 at the current NBGTS South Finegayan site (see Exhibit 38). There would be no internal road between Family Housing and the Main Cantonment; travel between the two would be along Route 3.

The other major difference between the Revised Finegayan/South Finegayan Alternative and the Revised Preferred Alternative is that the Revised Preferred Alternative assumed that most Marine training activities would take place at the proposed LFTRC at AAFB-NWF, with a smaller amount taking place at AAFB-AS. The Revised Finegayan/South Finegayan Alternative instead assumes that the LFTRC would be located at NBG Naval Magazine on the southern part of the island.

The difference between the Revised Finegayan/South Finegayan Alternative and the Finegayan/South Finegayan Alternative described in the *Sketch-Level Analysis of Alternatives*[7] is that the Revised Finegayan/AAFB Alternative would have construction and commercial traffic use the Tactical/Commercial Gate off Route 3A.

[7] *Sketch-Level Analysis of Alternatives –Preliminary Results*, Parsons Brinckerhoff, April 2013

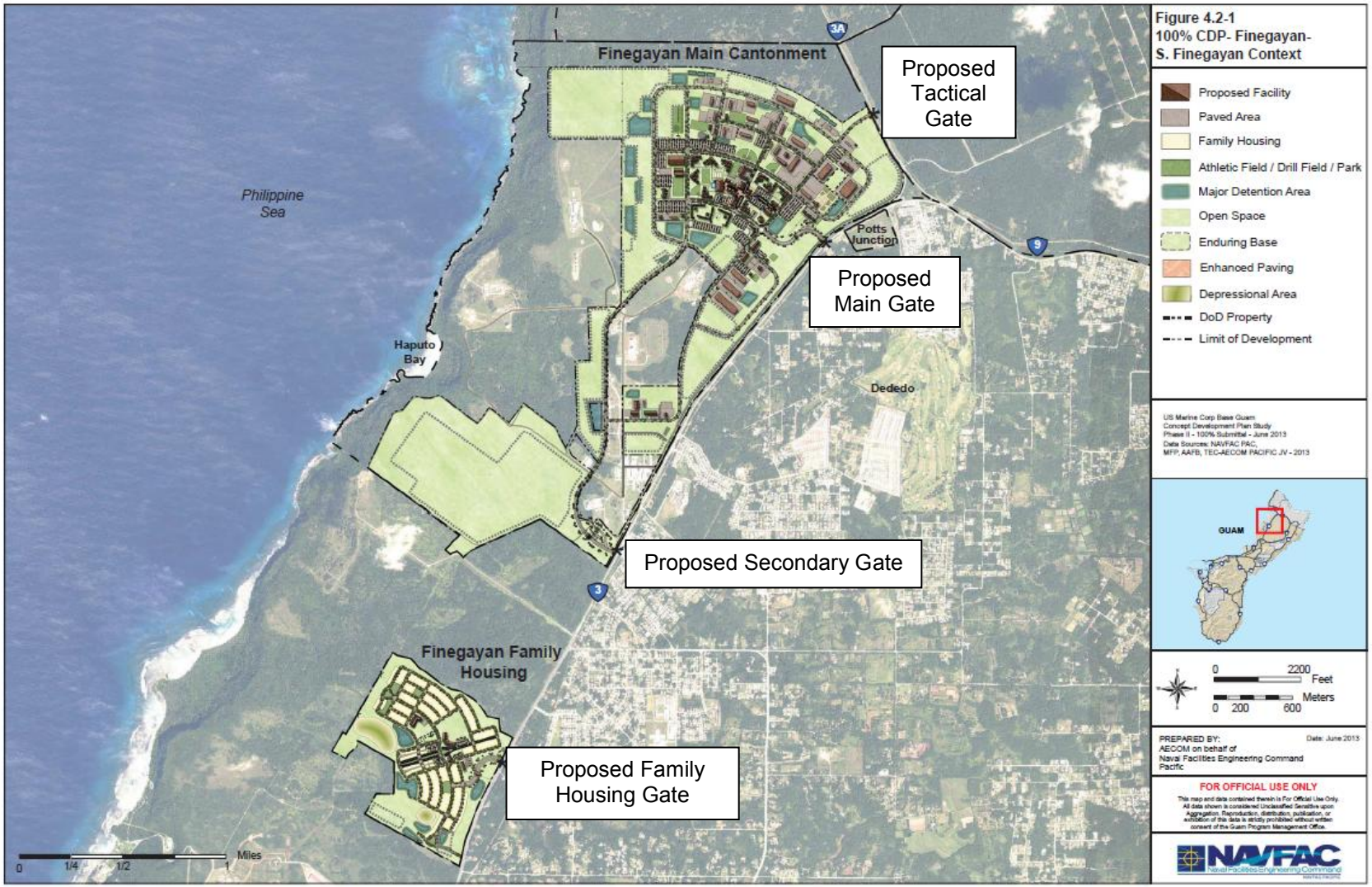

Exhibit 38: Locations of the USMC Gates for the Finegayan/South Finegayan Alternative

Source: *Final Report - Transportation Study to Support Marine Corps Relocation, Guam. Final Report. Transportation Study to Support Marine Corps Relocation, Guam*. Naval Facilities Engineering Command Pacific, June 2013

4.2 Traffic Impacts at Full Build-Out

The Finegayan/South Finegayan Alternative was not discussed in the *Traffic Operations Report*. However, traffic analysis was performed for this alternative under full build-out conditions (year 2030) for use in internal assessments of possible traffic and air quality impacts. The discussion below compares the results of the original Finegayan/South Finegayan Alternative with the revised version that includes a shifting of the commercial traffic from the Main Gate to the Tactical/Commercial Gate.

Roadway-Level Impacts

The roadway-level impacts of the Revised Finegayan/South Finegayan Alternative at full build-out are summarized in Exhibit 39. In Exhibit 39 items that would be adversely affected by the change in the use of the gates are outlined in red while those that are positively affected are outlined in green.

Compared to the earlier analysis of the Finegayan/South Finegayan Alternative, the shifting of construction and commercial traffic to the tactical/commercial gate would:

- Increase traffic northbound on Route 3 between the Main Gate and the Route 3/3A/9 intersection in the PM peak hour, and decrease traffic in the southbound direction. The increase in northbound traffic is due to commercial traffic driving past the Main Gate and continuing north on Route 3 towards Route 3A and the Tactical/Commercial Gate. The decrease in southbound traffic is due to commercial vehicles traveling westbound on Route 9 turning west onto Route 3A (towards the Tactical/Commercial Gate) instead of going south on Route 3 to the Main Gate. This would eliminate a significant impact that would have occurred in the original Finegayan/South Finegayan Alternative. Instead of the southbound direction operating 4% over-capacity it would operate 8% below capacity.
- Increase traffic on Route 3A as commercial traffic would use this to go to and from the Tactical/Commercial Gate. Although traffic would be higher than if commercial traffic used the Main Gate, the overall level of traffic on Route 3A would be quite low; only 11%-to-27% of capacity depending on the direction and time of day.

Intersection-Level Impacts

The intersection-level impacts of the Revised Finegayan/South Finegayan Alternative at full build-out are summarized in Exhibit 40. In Exhibit 40 items that would be adversely affected by the change in the use of the gates are outlined in red while those that are positively affected are outlined in green.

Compared to the earlier analysis of the Finegayan/South Finegayan Alternative, the shifting of construction and commercial traffic to the tactical/commercial gate would:

- Worsen the LOS at Intersections 1 and 3, the two existing entries into Route 3A, in the AM peak hours. These intersections will receive the commercial traffic that is re-directed from the Main Gate to the Tactical/Commercial Gate. The LOS would still be within the target level of “E” or better, so this would not result in a significant impact.
- Improve the LOS at intersections 61 and 62, the Main and Secondary Gates, respectively. Northbound commercial traffic that would have turned left into the gates against conflicting southbound traffic would instead travel north to the Tactical/Commercial Gate.

These changes in LOS would not result in any new significant impacts beyond those already identified for the original Finegayan/South Finegayan Alternative, nor would they reduce the significant impacts previously identified.

Roadway		2030 No Build				2030 Revised Finegayan/South Finegayan /NBGMS			
Route	Segment	AM Peak		PM Peak		AM Peak		PM Peak	
		NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB	NB / EB	SB / WB
Route 1	AAFB to Route 29	0.49	0.68	0.67	0.71	0.58	0.69	0.75	0.78
Route 1	Route 29 to Chalan Lujuna	0.71	**1.10**	0.86	0.89	0.76	**1.10**	0.94	0.95
Route 1	Chalan Lujuna to Route 28	0.73	**1.38**	**1.29**	0.93	0.77	**1.38**	**1.29**	0.96
Route 1	Route 28 to Route 26	0.54	**1.04**	**1.05**	0.71	0.56	**1.04**	**1.05**	0.74
Route 1	Route 26 to Route 27	0.56	**1.10**	1.00	0.60	0.58	**1.10**	1.00	0.62
Route 1	Route 27 to Route 27A *	0.32	0.63	0.54	0.41	0.32	0.64	0.55	0.42
Route 1	Route 27A to Route 3 *	0.31	0.71	0.59	0.40	0.31	0.72	0.60	0.41
Route 1	Route 3 to Route 34	0.40	**1.53**	**1.01**	0.68	0.43	**1.60**	**1.11**	0.73
Route 1	Route 34 to Route 16	0.44	**1.35**	0.97	0.71	0.47	**1.41**	**1.07**	0.76
Route 1	Route 16 to Route 14 (N)	0.49	**1.26**	**1.20**	0.89	0.51	**1.30**	**1.24**	0.92
Route 1	Route 14 (N) to Route 14A	0.62	**1.12**	**1.32**	**1.08**	0.64	**1.16**	**1.36**	**1.10**
Route 3	Route 3A/9 to Main Gate	0.50	0.75	0.57	0.52	0.86	**1.07**	0.92	0.92
Route 3	Main Gate to Secondary Gate	0.49	**1.24**	0.68	0.56	**1.17**	**1.44**	**1.10**	**1.14**
Route 3	Secondary Gate to Route 28	0.70	**1.36**	0.91	0.74	**1.41**	**1.55**	**1.29**	**1.44**
Route 3	Route 28 to S. Fin. Family Housing Gate	0.44	**1.25**	0.79	0.51	0.76	**1.36**	0.96	0.84
Route 3	S. Fin. Family Housing Gate to Route 1	0.53	**1.35**	0.81	0.54	0.60	**1.46**	0.98	0.64
Route 3A	North of Route 3/9	0.11	0.03	0.02	0.13	0.18	0.11	0.27	0.19
Route 9	Route 3/3A to ACE Gate	0.24	0.28	0.21	0.20	0.40	0.39	0.31	0.43
Route 9	ACE Gate to AAFB Main Gate (Rte 1)	0.26	0.19	0.15	0.23	0.30	0.28	0.25	0.34
Route 14	Route 1 to Gun Beach Rd.	0.26	0.64	0.64	0.63	0.27	0.65	0.65	0.63
Route 14	Gun Beach Rd. to Route 14A	0.51	0.36	0.36	0.76	0.51	0.36	0.37	0.76
Route 15	AAFB to Route 29	0.86	0.72	0.43	0.61	0.87	0.73	0.44	0.62
Route 15	Route 29 to Route 26	0.57	**1.08**	0.78	0.66	0.61	**1.08**	0.79	0.71
Route 16	Route 1 to Route 27A	0.35	0.50	0.53	0.48	0.37	0.52	0.59	0.51
Route 16	Route 27A to Route 27	0.36	0.74	0.73	0.52	0.38	0.76	0.79	0.54
Route 16	Route 27 to Route 10A	0.75	0.98	0.96	0.84	0.76	1.00	**1.01**	0.86
Route 26	Route 1 to Route 25 **	0.73	0.83	0.74	0.88	0.74	0.84	0.74	0.89
Route 27	Route 16 to Route 1	0.41	0.75	0.84	0.44	0.42	0.75	0.84	0.46
Route 27A	Route 16 to Route 1	0.72	**1.63**	**1.49**	0.96	0.73	**1.63**	**1.52**	0.97
Route 27A	Route 1 to Route 28	0.48	0.98	0.69	0.70	0.48	0.98	0.69	0.71
Route 28	Route 1 to Route 27A	0.51	0.90	0.99	0.79	0.52	0.90	1.00	0.81
Route 28	Route 27A to Chalan Balako	0.57	**1.16**	0.82	0.91	0.59	**1.17**	0.84	0.94
Route 28	Chalan Balako to Route 3	0.54	**1.48**	0.98	0.57	0.59	**1.52**	**1.01**	0.63
Route 29	Route 1 to Route 15	0.64	0.90	0.56	0.58	0.64	0.94	0.59	0.58
Route 34	North of Route 1	0.22	0.13	0.23	0.28	0.22	0.13	0.23	0.28

Notes:

* The widening of Route 27 will divert some traffic from Route 1.

** Route 26 will be widened so the volume-to-capacity ratio will decrease.

Bold indicates volume-to-capacity ratio greater than 1.00. Red indicates significant impact.

Volume-to-capacity ratio by direction is based on Florida Department of Transportation roadway capacity thresholds and shown for worse-case direction.

Impact No Longer Significant

Conditions Better with Commercial Gate on Route 3A

Conditions Worse with Commercial Gate on Route 3A

Exhibit 39: Roadway V/C for Revised Finegayan/South Finegayan Alternative, North Region, 2030

Intersection			No Build Alternative				Revised Finegayan/South Finegayan Alternative			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Number	Location	Control	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS	Delay[1,2]	LOS
1	Route 3 / Route 3A	TWSC	16.1	C	11.5	B	38.7	E	19.4	C
2	Route 3/9 / Chalan Santa Anita	TWSC	37.7	E	15.0	B	> 180.0	F	32.7	D
3	Route 9 / Route 3A	TWSC	14.7	B	13.6	B	33.5	D	25.0	D
4	Route 3 / Bullard Avenue	TWSC	19.0	C	12.4	B	22.9	C	17.7	C
5	Route 3 / Route 28	Signalized	33.7	C	23.2	C	79.8	E	25.1	C
6	Route 3 / Royal Palm Drive	TWSC	36.4	E	14.8	B	> 180.0	F	34.4	D
7	Route 1/9 / AAFB Main Gate	Signalized	10.4	B	11.6	B	11.1	B	14.5	B
8	Route 1 / Route 29	Signalized	34.2	C	23.3	C	35.5	D	24.5	C
9	Route 15 / Route 29	TWSC	**102.0**	**F**	31.2	D	**113.0**	**F**	31.6	D
10	Route 1 / Chalan Lajuna	Signalized	19.9	B	13.8	B	20.2	C	14.5	B
11	Route 15 / Chalan Lajuna	TWSC	**75.8**	**F**	**82.6**	**F**	**98.0**	**F**	**96.1**	**F**
12	Route 1 / Route 3	Signalized	**> 180.0**	**F**	63.4	E	> 180.0	F	**99.8**	**F**
13	Route 1 / Route 16	Signalized	21.9	C	45.3	D	25.8	C	70.7	E
14	Route 1 / Route 14 (Pale San Vitores)	Signalized	32.4	C	43.2	D	38.4	D	47.1	D
15	Route 16 / Route 27A	Signalized	24.0	C	18.8	B	24.1	C	19.4	B
16	Route 1 / Route 27A	Signalized	37.3	D	46.4	D	37.6	D	46.5	D
17	Route 28 / Route 27A	AWSC	11.7	B	**65.0**	**F**	12.1	B	**65.0**	**F**
18	Route 1 / Route 27	Signalized	**118.3**	**F**	50.2	D	**122.9**	**F**	55.3	E
19	Route 1 / Route 26	Signalized	34.4	C	**87.6**	**F**	37.8	D	**88.1**	**F**
20	Route 1 / Route 28	Signalized	53.5	D	37.1	D	53.8	D	38.2	D
21	Route 16 / Route 27	Signalized	**> 180.0**	**F**	**154.7**	**F**	> 180.0	F	**166.2**	**F**
61	Route 3 / USMC Main Gate	Signalized	-[3]	-[3]	-[3]	-[3]	30.1	C	18.4	B
62	Route 3 / USMC Secondary Gate	Signalized	-[3]	-[3]	-[3]	-[3]	8.2	A	5.6	A
63	Route 9 / ACE Gate	TWSC	-[3]	-[3]	-[3]	-[3]	19.9	C	13.4	B

Notes:
LOS – level of service
TWSC – two-way stop-controlled
AWSC – all-way stop-controlled
Bold indicates LOS "F" conditions. Red indicates significant impact.
[1] Average intersection delay in seconds per vehicle for signalized intersections.
[2] Average delay for worst-case movement in seconds per vehicle for unsignalized intersections.
[3] Intersection does not exist in Year 2030 No Build conditions.

Exhibit 40: Intersection LOS for Revised Finegayan/South Finegayan Alt., North Region, 2030

5. AIR QUALITY ANALYSES

Supplemental air quality impact analyses were performed for the Revised Preferred Alternative and for the Finegayan/AAFB Alternative pivoting off of the traffic analyses presented earlier in this report.

5.1 Local CO Assessment and Conformity Analysis

Maximum one hour and eight hour CO levels were predicted at receptor sites along the Revised Preferred Alternative and for the Finegayan/AAFB Alternative. The year 2030 represents the design year for the proposed scenarios. 2021 represents the peak construction year for the scenarios.

Maximum existing (2012), 2021 and 2030 one hour CO concentrations are shown in Exhibit 41. Maximum eight hour existing (2012), 2021 and 2030 CO concentrations are shown in Exhibit 42. The CO levels estimated by the model are the maximum concentrations that could be expected to occur at each air quality receptor site analyzed. This assumes simultaneous occurrence of a number of worst case conditions: peak hour traffic conditions, conservative vehicular operating conditions, low wind speed, low atmospheric temperature, neutral atmospheric conditions, and maximizing wind direction. The remaining alternative, the Revised Finegayan/South Finegayan Alternative, is expected to show similar or slightly lower CO levels since it has similar traffic to the Revised Preferred Alternative.

Site #	Site	2012 Existing		No Build				Finegayan/AAFB Alternative				Revised Preferred Alternative			
				2021		2030		2021		2030		2021		2030	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Route 3/9/Chalan Santa Anita	2.3	2.2	2.2	2.1	2.2	2.1	2.3	2.3	2.4	2.3	2.4	2.3	2.3	2.3
2	Route 1 / Route 3	4.4	4.0	3.6	3.2	3.4	3.1	3.6	3.3	3.4	3.2				
3	Route 16 / Route 27	4.0	3.7	2.9	3.0	3.0	3.0	2.9	3.0	3.0	3.0				

Notes: Concentrations = modeled results + 1-hour CO background.
1-hour CO background = 2.0 ppm; 1-hour CO standard = 35 ppm.
AM = morning; PM = evening; ppm = parts per million.

Exhibit 41: Predicted Worst Case One-Hour Existing (2012), 2021 and 2030 CO Concentrations (ppm)

Site #	Site	2012 Existing	No Build		Finegayan/AAFB Alternative		Revised Preferred Alternative	
			2021	2030	2021	2030	2021	2030
1	Route 3/9/Chalan Santa Anita	2.2	2.1	2.1	2.2	2.3	2.3	2.2
2	Route 1 / Route 3	3.7	3.1	3.0	3.1	3.0		
3	Route 16 / Route 27	3.4	2.7	2.7	2.7	2.7		

Notes: Concentrations = (modeled results x persistence factor [0.7]) + 8-hour CO background.
8-hour CO background = 2.0 ppm; 8-hour CO standard = 9 ppm.
Abbreviations: ppm = parts per million.

Exhibit 42: Predicted Worst Case Eight Hour Existing (2012), 2021 and 2030 CO Concentrations (ppm)

Based on the eight-hour values presented in Exhibit 42, the Finegayan/AAFB Alternative is predicted to slightly increase CO levels at one location and have no meaningful affect at two locations in 2021 (peak construction year), when compared to the No Build Scenario. In 2021, the Revised Preferred Alternative is predicted to slightly increase CO levels at one location.

In 2030, the Finegayan/AAFB Alternative is predicted to slightly increase CO levels at one location and have no meaningful affect at two locations, when compared to the No-Build Scenario. In 2030, the Revised Preferred Alternative is predicted to slightly increase CO levels at one location.

At the locations selected for detailed analysis, there is a potential for CO levels to be higher with the Build Scenarios as compared to the No-Build Scenario. This is because only those intersections demonstrating a reduced LOS or increased volume under the Build Scenarios were analyzed to ensure that the project does not cause or exacerbate a violation of an applicable standard. No violations of the NAAQS are predicted for either of the future analysis years. The CAL3QHC Version 2 input and output data for each site is contained in Appendix A (electronic).

In summary, a microscale CO analysis was conducted on a series of scenarios to determine if any have the potential to cause or exacerbate a violation of the applicable CO standards. The result of this analysis, which was conducted following USEPA's Guideline for Modeling Carbon Monoxide from Roadway Intersections (USEPA, 1992a), is that the scenarios are not predicted to cause or exacerbate a violation of the NAAQS for CO.

5.2 MSAT Assessment

The screening-level MSAT dispersion modeling analysis was conducted at sensitive (actual) and sidewalk receptors. The results of this analysis are shown in Exhibit 43 and Exhibit 44 for the Revised Preferred Alternative and in Exhibit 45 and Exhibit 46 for the Finegayan/AAFB Alternative. The remaining scenario, the Revised Finegayan/South Finegayan Alternative, is expected to show similar or slightly lower MSAT levels since it has similar traffic to the Revise Preferred Alternative.

Based on these results, the following conclusions can be made:

- Maximum estimated increases in cancer risk at any of the receptors due to the project are all less than the threshold criteria of 10 in a million. Therefore, the project impacts of all carcinogenic MSATs are considered acceptable;
- Applying a more conservative exposure duration of 70 years, rather than 30 years, would not cause the maximum estimated increases in cancer risk at any of the receptors to increase over the threshold of 10 in a million; and
- Maximum estimated increases in the total chronic hazard index at any of the receptors due to the project are all less than the threshold limit of 1. Therefore, the project impacts of all non-carcinogenic MSATs are considered acceptable.
- In addition, based on proposed USEPA regulations to reduce air toxics, future cancer and non-cancer risks under the No Build and Build scenarios are less than existing risks in most cases.

Receptor Type	Analysis Site	30-Year Estimated Cancer Risk Increase or Decrease ($x10^{-6}$)		70-Year Estimated Cancer Risk Increase or Decrease ($x10^{-6}$)		Cancer Risk Threshold
		2021	2030	2021	2030	
Sensitive Receptors	Route 3/9/Chalan Santa Anita	0.136	0.085	0.316	0.199	10
Sidewalk Receptors	Route 3/9/Chalan Santa Anita	0.064	0.048	0.150	0.112	10

Exhibit 43: Estimated Project Related Impacts Compared to Cancer Risk Threshold, Revised Preferred Alternative

Receptor Type	Analysis Site	30-Year Estimated Non-Cancer Chronic Hazard Index Increase or Decrease		USEPA Target Hazard Index
		2021	2030	
Sensitive Receptors	Route 3/9/Chalan Santa Anita	0.034	0.013	1
Sidewalk Receptors	Route 3/9/Chalan Santa Anita	0.017	0.008	1

Exhibit 44: Estimated Project Related Impacts Compared to Hazard Index, Revised Preferred Alternative

Receptor Type	Analysis Site	30-Year Estimated Cancer Risk Increase or Decrease ($x10^{-6}$)		70-Year Estimated Cancer Risk Increase or Decrease ($x10^{-6}$)		Cancer Risk Threshold
		2021	2030	2021	2030	
Sensitive Receptors	Route 3/9/Chalan Santa Anita	0.155	0.142	0.362	0.332	10
	Route 1 / Route 3	0.033	0.013	0.077	0.029	
	Route 16 / Route 27	0.040	0.003	0.094	0.007	
Sidewalk Receptors	Route 3/9/Chalan Santa Anita	0.076	0.073	0.178	0.170	10
	Route 1 / Route 3	0.046	0.029	0.107	0.069	
	Route 16 / Route 27	0.033	0.009	0.077	0.020	

Exhibit 45: Estimated Project Related Impacts Compared to Cancer Risk Threshold, Finegayan/AAFB Alternative

Receptor Type	Analysis Site	30-Year Estimated Non-Cancer Chronic Hazard Index Increase or Decrease		USEPA Target Hazard Index
		2021	2030	
Sensitive Receptors	Route 3/9/Chalan Santa Anita	0.038	0.022	1
	Route 1 / Route 3	0.014	0.003	
	Route 16 / Route 27	0.036	0.007	
Sidewalk Receptors	Route 3/9/Chalan Santa Anita	0.019	0.011	1
	Route 1 / Route 3	0.027	0.008	
	Route 16 / Route 27	0.031	0.007	

Exhibit 46: Estimated Project Related Impacts Compared to Hazard Index, Finegayan/AAFB Alternative

5.3 Conclusions Regarding Air Quality

The effect of the Guam and CNMI Military Relocation (2012 Roadmap Adjustments) project on off-base roads is not predicted to cause or exacerbate a violation of the NAAQS. The potential cancer and chronic non-cancer health risks associated with increased mobile source air toxics associated with roadway traffic and construction of the roadways are predicted to be below the applicable health risk guideline values.

Guam and CNMI Military Relocation
(2012 Roadmap Adjustments)

TRAFFIC OPERATIONS REPORT
SUPPLEMENTAL ANALYSES

Appendix A

Synchro Analyses for
Revised Preferred Alternative

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	577	377	806	10	10	51
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	721	471	1008	12	12	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1290				
pX, platoon unblocked						
vC, conflicting volume	1020				2928	1014
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1020				2928	1014
tC, single (s)	4.2				7.2	7.0
tC, 2 stage (s)						
tF (s)	2.3				4.2	4.0
p0 queue free %	0				0	69
cM capacity (veh/h)	643				0	207

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	721	471	1020	76
Volume Left	721	0	0	12
Volume Right	0	0	12	64
cSH	643	1700	1700	0
Volume to Capacity	1.12	0.28	0.60	Err
Queue Length 95th (ft)	552	0	0	Err
Control Delay (s)	97.9	0.0	0.0	Err
Lane LOS	F			F
Approach Delay (s)	59.2		0.0	Err
Approach LOS				F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	347	50	10	526	280	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	434	62	12	658	350	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			496		1148	465
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			496		1148	465
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		0	90
cM capacity (veh/h)			1073		217	597

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	496	670	412
Volume Left	0	12	350
Volume Right	62	0	62
cSH	1700	1073	241
Volume to Capacity	0.29	0.01	1.71
Queue Length 95th (ft)	0	1	680
Control Delay (s)	0.0	0.3	374.3
Lane LOS		A	F
Approach Delay (s)	0.0	0.3	374.3
Approach LOS			F

Intersection Summary			
Average Delay	97.9		
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	377	536	354	133	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	25	471	670	442	166	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1112				1412	891
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1112				1412	891
tC, single (s)	4.1				6.9	6.7
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.8
p0 queue free %	96				0	95
cM capacity (veh/h)	631				113	276

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	496	1112	179
Volume Left	25	0	166
Volume Right	0	442	12
cSH	631	1700	118
Volume to Capacity	0.04	0.65	1.52
Queue Length 95th (ft)	3	0	322
Control Delay (s)	1.1	0.0	339.0
Lane LOS	A		F
Approach Delay (s)	1.1	0.0	339.0
Approach LOS			F

Intersection Summary			
Average Delay	34.2		
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	900	140	1070	330	120	1070
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3394		1759	1495	1719	3438
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3394		1759	1495	1719	3438
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1034	161	1230	379	138	1230
RTOR Reduction (vph)	11	0	0	101	0	0
Lane Group Flow (vph)	1184	0	1230	278	138	1230
Heavy Vehicles (%)	2%	2%	8%	8%	5%	5%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	44.3		46.1	46.1	11.4	63.0
Effective Green, g (s)	44.3		46.1	46.1	11.4	63.0
Actuated g/C Ratio	0.37		0.39	0.39	0.10	0.53
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1266		683	580	165	1823
v/s Ratio Prot	c0.35		c0.70		0.08	c0.36
v/s Ratio Perm				0.19		
v/c Ratio	0.94		1.80	0.48	0.84	0.67
Uniform Delay, d1	35.9		36.3	27.3	52.8	20.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	12.9		366.2	2.8	29.7	2.0
Delay (s)	48.8		402.6	30.2	82.5	22.4
Level of Service	D		F	C	F	C
Approach Delay (s)	48.8		314.9			28.5
Approach LOS	D		F			C

Intersection Summary			
HCM Average Control Delay	144.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	118.8	Sum of lost time (s)	17.5
Intersection Capacity Utilization	108.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	900	140	1070	330	120	1070
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	8%	8%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1195	0	1230	379	138	1230
v/c Ratio	0.94		1.80	0.56	0.84	0.67
Control Delay	49.6		392.7	19.2	90.7	23.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	49.6		392.7	19.2	90.7	23.0
Queue Length 50th (ft)	445		~1439	126	107	357
Queue Length 95th (ft)	#524		#1624	211	#209	412
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1311		683	681	167	1824
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.91		1.80	0.56	0.83	0.67

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	900	1070	330	120	1070
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	51.0	52.0	52.0	17.0	69.0
Total Split (%)	42.5%	43.3%	43.3%	14.2%	57.5%
Maximum Green (s)	45.5	46.0	46.0	11.5	63.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 118.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	20	10	1250	2030	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	23	12	1453	2360	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3122	1192	2384			
vC1, stage 1 conf vol	2372					
vC2, stage 2 conf vol	750					
vCu, unblocked vol	3122	1192	2384			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	79	87	94			
cM capacity (veh/h)	54	180	200			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	35	12	727	727	1574	810
Volume Left	12	12	0	0	0	0
Volume Right	23	0	0	0	0	23
cSH	101	200	1700	1700	1700	1700
Volume to Capacity	0.34	0.06	0.43	0.43	0.93	0.48
Queue Length 95th (ft)	34	5	0	0	0	0
Control Delay (s)	58.1	24.1	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	58.1	0.2			0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	90	540	610	170	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1759	1495	1570	1652
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1759	1495	1570	1652
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	100	600	678	189	311
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	156	100	600	678	189	311
Heavy Vehicles (%)	2%	2%	8%	8%	15%	15%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	8.2	85.2	46.9	85.2	14.6	67.0
Effective Green, g (s)	8.2	85.2	46.9	85.2	14.6	67.0
Actuated g/C Ratio	0.10	1.00	0.55	1.00	0.17	0.79
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	330	1583	968	1495	269	1299
v/s Ratio Prot	0.05		c0.34		c0.12	0.19
v/s Ratio Perm		0.06		c0.45		
v/c Ratio	0.47	0.06	0.62	0.45	0.70	0.24
Uniform Delay, d1	36.5	0.0	13.1	0.0	33.3	2.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	3.0	1.0	6.6	0.4
Delay (s)	36.8	0.1	16.0	1.0	39.9	2.8
Level of Service	D	A	B	A	D	A
Approach Delay (s)	22.5		8.1			16.8
Approach LOS	C		A			B

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	85.2	Sum of lost time (s)	11.5
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	90	540	610	170	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	8%	8%	15%	15%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	100	600	678	189	311
v/c Ratio	0.47	0.06	0.62	0.45	0.71	0.24
Control Delay	41.2	0.1	18.3	1.0	47.2	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	0.1	18.3	1.0	47.2	3.1
Queue Length 50th (ft)	41	0	204	0	96	33
Queue Length 95th (ft)	71	0	395	0	158	63
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	524	1583	968	1495	470	1299
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.06	0.62	0.45	0.40	0.24

Intersection Summary

Area Type: Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	90	540	610	170	280
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	17.0	0.0	42.0	0.0	31.0	73.0
Total Split (%)	18.9%	0.0%	46.7%	0.0%	34.4%	81.1%
Maximum Green (s)	13.0		36.0		25.5	67.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 85.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	100	70	980	270	130	860	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.95		1.00	0.97		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1640		1671	3234		1671	3310	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1640		1671	3234		1671	3310	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	108	75	1054	290	140	925	65
RTOR Reduction (vph)	0	51	0	0	14	0	0	19	0	0	4	0
Lane Group Flow (vph)	0	36	0	372	345	0	75	1325	0	140	986	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	8%	8%	8%	8%	8%	8%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		29.5	29.5		8.1	49.3		13.1	54.3	
Effective Green, g (s)		7.1		29.5	29.5		8.1	49.3		13.1	54.3	
Actuated g/C Ratio		0.06		0.25	0.25		0.07	0.41		0.11	0.45	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		413	403		113	1329		182	1498	
v/s Ratio Prot		c0.02		c0.22	0.21		0.04	c0.41		c0.08	c0.30	
v/s Ratio Perm												
v/c Ratio		0.36		0.90	0.86		0.66	1.00		0.77	0.66	
Uniform Delay, d1		54.3		43.8	43.2		54.6	35.3		52.0	25.6	
Progression Factor		1.00		1.00	1.00		1.35	0.52		1.00	1.00	
Incremental Delay, d2		0.8		21.8	15.7		6.7	18.6		16.0	2.3	
Delay (s)		55.1		65.6	59.0		80.4	36.9		68.0	27.9	
Level of Service		E		E	E		F	D		E	C	
Approach Delay (s)		55.1			62.3			39.2			32.9	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM Average Control Delay	42.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	100	70	980	270	130	860	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	8%	8%	8%	8%	8%	8%
Shared Lane Traffic (%)				37%								
Lane Group Flow (vph)	0	87	0	372	359	0	75	1344	0	140	990	0
v/c Ratio		0.58		0.90	0.86		0.59	1.00		0.77	0.65	
Control Delay		39.4		68.7	61.2		83.5	40.6		78.1	29.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		68.7	61.2		83.5	40.6		78.1	29.5	
Queue Length 50th (ft)		25		285	260		62	~614		105	326	
Queue Length 95th (ft)		77		#450	#413		m82	#759		#201	434	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	453		154	1347		201	1528	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.82	0.79		0.49	1.00		0.70	0.65	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

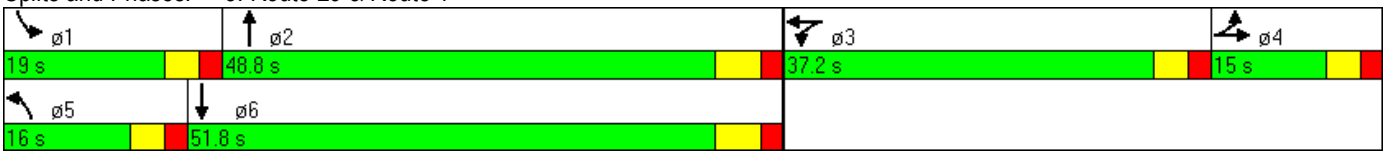
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	980	130	860
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	150	20	30	40	40	10	40	340	20	10	290	200
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	165	22	33	44	44	11	44	374	22	11	319	220
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	956	934	429	967	1033	385	538			396		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	956	934	429	967	1033	385	538			396		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	13	91	95	78	80	98	96			99		
cM capacity (veh/h)	190	252	626	198	220	663	1025			1158		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	220	99	440	549
Volume Left	165	44	44	11
Volume Right	33	11	22	220
cSH	218	226	1025	1158
Volume to Capacity	1.01	0.44	0.04	0.01
Queue Length 95th (ft)	229	52	3	1
Control Delay (s)	109.2	32.8	1.3	0.3
Lane LOS	F	D	A	A
Approach Delay (s)	109.2	32.8	1.3	0.3
Approach LOS	F	D		

Intersection Summary			
Average Delay	21.4		
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	290	290	1080	150	220	1450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1583	1417	3408		1703	3406
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1583	1417	3408		1703	3406
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	315	1174	163	239	1576
RTOR Reduction (vph)	0	158	9	0	0	0
Lane Group Flow (vph)	315	157	1328	0	239	1576
Heavy Vehicles (%)	14%	14%	4%	4%	6%	6%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	27.3	27.3	56.9		19.8	81.7
Effective Green, g (s)	27.3	27.3	56.9		19.8	81.7
Actuated g/C Ratio	0.23	0.23	0.47		0.17	0.68
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	360	322	1616		281	2319
v/s Ratio Prot	c0.20		c0.39		c0.14	0.46
v/s Ratio Perm		0.11				
v/c Ratio	0.88	0.49	0.82		0.85	0.68
Uniform Delay, d1	44.7	40.3	27.2		48.7	11.4
Progression Factor	1.00	1.00	0.43		1.08	0.95
Incremental Delay, d2	19.8	0.4	4.4		16.9	1.3
Delay (s)	64.5	40.7	16.0		69.7	12.0
Level of Service	E	D	B		E	B
Approach Delay (s)	52.6		16.0			19.6
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	290	290	1080	150	220	1450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	14%	14%	4%	4%	6%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	315	1337	0	239	1576
v/c Ratio	0.88	0.65	0.82		0.85	0.68
Control Delay	68.7	20.8	16.2		75.2	13.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	68.7	20.8	16.2		75.2	13.0
Queue Length 50th (ft)	234	73	174		196	288
Queue Length 95th (ft)	#341	170	m562		m#350	327
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	422	528	1624		282	2319
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.75	0.60	0.82		0.85	0.68

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	290	290	1080	220	1450
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	120	200	230	170	280	190
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	164	274	315	233	384	260
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1377	514	644			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1377	514	644			
tC, single (s)	6.6	6.4	4.2			
tC, 2 stage (s)						
tF (s)	3.7	3.5	2.3			
p0 queue free %	0	47	65			
cM capacity (veh/h)	93	521	891			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	438	548	644
Volume Left	164	315	0
Volume Right	274	0	260
cSH	191	891	1700
Volume to Capacity	2.29	0.35	0.38
Queue Length 95th (ft)	888	40	0
Control Delay (s)	637.2	8.4	0.0
Lane LOS	F	A	
Approach Delay (s)	637.2	8.4	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	174.2		
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	710	440	0	1820	310	300	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1719	4940		4926		1752	2722
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1719	4940		4926		1752	2722
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	772	478	0	1978	337	326	2065
RTOR Reduction (vph)	0	0	0	20	0	0	456
Lane Group Flow (vph)	772	478	0	2295	0	326	1609
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	5%	5%	0%	3%	3%	3%	3%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	372	2964		1683		526	817
v/s Ratio Prot	c0.45	0.10		c0.47		0.19	
v/s Ratio Perm							c0.59
v/c Ratio	2.08	0.16		1.36		0.62	1.97
Uniform Delay, d1	47.0	10.6		39.5		36.1	42.0
Progression Factor	0.42	0.75		0.67		1.00	1.00
Incremental Delay, d2	487.1	0.0		167.0		1.5	440.8
Delay (s)	506.8	8.1		193.3		37.7	482.8
Level of Service	F	A		F		D	F
Approach Delay (s)		316.1		193.3		422.1	
Approach LOS		F		F		F	

Intersection Summary			
HCM Average Control Delay	310.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	118.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	710	440	0	1820	310	300	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	772	478	0	2315	0	326	2065
v/c Ratio	2.08	0.16		1.36		0.62	1.62
Control Delay	506.6	8.1		191.0		42.2	306.1
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	506.6	8.1		191.0		42.2	306.1
Queue Length 50th (ft)	~969	50		~858		217	~1105
Queue Length 95th (ft)	m#971	m48		#928		318	#1256
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	372	2964		1702		526	1272
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	2.08	0.16		1.36		0.62	1.62

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	710	440	1820	300	1900	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	890	280	570	2700	640	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1787	4808		1736	4988	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1787	4808		1736	4988	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	947	298	606	2872	681	362
RTOR Reduction (vph)	0	49	0	0	0	0	283
Lane Group Flow (vph)	11	1196	0	606	2872	681	79
Heavy Vehicles (%)	1%	4%	4%	4%	4%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	23.7		53.0	75.7	26.3	26.3
Effective Green, g (s)	1.0	23.7		53.0	75.7	26.3	26.3
Actuated g/C Ratio	0.01	0.20		0.44	0.63	0.22	0.22
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	950		767	3147	745	344
v/s Ratio Prot	0.01	c0.25		0.35	c0.58	c0.20	
v/s Ratio Perm							0.05
v/c Ratio	0.73	1.26		0.79	0.91	0.91	0.23
Uniform Delay, d1	59.4	48.1		28.7	19.3	45.7	38.5
Progression Factor	0.95	0.80		0.78	0.71	0.63	0.54
Incremental Delay, d2	87.7	124.5		0.5	0.5	13.4	0.1
Delay (s)	144.2	163.2		22.9	14.3	42.0	20.8
Level of Service	F	F		C	B	D	C
Approach Delay (s)		163.0			15.8	34.6	
Approach LOS		F			B	C	

Intersection Summary			
HCM Average Control Delay	51.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	890	280	570	2700	640	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	4%	4%	4%	4%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1245	0	606	2872	681	362
v/c Ratio	0.15	1.08		0.85	0.87	0.91	0.58
Control Delay	57.0	83.9		27.5	12.9	44.5	5.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	57.0	83.9		27.5	12.9	44.5	5.5
Queue Length 50th (ft)	7	~376		334	335	277	30
Queue Length 95th (ft)	m25	m#359		m154	m228	#348	5
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	74	1155		709	3311	765	633
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	1.08		0.85	0.87	0.89	0.57

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	890	570	2700	640	340
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	300	100	160	880	10	2460	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1719	4940	1787	4800	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1719	4940	1787	4800	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	333	111	178	978	11	2733	911
RTOR Reduction (vph)	0	100	0	0	0	47	0
Lane Group Flow (vph)	333	11	178	978	11	3597	0
Heavy Vehicles (%)	2%	2%	5%	5%	1%	4%	4%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	15.8	91.2	0.8	76.2	
Effective Green, g (s)	12.0	12.0	15.8	91.2	0.8	76.2	
Actuated g/C Ratio	0.10	0.10	0.13	0.76	0.01	0.64	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	226	3754	12	3048	
v/s Ratio Prot	c0.10		c0.10	0.20	0.01	c0.75	
v/s Ratio Perm		0.01					
v/c Ratio	0.97	0.07	0.79	0.26	0.92	1.18	
Uniform Delay, d1	53.8	48.9	50.5	4.3	59.6	21.9	
Progression Factor	1.00	1.00	0.99	1.23	0.97	0.59	
Incremental Delay, d2	40.5	0.1	14.8	0.2	143.6	83.0	
Delay (s)	94.3	49.0	64.9	5.5	201.3	95.8	
Level of Service	F	D	E	A	F	F	
Approach Delay (s)	83.0			14.6		96.1	
Approach LOS	F			B		F	

Intersection Summary			
HCM Average Control Delay	77.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	300	100	160	880	10	2460	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	5%	5%	1%	4%	4%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	333	111	178	978	11	3644	0
v/c Ratio	0.97	0.43	0.79	0.25	0.18	1.18	
Control Delay	95.8	14.7	72.6	4.4	58.4	98.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	95.8	14.7	72.6	4.4	58.4	98.6	
Queue Length 50th (ft)	134	0	143	64	8	~1233	
Queue Length 95th (ft)	#228	55	215	110	m10	#495	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	258	272	3919	60	3093	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.97	0.43	0.65	0.25	0.18	1.18	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	300	100	160	880	10	2460
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	510	380	720	190	100	910
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4878		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4878		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	607	452	857	226	119	1083
RTOR Reduction (vph)	0	170	33	0	0	0
Lane Group Flow (vph)	607	282	1050	0	119	1083
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	50.2	50.2	42.8		11.0	58.8
Effective Green, g (s)	50.2	50.2	42.8		11.0	58.8
Actuated g/C Ratio	0.42	0.42	0.36		0.09	0.49
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	740	662	1740		161	2468
v/s Ratio Prot	c0.34	0.18	c0.22		c0.07	0.22
v/s Ratio Perm						
v/c Ratio	0.82	0.43	0.60		0.74	0.44
Uniform Delay, d1	30.9	24.7	31.6		53.1	19.9
Progression Factor	0.70	0.29	0.56		0.71	0.47
Incremental Delay, d2	6.6	0.2	1.2		10.2	0.4
Delay (s)	28.3	7.3	19.1		47.9	9.7
Level of Service	C	A	B		D	A
Approach Delay (s)	19.3		19.1			13.4
Approach LOS	B		B			B

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	510	380	720	190	100	910
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	607	452	1083	0	119	1083
v/c Ratio	0.82	0.54	0.61		0.74	0.44
Control Delay	30.4	4.6	19.4		58.4	10.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	30.4	4.6	19.4		58.4	10.4
Queue Length 50th (ft)	363	18	265		91	115
Queue Length 95th (ft)	346	15	320		m106	m174
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	991	1772		161	2466
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.63	0.46	0.61		0.74	0.44

Intersection Summary

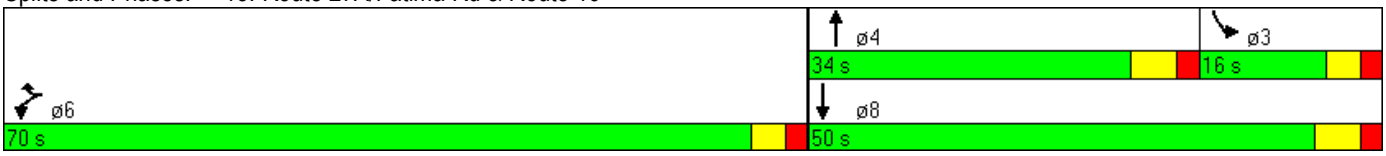
Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	510	380	720	100	910
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	520	100	200	1190	10	130	130	100	30	240	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	4867		1752	5030		1770	1741		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1736	4867		1752	5030		1770	1741		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	187	571	110	220	1308	11	143	143	110	33	264	462
RTOR Reduction (vph)	0	20	0	0	1	0	0	24	0	0	0	317
Lane Group Flow (vph)	187	661	0	220	1318	0	143	229	0	33	264	145
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	15.1	40.8		18.2	43.9		18.6	18.6		21.4	21.4	21.4
Effective Green, g (s)	15.1	40.8		18.2	43.9		18.6	18.6		21.4	21.4	21.4
Actuated g/C Ratio	0.13	0.34		0.15	0.37		0.16	0.16		0.18	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	218	1655		266	1840		274	270		316	332	282
v/s Ratio Prot	0.11	0.14		c0.13	c0.26		0.08	c0.13		0.02	c0.14	
v/s Ratio Perm												0.09
v/c Ratio	0.86	0.40		0.83	0.72		0.52	0.85		0.10	0.80	0.51
Uniform Delay, d1	51.4	30.2		49.4	32.7		46.6	49.3		41.3	47.2	44.6
Progression Factor	1.18	0.33		1.45	0.67		1.41	1.45		1.00	1.00	1.00
Incremental Delay, d2	25.1	0.7		14.3	1.9		0.7	17.6		0.1	11.6	0.7
Delay (s)	86.0	10.6		85.8	23.7		66.2	88.9		41.3	58.8	45.3
Level of Service	F	B		F	C		E	F		D	E	D
Approach Delay (s)		26.8			32.6			80.7			49.8	
Approach LOS		C			C			F			D	

Intersection Summary			
HCM Average Control Delay	40.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	520	100	200	1190	10	130	130	100	30	240	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	681	0	220	1319	0	143	253	0	33	264	462
v/c Ratio	0.86	0.41		0.83	0.72		0.52	0.86		0.10	0.80	0.77
Control Delay	92.8	10.9		90.9	25.4		70.7	85.6		39.4	64.0	17.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	92.8	10.9		90.9	25.4		70.7	85.6		39.4	64.0	17.8
Queue Length 50th (ft)	124	87		183	146		116	189		22	198	51
Queue Length 95th (ft)	#263	116		m#271	#364		m177	m#292		48	275	169
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	231	1676		307	1843		310	328		413	435	665
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.81	0.41		0.72	0.72		0.46	0.77		0.08	0.61	0.69

Intersection Summary

Area Type: Other

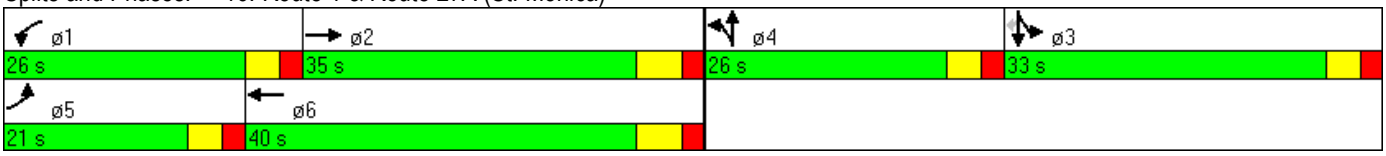
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	170	520	200	1190	130	130	30	240	420
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	40	150	20	30	20	60	300	20	20	220	120
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	102	45	170	23	34	23	68	341	23	23	250	136

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	102	216	80	68	364	273	136
Volume Left (vph)	102	0	23	68	0	23	0
Volume Right (vph)	0	170	23	0	23	0	136
Hadj (s)	0.53	-0.52	-0.08	0.57	0.02	0.13	-0.61
Departure Headway (s)	7.5	6.5	7.3	7.0	6.5	6.7	5.9
Degree Utilization, x	0.21	0.39	0.16	0.13	0.65	0.50	0.22
Capacity (veh/h)	449	524	437	490	533	521	580
Control Delay (s)	11.3	12.3	11.7	9.9	19.7	15.0	9.4
Approach Delay (s)	12.0		11.7	18.2		13.1	
Approach LOS	B		B	C		B	

Intersection Summary				
Delay	14.5			
HCM Level of Service	B			
Intersection Capacity Utilization	58.3%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	640	70	710	1470	30	90	130	680	40	240	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1736	4907		1752	5021		1770	1863	2745		1850	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1736	4907		1752	5021		1770	1863	2745		1850	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	696	76	772	1598	33	98	141	739	43	261	54
RTOR Reduction (vph)	0	11	0	0	1	0	0	0	690	0	0	16
Lane Group Flow (vph)	87	761	0	772	1630	0	98	141	49	0	304	38
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	9.7	26.0		45.0	61.3		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	9.7	26.0		45.0	61.3		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.08	0.22		0.38	0.51		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	140	1063		657	2565		118	124	183		293	247
v/s Ratio Prot	0.05	c0.16		c0.44	0.32		0.06	c0.08			c0.16	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.62	0.72		1.18	0.64		0.83	1.14	0.27		1.04	0.15
Uniform Delay, d1	53.4	43.6		37.5	21.3		55.3	56.0	53.2		50.5	43.6
Progression Factor	1.40	0.70		0.97	0.58		0.93	0.94	2.68		1.00	1.00
Incremental Delay, d2	5.7	3.9		91.6	1.0		23.2	103.6	0.2		62.7	0.1
Delay (s)	80.5	34.4		127.9	13.4		74.9	156.3	142.9		113.2	43.7
Level of Service	F	C		F	B		E	F	F		F	D
Approach Delay (s)		39.1			50.2			138.0			102.7	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM Average Control Delay	70.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	640	70	710	1470	30	90	130	680	40	240	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	772	0	772	1631	0	98	141	739	0	304	54
v/c Ratio	0.62	0.72		1.18	0.64		0.83	1.14	0.85		1.04	0.21
Control Delay	92.3	34.0		125.6	13.6		83.8	151.2	15.5		112.0	33.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	92.3	34.0		125.6	13.6		83.8	151.2	15.5		112.0	33.3
Queue Length 50th (ft)	71	198		~710	212		78	~128	69		~254	24
Queue Length 95th (ft)	m122	253		#950	270		m#120	m#212	m97		#433	62
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	171	1074		657	2567		118	124	873		293	263
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.51	0.72		1.18	0.64		0.83	1.14	0.85		1.04	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

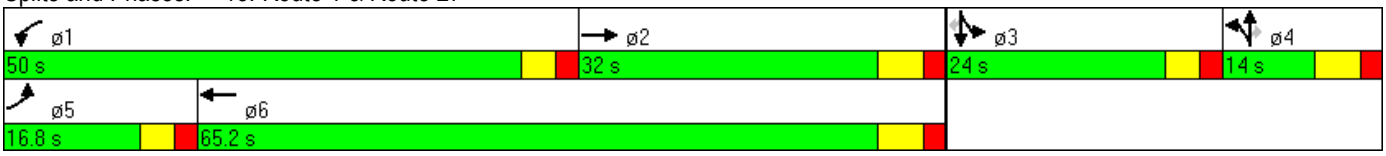
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	80	640	710	1470	90	130	680	240	50
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1040	280	500	1800	460	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4876		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4876		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1106	298	532	1915	489	362
RTOR Reduction (vph)	0	41	0	0	0	0	302
Lane Group Flow (vph)	11	1363	0	532	1915	489	60
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	31.2		51.0	82.4	19.8	19.8
Effective Green, g (s)	0.8	31.2		51.0	82.4	19.8	19.8
Actuated g/C Ratio	0.01	0.26		0.42	0.69	0.17	0.17
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1268		745	3458	561	259
v/s Ratio Prot	0.01	c0.28		c0.30	0.38	c0.14	
v/s Ratio Perm							0.04
v/c Ratio	0.92	1.07		0.71	0.55	0.87	0.23
Uniform Delay, d1	59.6	44.4		28.5	9.5	48.9	43.5
Progression Factor	1.35	0.58		0.58	0.26	1.00	1.00
Incremental Delay, d2	156.3	42.9		0.8	0.2	13.5	0.2
Delay (s)	237.0	68.8		17.4	2.6	62.4	43.7
Level of Service	F	E		B	A	E	D
Approach Delay (s)		70.1			5.8	54.4	
Approach LOS		E			A	D	

Intersection Summary			
HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1040	280	500	1800	460	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1404	0	532	1915	489	362
v/c Ratio	0.18	0.96		0.78	0.53	0.87	0.65
Control Delay	80.9	35.1		21.7	2.3	65.5	10.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	80.9	35.1		21.7	2.3	65.5	10.3
Queue Length 50th (ft)	9	183		355	54	190	0
Queue Length 95th (ft)	m11	m#462		m360	m60	#267	88
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1468		686	3624	595	573
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.18	0.96		0.78	0.53	0.82	0.63

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1040	500	1800	460	340
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	1010	0	20	1900	110	50	50	10	180	30	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1562	4489		1577	4495			1636	1425		1577	1398
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1562	4489		1577	4495			1636	1425		1577	1398
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	284	1063	0	21	2000	116	53	53	11	189	32	379
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	177
Lane Group Flow (vph)	284	1063	0	21	2111	0	0	106	1	0	221	202
Heavy Vehicles (%)	4%	4%	3%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	195	2641		37	2188			131	114		210	186
v/s Ratio Prot	c0.18	0.24		0.01	c0.47			c0.06			0.14	
v/s Ratio Perm									0.00			c0.14
v/c Ratio	1.46	0.40		0.57	0.96			0.81	0.01		1.05	1.09
Uniform Delay, d1	52.5	13.3		58.0	29.8			54.3	50.8		52.0	52.0
Progression Factor	1.20	0.31		1.11	0.78			1.00	1.00		1.00	1.00
Incremental Delay, d2	218.0	0.2		9.1	10.7			28.1	0.0		76.6	91.1
Delay (s)	281.1	4.3		73.4	34.0			82.4	50.8		128.6	143.1
Level of Service	F	A		E	C			F	D		F	F
Approach Delay (s)		62.7			34.4			79.4			137.8	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM Average Control Delay	59.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	270	1010	0	20	1900	110	50	50	10	180	30	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	3%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	284	1063	0	21	2116	0	0	106	11	0	221	379
v/c Ratio	1.46	0.39		0.24	0.96			0.81	0.09		1.05	1.04
Control Delay	260.5	4.1		65.6	34.7			95.0	26.6		126.7	82.9
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	260.5	4.1		65.6	34.7			95.0	26.6		126.7	82.9
Queue Length 50th (ft)	~309	38		16	487			82	0		~187	~171
Queue Length 95th (ft)	m#372	m45		m26	#694			#179	19		#346	#368
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	195	2753		92	2193			136	129		210	363
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.46	0.39		0.23	0.96			0.78	0.09		1.05	1.04

Intersection Summary

Area Type: CBD

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	270	1010	20	1900	50	10	30	360
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	190	220	900	300	240	270	770	590	130	1100	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3254		3433	1863	1583	1752	3505	1568	1752	5003	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3254		3433	1863	1583	1752	3505	1568	1752	5003	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	80	218	253	1034	345	276	310	885	678	149	1264	57
RTOR Reduction (vph)	0	176	0	0	0	202	0	0	421	0	4	0
Lane Group Flow (vph)	80	295	0	1034	345	74	310	885	257	149	1317	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	45.5	45.5	13.5	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	45.5	45.5	13.5	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.38	0.38	0.11	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	190		915	497	422	219	1329	595	197	1834	
v/s Ratio Prot	0.05	c0.09		c0.30	0.19		c0.18	0.25		0.09	c0.26	
v/s Ratio Perm						0.05			0.16			
v/c Ratio	0.78	1.55		1.13	0.69	0.17	1.42	0.67	0.43	0.76	0.72	
Uniform Delay, d1	55.7	56.5		44.0	39.6	33.8	52.5	30.9	27.7	51.7	32.7	
Progression Factor	0.93	0.91		0.86	0.84	0.95	1.00	1.00	1.00	1.03	0.82	
Incremental Delay, d2	27.1	272.2		68.0	2.2	0.0	211.7	2.7	2.3	12.0	2.1	
Delay (s)	78.8	323.7		105.9	35.7	32.3	264.2	33.6	29.9	65.4	29.1	
Level of Service	E	F		F	D	C	F	C	C	E	C	
Approach Delay (s)		288.1			79.0			70.4			32.8	
Approach LOS		F			E			E			C	

Intersection Summary			
HCM Average Control Delay	84.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	190	220	900	300	240	270	770	590	130	1100	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		364			2934			862			2992	
Travel Time (s)		8.3			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	471	0	1034	345	276	310	885	678	149	1321	0
v/c Ratio	0.78	1.29		1.13	0.69	0.44	1.42	0.67	0.67	0.76	0.72	
Control Delay	94.6	173.6		104.0	39.2	5.4	250.4	34.4	5.8	73.9	29.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	94.6	173.6		104.0	39.2	5.4	250.4	34.4	5.8	73.9	29.2	
Queue Length 50th (ft)	60	~164		~486	255	26	~323	301	0	113	228	
Queue Length 95th (ft)	#143	#260		m#458	m269	m31	#481	364	62	178	245	
Internal Link Dist (ft)		284			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	366		915	497	625	219	1330	1016	234	1839	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.78	1.29		1.13	0.69	0.44	1.42	0.67	0.67	0.64	0.72	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

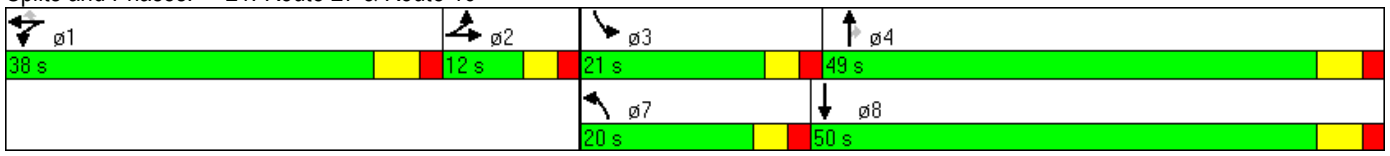
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	70	190	900	300	240	270	770	590	130	1100
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	5	131	50	10	30	425	806	10	10	566	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.89		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1609		1770	1653		1641	3276		1703	3262	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1609		1770	1653		1641	3276		1703	3262	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	5	142	54	11	33	462	876	11	11	615	240
RTOR Reduction (vph)	0	125	0	0	32	0	0	1	0	0	42	0
Lane Group Flow (vph)	204	22	0	54	12	0	462	886	0	11	813	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	10%	10%	10%	6%	6%	6%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.1	9.7		3.9	3.5		25.2	50.1		0.7	25.6	
Effective Green, g (s)	10.1	9.7		3.9	3.5		25.2	50.1		0.7	25.6	
Actuated g/C Ratio	0.13	0.12		0.05	0.04		0.31	0.62		0.01	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	224	194		86	72		514	2041		15	1039	
v/s Ratio Prot	c0.11	c0.01		0.03	0.01		c0.28	0.27		0.01	c0.25	
v/s Ratio Perm												
v/c Ratio	0.91	0.11		0.63	0.17		0.90	0.43		0.73	0.78	
Uniform Delay, d1	34.7	31.5		37.5	37.1		26.4	7.8		39.8	24.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.2	0.1		9.9	0.4		17.9	0.1		93.0	3.6	
Delay (s)	70.9	31.6		47.4	37.5		44.3	7.9		132.7	28.5	
Level of Service	E	C		D	D		D	A		F	C	
Approach Delay (s)		54.4			42.9			20.4			29.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	5	131	50	10	30	425	806	10	10	566	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	10%	10%	10%	6%	6%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	147	0	54	44	0	462	887	0	11	855	0
v/c Ratio	0.86	0.45		0.38	0.29		0.84	0.41		0.12	0.84	
Control Delay	67.3	11.7		42.2	21.9		41.6	7.8		39.8	33.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	67.3	11.7		42.2	21.9		41.6	7.8		39.8	33.4	
Queue Length 50th (ft)	101	2		26	5		214	93		5	194	
Queue Length 95th (ft)	#231	53		62	35		#405	188		21	#314	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	238	514		165	379		547	2175		91	1043	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.86	0.29		0.33	0.12		0.84	0.41		0.12	0.82	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	188	5	50	10	425	806	10	566
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	14.0	23.0	11.0	20.0	29.0	48.0	8.0	27.0
Total Split (%)	15.6%	25.6%	12.2%	22.2%	32.2%	53.3%	8.9%	30.0%
Maximum Green (s)	10.0	19.0	7.0	16.0	25.0	44.0	4.0	23.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 75.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	19	118	228	1092	962	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1599	1671	3343	3355	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1787	1599	1671	3343	3355	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	128	248	1187	1046	201
RTOR Reduction (vph)	0	118	0	0	16	0
Lane Group Flow (vph)	21	10	248	1187	1231	0
Heavy Vehicles (%)	1%	1%	8%	8%	5%	5%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.7	4.7	14.3	49.6	31.3	
Effective Green, g (s)	4.7	4.7	14.3	49.6	31.3	
Actuated g/C Ratio	0.08	0.08	0.23	0.80	0.50	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	135	121	384	2662	1686	
v/s Ratio Prot	c0.01		c0.15	0.36	c0.37	
v/s Ratio Perm		0.01				
v/c Ratio	0.16	0.08	0.65	0.45	0.73	
Uniform Delay, d1	26.9	26.8	21.7	2.0	12.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.1	2.8	0.0	1.4	
Delay (s)	27.1	26.9	24.5	2.1	13.5	
Level of Service	C	C	C	A	B	
Approach Delay (s)	26.9			5.9	13.5	
Approach LOS	C			A	B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	19	118	228	1092	962	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	8%	8%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	128	248	1187	1247	0
v/c Ratio	0.12	0.47	0.64	0.43	0.73	
Control Delay	32.6	13.3	32.3	2.7	16.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.6	13.3	32.3	2.7	16.1	
Queue Length 50th (ft)	7	0	81	49	180	
Queue Length 95th (ft)	31	49	194	102	330	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	496	536	580	3141	2414	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.24	0.43	0.38	0.52	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	19	118	228	1092	962
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	24.0	70.0	46.0
Total Split (%)	22.2%	22.2%	26.7%	77.8%	51.1%
Maximum Green (s)	16.0	16.0	20.0	66.0	42.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 61.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	120	380	660	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	413	717	5	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	723				1394	720
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	723				1394	720
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	84				96	99
cM capacity (veh/h)	827				131	428

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	130	413	723	11
Volume Left	130	0	0	5
Volume Right	0	0	5	5
cSH	827	1700	1700	263
Volume to Capacity	0.16	0.24	0.43	0.04
Queue Length 95th (ft)	14	0	0	3
Control Delay (s)	10.2	0.0	0.0	23.6
Lane LOS	B			C
Approach Delay (s)	2.4		0.0	23.6
Approach LOS				C

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	49	615	516	10	10	567
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	54	683	573	11	11	630
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	584				1371	579
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	584				1371	579
tC, single (s)	4.2				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.7	3.5
p0 queue free %	94				92	0
cM capacity (veh/h)	961				140	486

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	54	683	584	641
Volume Left	54	0	0	11
Volume Right	0	0	11	630
cSH	961	1700	1700	466
Volume to Capacity	0.06	0.40	0.34	1.38
Queue Length 95th (ft)	4	0	0	748
Control Delay (s)	9.0	0.0	0.0	206.3
Lane LOS	A			F
Approach Delay (s)	0.7		0.0	206.3
Approach LOS				F

Intersection Summary			
Average Delay	67.6		
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	415	170	30	406	80	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	461	189	33	451	89	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			650		1073	556
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			650		1073	556
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		62	96
cM capacity (veh/h)			946		235	531

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	650	484	111
Volume Left	0	33	89
Volume Right	189	0	22
cSH	1700	946	265
Volume to Capacity	0.38	0.04	0.42
Queue Length 95th (ft)	0	3	49
Control Delay (s)	0.0	1.0	28.1
Lane LOS		A	D
Approach Delay (s)	0.0	1.0	28.1
Approach LOS			D

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	425	406	144	315	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	472	451	160	350	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	611				1026	531
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	611				1026	531
tC, single (s)	4.1				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.7	3.5
p0 queue free %	99				0	98
cM capacity (veh/h)	973				236	511

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	483	611	361
Volume Left	11	0	350
Volume Right	0	160	11
cSH	973	1700	240
Volume to Capacity	0.01	0.36	1.50
Queue Length 95th (ft)	1	0	536
Control Delay (s)	0.3	0.0	285.0
Lane LOS	A		F
Approach Delay (s)	0.3	0.0	285.0
Approach LOS			F

Intersection Summary			
Average Delay	70.8		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	320	140	840	530	140	1100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.95		1.00	0.85	1.00	1.00
Flt Protected	0.97		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3238		1827	1553	1671	3343
Flt Permitted	0.97		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3238		1827	1553	1671	3343
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	348	152	913	576	152	1196
RTOR Reduction (vph)	44	0	0	194	0	0
Lane Group Flow (vph)	456	0	913	382	152	1196
Heavy Vehicles (%)	5%	5%	4%	4%	8%	8%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	20.4		65.5	65.5	15.5	86.5
Effective Green, g (s)	20.4		65.5	65.5	15.5	86.5
Actuated g/C Ratio	0.17		0.55	0.55	0.13	0.73
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	558		1011	859	219	2442
v/s Ratio Prot	c0.14		c0.50		c0.09	0.36
v/s Ratio Perm				0.25		
v/c Ratio	0.82		0.90	0.44	0.69	0.49
Uniform Delay, d1	47.2		23.6	15.7	49.2	6.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3		12.8	1.7	9.5	0.7
Delay (s)	56.5		36.4	17.3	58.7	7.4
Level of Service	E		D	B	E	A
Approach Delay (s)	56.5		29.0			13.2
Approach LOS	E		C			B

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	118.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	320	140	840	530	140	1100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	4%	4%	8%	8%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	500	0	913	576	152	1196
v/c Ratio	0.83		0.90	0.55	0.69	0.49
Control Delay	55.2		38.6	6.4	65.8	7.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	55.2		38.6	6.4	65.8	7.7
Queue Length 50th (ft)	172		629	54	113	187
Queue Length 95th (ft)	235		#953	151	183	229
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	644		1011	1053	261	2443
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.78		0.90	0.55	0.58	0.49

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	320	840	530	140	1100
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	27.5	68.5	68.5	24.0	92.5
Total Split (%)	22.9%	57.1%	57.1%	20.0%	77.1%
Maximum Green (s)	22.0	62.5	62.5	18.5	86.5
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 118.4
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	10	10	1420	1390	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	10	10	10	1479	1448	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2214	729	1458			
vC1, stage 1 conf vol	1453					
vC2, stage 2 conf vol	760					
vCu, unblocked vol	2214	729	1458			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	97	98			
cM capacity (veh/h)	163	365	460			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	21	10	740	740	965	493
Volume Left	10	10	0	0	0	0
Volume Right	10	0	0	0	0	10
cSH	226	460	1700	1700	1700	1700
Volume to Capacity	0.09	0.02	0.44	0.44	0.57	0.29
Queue Length 95th (ft)	8	2	0	0	0	0
Control Delay (s)	22.6	13.0	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	22.6	0.1			0.0	
Approach LOS	C					

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	49.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	700	160	310	230	110	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1597	1357	1612	1696
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1597	1357	1612	1696
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	824	188	365	271	129	553
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	824	188	365	271	129	553
Heavy Vehicles (%)	2%	2%	19%	19%	12%	12%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	21.9	68.1	21.2	68.1	8.0	34.7
Effective Green, g (s)	21.9	68.1	21.2	68.1	8.0	34.7
Actuated g/C Ratio	0.32	1.00	0.31	1.00	0.12	0.51
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1104	1583	497	1357	189	864
v/s Ratio Prot	c0.24		c0.23		0.08	c0.33
v/s Ratio Perm		0.12		0.20		
v/c Ratio	0.75	0.12	0.73	0.20	0.68	0.64
Uniform Delay, d1	20.6	0.0	20.9	0.0	28.8	12.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.2	4.8	0.3	7.8	1.2
Delay (s)	23.1	0.2	25.7	0.3	36.7	13.4
Level of Service	C	A	C	A	D	B
Approach Delay (s)	18.8		14.9			17.8
Approach LOS	B		B			B

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	68.1	Sum of lost time (s)	17.5
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	700	160	310	230	110	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	19%	19%	12%	12%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	824	188	365	271	129	553
v/c Ratio	0.74	0.12	0.73	0.20	0.50	0.67
Control Delay	27.0	0.2	33.4	0.3	38.9	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	0.2	33.4	0.3	38.9	17.5
Queue Length 50th (ft)	163	0	141	0	52	155
Queue Length 95th (ft)	253	0	262	0	118	283
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	1700	1583	752	1357	353	1227
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.12	0.49	0.20	0.37	0.45

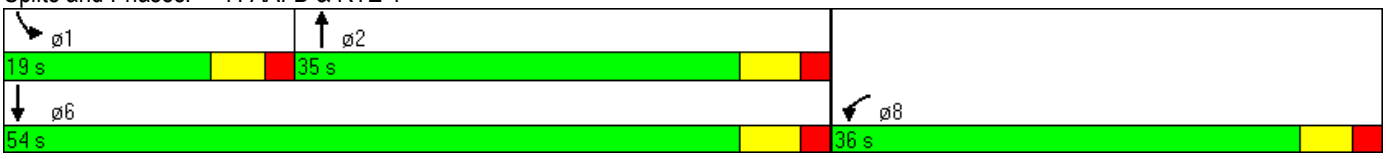
Intersection Summary

Area Type: Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	700	160	310	230	110	470
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	36.0	0.0	35.0	0.0	19.0	54.0
Total Split (%)	40.0%	0.0%	38.9%	0.0%	21.1%	60.0%
Maximum Green (s)	30.5		29.0		13.5	48.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 67.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	290	10	80	10	990	330	60	1300	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.94		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1614		1641	3159		1687	3370	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1614		1641	3159		1687	3370	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	319	11	88	11	1088	363	66	1429	11
RTOR Reduction (vph)	0	29	0	0	22	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	37	0	214	182	0	11	1430	0	66	1440	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	10%	10%	10%	7%	7%	7%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		20.4	20.4		2.6	74.8		7.7	79.9	
Effective Green, g (s)		6.1		20.4	20.4		2.6	74.8		7.7	79.9	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.58		0.06	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		264	253		33	1818		100	2071	
v/s Ratio Prot		c0.02		c0.13	0.11		0.01	c0.45		c0.04	c0.43	
v/s Ratio Perm												
v/c Ratio		0.46		0.81	0.72		0.33	0.79		0.66	0.70	
Uniform Delay, d1		60.4		52.9	52.1		62.8	21.4		59.9	16.9	
Progression Factor		1.00		1.00	1.00		1.12	0.54		1.00	1.00	
Incremental Delay, d2		1.5		16.1	7.9		1.6	2.6		11.9	2.0	
Delay (s)		61.9		69.1	60.0		71.6	14.1		71.8	18.8	
Level of Service		E		E	E		E	B		E	B	
Approach Delay (s)		61.9			64.6			14.6			21.1	
Approach LOS		E			E			B			C	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	290	10	80	10	990	330	60	1300	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	10%	10%	10%	7%	7%	7%
Shared Lane Traffic (%)				33%								
Lane Group Flow (vph)	0	66	0	214	204	0	11	1451	0	66	1440	0
v/c Ratio		0.54		0.81	0.74		0.15	0.77		0.58	0.66	
Control Delay		51.6		75.6	61.4		69.8	15.1		78.6	19.3	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		75.6	61.4		69.8	15.1		78.6	19.3	
Queue Length 50th (ft)		30		185	152		9	168		55	350	
Queue Length 95th (ft)		78		269	234		m14	#215		104	627	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	343		88	1886		133	2176	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.64	0.59		0.13	0.77		0.50	0.66	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	290	10	10	990	60	1300
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	40	40	20	20	10	50	140	30	10	270	130
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	42	42	21	21	11	53	147	32	11	284	137
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	663	658	353	705	711	163	421			179		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	663	658	353	705	711	163	421			179		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	56	88	94	93	94	99	95			99		
cM capacity (veh/h)	338	364	691	288	339	882	1133			1391		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	232	53	232	432
Volume Left	147	21	53	11
Volume Right	42	11	32	137
cSH	378	358	1133	1391
Volume to Capacity	0.61	0.15	0.05	0.01
Queue Length 95th (ft)	98	13	4	1
Control Delay (s)	28.5	16.8	2.2	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	28.5	16.8	2.2	0.3
Approach LOS	D	C		

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	200	1160	150	260	1230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1504	1346	3347		1687	3374
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1504	1346	3347		1687	3374
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	208	1208	156	271	1281
RTOR Reduction (vph)	0	161	8	0	0	0
Lane Group Flow (vph)	188	47	1356	0	271	1281
Heavy Vehicles (%)	20%	20%	6%	6%	7%	7%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	19.8	19.8	71.0		23.2	99.2
Effective Green, g (s)	19.8	19.8	71.0		23.2	99.2
Actuated g/C Ratio	0.15	0.15	0.55		0.18	0.76
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	229	205	1828		301	2575
v/s Ratio Prot	c0.12		c0.41		c0.16	0.38
v/s Ratio Perm		0.03				
v/c Ratio	0.82	0.23	0.74		0.90	0.50
Uniform Delay, d1	53.4	48.4	22.5		52.3	5.9
Progression Factor	1.00	1.00	0.29		1.09	0.55
Incremental Delay, d2	19.6	0.2	2.2		22.3	0.5
Delay (s)	73.0	48.6	8.8		79.0	3.8
Level of Service	E	D	A		E	A
Approach Delay (s)	60.2		8.8			16.9
Approach LOS	E		A			B

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	200	1160	150	260	1230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	20%	20%	6%	6%	7%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	208	1364	0	271	1281
v/c Ratio	0.82	0.57	0.74		0.90	0.50
Control Delay	79.6	14.8	8.9		82.7	4.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	79.6	14.8	8.9		82.7	4.1
Queue Length 50th (ft)	154	13	119		206	75
Queue Length 95th (ft)	232	87	m151		#446	88
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	289	412	1836		301	2574
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.65	0.50	0.74		0.90	0.50

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	180	200	1160	260	1230
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	150	220	220	240	280	110
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	163	239	239	261	304	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1103	364	424			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1103	364	424			
tC, single (s)	6.6	6.4	4.2			
tC, 2 stage (s)						
tF (s)	3.7	3.5	2.3			
p0 queue free %	3	63	78			
cM capacity (veh/h)	168	642	1084			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	402	500	424
Volume Left	163	239	0
Volume Right	239	0	120
cSH	300	1084	1700
Volume to Capacity	1.34	0.22	0.25
Queue Length 95th (ft)	506	21	0
Control Delay (s)	208.5	5.7	0.0
Lane LOS	F	A	
Approach Delay (s)	208.5	5.7	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	65.4		
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1300	1350	0	970	180	160	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1736	4988		4918		1736	2733
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1736	4988		4918		1736	2733
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1368	1421	0	1021	189	168	916
RTOR Reduction (vph)	0	0	0	20	0	0	787
Lane Group Flow (vph)	1368	1421	0	1190	0	168	129
Heavy Vehicles (%)	4%	4%	0%	3%	3%	4%	4%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	99.7		30.7		18.3	18.3
Effective Green, g (s)	64.0	99.7		30.7		18.3	18.3
Actuated g/C Ratio	0.49	0.77		0.24		0.14	0.14
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	855	3825		1161		244	385
v/s Ratio Prot	c0.79	0.28		c0.24		c0.10	
v/s Ratio Perm							0.05
v/c Ratio	1.60	0.37		1.03		0.69	0.33
Uniform Delay, d1	33.0	4.9		49.6		53.1	50.4
Progression Factor	0.43	0.63		0.53		1.00	1.00
Incremental Delay, d2	270.5	0.0		31.1		6.3	0.2
Delay (s)	284.7	3.1		57.7		59.4	50.6
Level of Service	F	A		E		E	D
Approach Delay (s)		141.2		57.7		51.9	
Approach LOS		F		E		D	

Intersection Summary			
HCM Average Control Delay	102.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1300	1350	0	970	180	160	870
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	0%	3%	3%	4%	4%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1368	1421	0	1210	0	168	916
v/c Ratio	1.60	0.37		1.02		0.69	0.78
Control Delay	290.1	3.4		59.2		67.2	8.3
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	290.1	3.4		59.2		67.2	8.3
Queue Length 50th (ft)	~1695	79		~113		136	0
Queue Length 95th (ft)	m#1388	m99		#511		207	60
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	855	3826		1183		307	1237
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.60	0.37		1.02		0.55	0.74

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

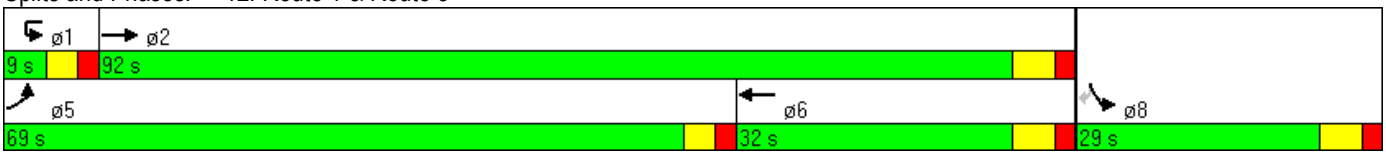
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1300	1350	970	160	870	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	2210	720	280	1600	540	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1787	4788		1736	4988	3400	1544
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1787	4788		1736	4988	3400	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	2302	750	292	1667	562	458
RTOR Reduction (vph)	0	47	0	0	0	0	220
Lane Group Flow (vph)	10	3005	0	292	1667	562	238
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	1%	4%	4%	4%	4%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	63.3		25.0	87.3	24.7	24.7
Effective Green, g (s)	1.0	63.3		25.0	87.3	24.7	24.7
Actuated g/C Ratio	0.01	0.49		0.19	0.67	0.19	0.19
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2331		334	3350	646	293
v/s Ratio Prot	0.01	c0.63		c0.17	0.33	c0.17	
v/s Ratio Perm							0.15
v/c Ratio	0.71	1.29		0.87	0.50	0.87	0.81
Uniform Delay, d1	64.4	33.4		51.0	10.5	51.1	50.4
Progression Factor	0.93	0.97		0.58	0.64	0.58	0.36
Incremental Delay, d2	39.0	131.2		10.8	0.2	8.3	10.7
Delay (s)	98.9	163.5		40.4	7.0	37.7	28.9
Level of Service	F	F		D	A	D	C
Approach Delay (s)		163.3			12.0	33.8	
Approach LOS		F			B	C	

Intersection Summary			
HCM Average Control Delay	92.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	104.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	2210	720	280	1600	540	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	4%	4%	4%	4%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	3052	0	292	1667	562	458
v/c Ratio	0.14	1.21		1.04	0.48	0.87	0.89
Control Delay	58.2	124.3		81.3	6.1	40.5	23.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	58.2	124.3		81.3	6.1	40.5	23.9
Queue Length 50th (ft)	8	~1154		~259	79	185	92
Queue Length 95th (ft)	m8	m#1176		m#338	m142	#272	#173
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2523		280	3503	680	526
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.21		1.04	0.48	0.83	0.87

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

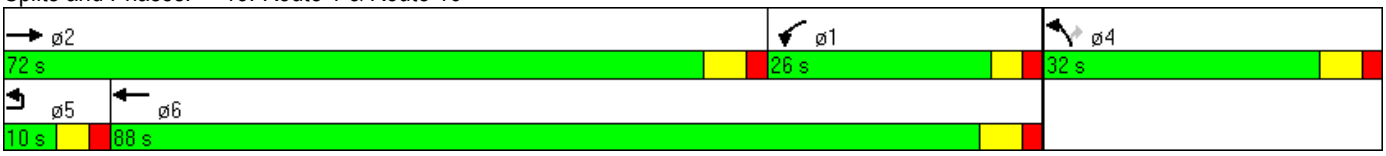
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	2210	280	1600	540	440
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	850	130	190	2490	30	1490	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1736	4988	1787	4742	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1736	4988	1787	4742	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	944	144	211	2767	33	1656	811
RTOR Reduction (vph)	0	74	0	0	0	66	0
Lane Group Flow (vph)	944	70	211	2767	33	2401	0
Heavy Vehicles (%)	2%	2%	4%	4%	1%	4%	4%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	18.7	78.0	3.0	62.3	
Effective Green, g (s)	33.0	33.0	18.7	78.0	3.0	62.3	
Actuated g/C Ratio	0.25	0.25	0.14	0.60	0.02	0.48	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	250	2993	41	2273	
v/s Ratio Prot	c0.27		c0.12	c0.55	0.02	c0.51	
v/s Ratio Perm		0.04					
v/c Ratio	1.08	0.17	0.84	0.92	0.80	1.06	
Uniform Delay, d1	48.5	37.9	54.2	23.4	63.2	33.9	
Progression Factor	1.00	1.00	1.14	0.89	1.19	0.89	
Incremental Delay, d2	55.8	0.1	9.5	2.6	60.3	34.9	
Delay (s)	104.3	37.9	71.3	23.4	135.3	65.1	
Level of Service	F	D	E	C	F	E	
Approach Delay (s)	95.5			26.8		66.0	
Approach LOS	F			C		E	

Intersection Summary			
HCM Average Control Delay	53.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	850	130	190	2490	30	1490	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	4%	4%	1%	4%	4%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	944	144	211	2767	33	2467	0
v/c Ratio	1.08	0.30	0.84	0.90	0.49	1.06	
Control Delay	101.3	15.6	74.1	22.3	93.6	63.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	101.3	15.6	74.1	22.3	93.6	63.3	
Queue Length 50th (ft)	~458	29	190	451	26	~846	
Queue Length 95th (ft)	#589	86	m205	656	m53	#907	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	476	280	3070	69	2337	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.08	0.30	0.75	0.90	0.48	1.06	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	850	130	190	2490	30	1490
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	370	190	950	530	310	910
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4765		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4765		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	398	204	1022	570	333	978
RTOR Reduction (vph)	0	151	78	0	0	0
Lane Group Flow (vph)	398	53	1514	0	333	978
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1943		364	3293
v/s Ratio Prot	c0.22	0.03	c0.32		c0.19	0.19
v/s Ratio Perm						
v/c Ratio	0.86	0.13	0.78		0.91	0.30
Uniform Delay, d1	45.7	36.7	33.4		50.4	9.7
Progression Factor	0.61	0.21	0.30		0.80	0.33
Incremental Delay, d2	15.5	0.5	1.5		12.5	0.1
Delay (s)	43.4	8.4	11.5		52.9	3.3
Level of Service	D	A	B		D	A
Approach Delay (s)	31.6		11.5			15.9
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	370	190	950	530	310	910
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	398	204	1592	0	333	978
v/c Ratio	0.86	0.36	0.79		0.91	0.30
Control Delay	44.7	2.5	10.7		55.8	3.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	44.7	2.5	10.7		55.8	3.3
Queue Length 50th (ft)	232	6	102		283	55
Queue Length 95th (ft)	m#471	m2	m110		m267	m49
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	565	2020		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.86	0.36	0.79		0.91	0.30

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	370	190	950	310	910
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	1070	90	180	810	10	100	190	230	20	160	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4977		1752	5026		1770	1710		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4977		1752	5026		1770	1710		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	295	1126	95	189	853	11	105	200	242	21	168	168
RTOR Reduction (vph)	0	7	0	0	1	0	0	35	0	0	0	150
Lane Group Flow (vph)	295	1214	0	189	863	0	105	407	0	21	168	18
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	24.9	45.1		16.1	36.3		33.8	33.8		14.0	14.0	14.0
Effective Green, g (s)	24.9	45.1		16.1	36.3		33.8	33.8		14.0	14.0	14.0
Actuated g/C Ratio	0.19	0.35		0.12	0.28		0.26	0.26		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	336	1727		217	1403		460	445		191	201	170
v/s Ratio Prot	c0.17	c0.24		0.11	0.17		0.06	c0.24		0.01	c0.09	
v/s Ratio Perm												0.01
v/c Ratio	0.88	0.70		0.87	0.62		0.23	0.92		0.11	0.84	0.11
Uniform Delay, d1	51.1	36.7		55.9	40.8		37.8	46.7		52.4	56.9	52.4
Progression Factor	1.39	0.68		1.02	0.66		1.25	1.23		1.00	1.00	1.00
Incremental Delay, d2	20.2	2.3		26.9	1.9		0.0	13.9		0.1	23.9	0.1
Delay (s)	91.4	27.0		83.9	28.9		47.5	71.3		52.5	80.8	52.5
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		39.6			38.8			66.7			65.8	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	46.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	1070	90	180	810	10	100	190	230	20	160	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	295	1221	0	189	864	0	105	442	0	21	168	168
v/c Ratio	0.88	0.70		0.87	0.61		0.23	0.92		0.11	0.84	0.53
Control Delay	95.6	27.9		89.9	30.3		46.6	66.2		53.1	89.3	13.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	95.6	27.9		89.9	30.3		46.6	66.2		53.1	89.3	13.9
Queue Length 50th (ft)	237	155		136	257		64	247		16	140	0
Queue Length 95th (ft)	#357	226		#279	328		m73	m286		43	#253	67
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1732		229	1405		517	533		204	215	331
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.78	0.70		0.83	0.61		0.20	0.83		0.10	0.78	0.51

Intersection Summary

Area Type: Other

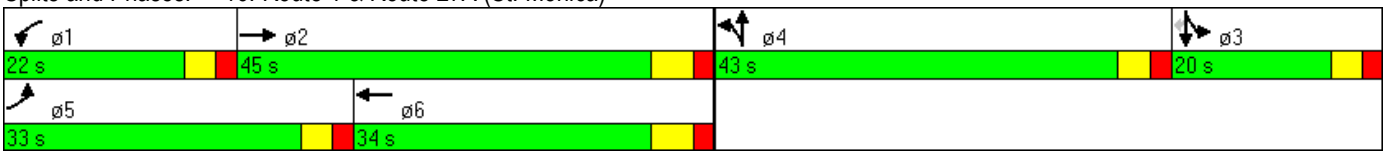
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	280	1070	180	810	100	190	20	160	160
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	80	220	40	70	10	20	350	30	20	450	370
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	104	104	286	52	91	13	26	455	39	26	584	481

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	104	390	156	26	494	610	481
Volume Left (vph)	104	0	52	26	0	26	0
Volume Right (vph)	0	286	13	0	39	0	481
Hadj (s)	0.53	-0.48	0.05	0.57	0.01	0.07	-0.65
Departure Headway (s)	9.1	8.1	9.8	9.2	8.6	8.3	7.6
Degree Utilization, x	0.26	0.88	0.42	0.07	1.18	1.41	1.02
Capacity (veh/h)	388	439	348	381	421	443	481
Control Delay (s)	14.2	45.8	19.9	11.6	130.5	220.7	72.0
Approach Delay (s)	39.2		19.9	124.5		155.2	
Approach LOS	E		C	F		F	

Intersection Summary				
Delay	113.5			
HCM Level of Service	F			
Intersection Capacity Utilization	74.2%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	1230	80	570	910	30	130	280	850	50	100	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (prot)	1752	4985		1752	5012		1770	1863	2745		1832	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (perm)	1752	4985		1752	5012		1770	1863	2745		1832	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	138	1309	85	606	968	32	138	298	904	53	106	43
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	741	0	0	23
Lane Group Flow (vph)	138	1389	0	606	997	0	138	298	163	0	159	20
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	13.3	33.8		38.0	58.5		23.5	23.5	23.5		12.7	12.7
Effective Green, g (s)	13.3	33.8		38.0	58.5		23.5	23.5	23.5		12.7	12.7
Actuated g/C Ratio	0.10	0.26		0.29	0.45		0.18	0.18	0.18		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	179	1296		512	2255		320	337	496		179	155
v/s Ratio Prot	0.08	c0.28		c0.35	0.20		0.08	c0.16			c0.09	
v/s Ratio Perm									0.06			0.01
v/c Ratio	0.77	1.07		1.18	0.44		0.43	0.88	0.33		0.89	0.13
Uniform Delay, d1	56.9	48.1		46.0	24.5		47.3	51.9	46.4		57.9	53.6
Progression Factor	1.23	0.57		1.42	0.72		0.95	0.95	1.34		1.00	1.00
Incremental Delay, d2	13.1	43.8		99.5	0.6		0.0	2.7	0.0		36.4	0.1
Delay (s)	83.3	71.0		164.6	18.2		44.9	51.9	62.1		94.3	53.8
Level of Service	F	E		F	B		D	D	E		F	D
Approach Delay (s)		72.1			73.4			58.1			85.7	
Approach LOS		E			E			E			F	

Intersection Summary			
HCM Average Control Delay	69.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	1230	80	570	910	30	130	280	850	50	100	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	1394	0	606	1000	0	138	298	904	0	159	43
v/c Ratio	0.78	1.07		1.18	0.44		0.43	0.88	0.73		0.89	0.24
Control Delay	91.1	71.8		153.2	18.7		45.2	52.7	4.3		101.8	32.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	91.1	71.8		153.2	18.7		45.2	52.7	4.3		101.8	32.4
Queue Length 50th (ft)	123	~495		~598	115		94	215	32		134	14
Queue Length 95th (ft)	m173	#572		m#800	m136		m86	m187	m7		#262	52
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1303		512	2260		340	358	1258		183	181
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.68	1.07		1.18	0.44		0.41	0.83	0.72		0.87	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	130	1230	570	910	130	280	850	100	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1790	380	460	1330	300	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4904		1736	4988	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4904		1736	4988	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1904	404	489	1415	319	479
RTOR Reduction (vph)	0	26	0	0	0	0	429
Lane Group Flow (vph)	21	2282	0	489	1415	319	50
Heavy Vehicles (%)	0%	3%	3%	4%	4%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2112		574	3722	340	157
v/s Ratio Prot	0.01	c0.47		c0.28	0.28	c0.09	
v/s Ratio Perm							0.03
v/c Ratio	0.50	1.08		0.85	0.38	0.94	0.32
Uniform Delay, d1	62.8	37.0		40.5	5.8	58.1	54.4
Progression Factor	1.24	0.59		0.38	0.38	1.00	1.00
Incremental Delay, d2	1.4	40.4		5.0	0.1	32.4	0.4
Delay (s)	79.0	62.3		20.4	2.3	90.5	54.8
Level of Service	E	E		C	A	F	D
Approach Delay (s)		62.4			7.0	69.1	
Approach LOS		E			A	E	

Intersection Summary			
HCM Average Control Delay	42.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1790	380	460	1330	300	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	4%	4%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2308	0	489	1415	319	479
v/c Ratio	0.31	1.04		0.89	0.37	0.94	0.82
Control Delay	80.8	47.4		27.1	2.2	93.4	17.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	80.8	47.4		27.1	2.2	93.4	17.2
Queue Length 50th (ft)	19	~448		202	51	140	2
Queue Length 95th (ft)	m22	m#363		m282	m72	#231	#152
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2214		548	3799	340	586
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.04		0.89	0.37	0.94	0.82

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

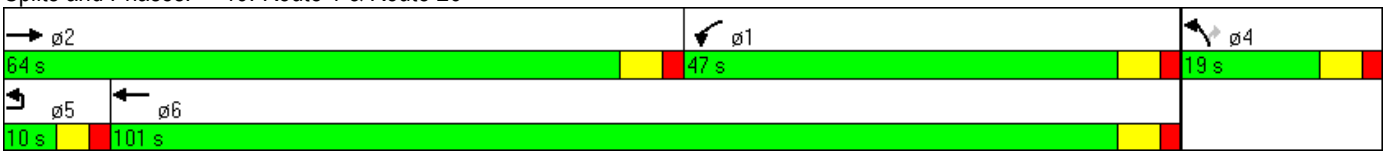
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1790	460	1330	300	450
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1680	0	20	1350	130	70	100	50	150	20	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1736	4922			1825	1583		1750	1553
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1736	4922			1825	1583		1750	1553
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	468	1787	0	21	1436	138	74	106	53	160	21	426
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	48	0	0	326
Lane Group Flow (vph)	468	1787	0	21	1566	0	0	180	5	0	181	100
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	4%	4%	4%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	36.5	78.0		4.0	45.5			13.0	13.0		14.0	14.0
Effective Green, g (s)	36.5	78.0		4.0	45.5			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.28	0.60		0.03	0.35			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	492	3022		53	1723			183	158		188	167
v/s Ratio Prot	c0.27	0.35		0.01	c0.32			c0.10			c0.10	
v/s Ratio Perm									0.00			0.06
v/c Ratio	0.95	0.59		0.40	0.91			0.98	0.03		0.96	0.60
Uniform Delay, d1	45.9	16.1		61.8	40.3			58.4	52.8		57.7	55.3
Progression Factor	1.36	0.14		0.87	0.95			1.00	1.00		1.00	1.00
Incremental Delay, d2	10.2	0.2		1.6	7.8			61.2	0.0		54.2	4.1
Delay (s)	72.4	2.5		55.1	46.0			119.6	52.9		112.0	59.5
Level of Service	E	A		E	D			F	D		F	E
Approach Delay (s)		17.0			46.1			104.4			75.1	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1680	0	20	1350	130	70	100	50	150	20	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	468	1787	0	21	1574	0	0	180	53	0	181	426
v/c Ratio	0.95	0.58		0.27	0.91			0.98	0.26		0.96	0.86
Control Delay	72.0	2.4		59.0	46.3			120.6	17.1		114.1	28.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	72.0	2.4		59.0	46.3			120.6	17.1		114.1	28.3
Queue Length 50th (ft)	336	51		18	321			154	0		154	49
Queue Length 95th (ft)	m342	m49		m34	#559			#306	41		#302	#230
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3099		93	1731			183	206		188	493
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.91	0.58		0.23	0.91			0.98	0.26		0.96	0.86

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	440	1680	20	1350	100	50	20	400
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	400	270	610	200	300	240	1000	900	280	1000	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3325		3433	1863	1583	1752	3505	1568	1752	5007	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3325		3433	1863	1583	1752	3505	1568	1752	5007	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	421	284	642	211	316	253	1053	947	295	1053	42
RTOR Reduction (vph)	0	90	0	0	0	265	0	0	292	0	3	0
Lane Group Flow (vph)	147	615	0	642	211	51	253	1053	655	295	1092	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	20.3	36.0	36.0	14.0	29.7	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	20.3	36.0	36.0	14.0	29.7	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.23	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	946		555	301	256	274	971	434	189	1144	
v/s Ratio Prot	0.08	c0.18		c0.19	0.11		0.14	0.30		c0.17	0.22	
v/s Ratio Perm						0.03			c0.42			
v/c Ratio	0.29	0.65		1.16	0.70	0.20	0.92	1.08	1.51	1.56	0.95	
Uniform Delay, d1	36.3	40.8		54.5	51.5	47.2	54.1	47.0	47.0	58.0	49.5	
Progression Factor	1.02	1.01		0.98	0.97	3.11	1.00	1.00	1.00	0.91	1.00	
Incremental Delay, d2	1.2	2.8		83.0	3.7	0.1	34.1	54.6	240.7	274.5	16.5	
Delay (s)	38.1	44.2		136.4	53.6	146.8	88.2	101.6	287.7	327.3	65.8	
Level of Service	D	D		F	D	F	F	F	F	F	E	
Approach Delay (s)		43.2			124.2			178.3			121.3	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	132.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	400	270	610	200	300	240	1000	900	280	1000	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			1269			820			2979	
Travel Time (s)		7.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	705	0	642	211	316	253	1053	947	295	1095	0
v/c Ratio	0.29	0.68		1.16	0.70	0.61	0.93	1.08	1.30	1.56	0.95	
Control Delay	38.7	37.2		129.9	58.7	19.7	92.4	98.8	169.9	310.0	65.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.7	37.2		129.9	58.7	19.7	92.4	98.8	169.9	310.0	65.7	
Queue Length 50th (ft)	92	219		~329	166	93	212	~523	~764	~355	335	
Queue Length 95th (ft)	m122	m268		m#325	m177	m99	#369	#659	#1022	m#511	#436	
Internal Link Dist (ft)		256			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1037		555	301	521	283	971	726	189	1148	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.29	0.68		1.16	0.70	0.61	0.89	1.08	1.30	1.56	0.95	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

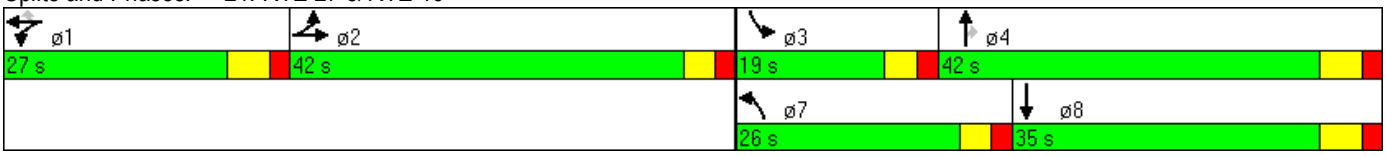
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	140	400	610	200	300	240	1000	900	280	1000
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	10	431	20	5	20	221	494	40	30	786	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.88		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1605		1770	1635		1703	3368		1641	3164	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1605		1770	1635		1703	3368		1641	3164	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	11	468	22	5	22	240	537	43	33	854	268
RTOR Reduction (vph)	0	238	0	0	21	0	0	5	0	0	30	0
Lane Group Flow (vph)	239	241	0	22	6	0	240	575	0	33	1092	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	6%	6%	6%	10%	10%	10%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.1	16.5		1.4	4.8		13.3	44.4		2.1	33.2	
Effective Green, g (s)	13.1	16.5		1.4	4.8		13.3	44.4		2.1	33.2	
Actuated g/C Ratio	0.16	0.21		0.02	0.06		0.17	0.55		0.03	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	291	329		31	98		282	1860		43	1307	
v/s Ratio Prot	c0.13	c0.15		0.01	0.00		c0.14	0.17		0.02	c0.35	
v/s Ratio Perm												
v/c Ratio	0.82	0.73		0.71	0.06		0.85	0.31		0.77	0.84	
Uniform Delay, d1	32.5	29.9		39.3	35.7		32.6	9.7		38.9	21.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.0	7.0		46.1	0.1		20.4	0.0		51.8	4.6	
Delay (s)	48.5	36.9		85.4	35.8		53.0	9.8		90.7	25.7	
Level of Service	D	D		F	D		D	A		F	C	
Approach Delay (s)		40.8			58.1			22.4			27.6	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	10	431	20	5	20	221	494	40	30	786	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	479	0	22	27	0	240	580	0	33	1122	0
v/c Ratio	0.77	0.82		0.23	0.14		0.80	0.29		0.28	0.85	
Control Delay	50.8	23.2		44.9	17.6		54.7	10.8		43.1	29.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.8	23.2		44.9	17.6		54.7	10.8		43.1	29.1	
Queue Length 50th (ft)	98	73		9	2		101	40		14	197	
Queue Length 95th (ft)	#276	208		37	25		#284	155		48	#459	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	319	742		96	372		300	1993		133	1402	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.75	0.65		0.23	0.07		0.80	0.29		0.25	0.80	

Intersection Summary

Area Type: Other

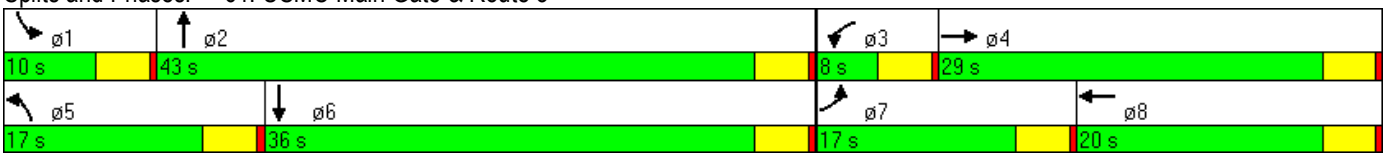
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	220	10	20	5	221	494	30	786
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	17.0	29.0	8.0	20.0	17.0	43.0	10.0	36.0
Total Split (%)	18.9%	32.2%	8.9%	22.2%	18.9%	47.8%	11.1%	40.0%
Maximum Green (s)	13.0	25.0	4.0	16.0	13.0	39.0	6.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 75.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	115	222	130	670	1038	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1599	1703	3406	3268	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1787	1599	1703	3406	3268	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	241	141	728	1128	32
RTOR Reduction (vph)	0	204	0	0	2	0
Lane Group Flow (vph)	125	37	141	728	1158	0
Heavy Vehicles (%)	1%	1%	6%	6%	10%	10%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	9.2	9.2	8.0	42.1	30.1	
Effective Green, g (s)	9.2	9.2	8.0	42.1	30.1	
Actuated g/C Ratio	0.16	0.16	0.13	0.71	0.51	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	277	248	230	2418	1659	
v/s Ratio Prot	c0.07		c0.08	0.21	c0.35	
v/s Ratio Perm		0.02				
v/c Ratio	0.45	0.15	0.61	0.30	0.70	
Uniform Delay, d1	22.8	21.7	24.2	3.2	11.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.1	3.4	0.0	1.0	
Delay (s)	23.2	21.8	27.6	3.2	12.2	
Level of Service	C	C	C	A	B	
Approach Delay (s)	22.3			7.2	12.2	
Approach LOS	C			A	B	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	59.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	115	222	130	670	1038	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	6%	6%	10%	10%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	241	141	728	1160	0
v/c Ratio	0.45	0.53	0.50	0.31	0.70	
Control Delay	32.4	9.5	33.2	3.7	15.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.4	9.5	33.2	3.7	15.2	
Queue Length 50th (ft)	40	0	45	36	159	
Queue Length 95th (ft)	114	61	126	76	307	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	530	644	474	3219	2626	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.37	0.30	0.23	0.44	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	115	222	130	670	1038
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	19.0	70.0	51.0
Total Split (%)	22.2%	22.2%	21.1%	77.8%	56.7%
Maximum Green (s)	16.0	16.0	15.0	66.0	47.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 59.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	570	430	5	5	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	620	467	5	5	130
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	473				1101	470
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	473				1101	470
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	99				98	78
cM capacity (veh/h)	1039				233	593

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	5	620	473	136
Volume Left	5	0	0	5
Volume Right	0	0	5	130
cSH	1039	1700	1700	618
Volume to Capacity	0.01	0.36	0.28	0.22
Queue Length 95th (ft)	0	0	0	21
Control Delay (s)	8.5	0.0	0.0	13.1
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	13.1
Approach LOS				B

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	577	337	40	5	531	354	270	30	30	133	20	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.94		1.00	0.93		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1612	3172		1656	3113		1770	1723		1172	1066	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1612	3172		1656	3113		1770	1723		1172	1066	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	627	366	43	5	577	385	293	33	33	145	22	55
RTOR Reduction (vph)	0	6	0	0	90	0	0	30	0	0	51	0
Lane Group Flow (vph)	627	403	0	5	872	0	293	36	0	145	26	0
Heavy Vehicles (%)	12%	12%	12%	9%	9%	9%	2%	2%	2%	54%	2%	82%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	41.0	70.6		0.8	30.4		17.0	9.7		15.0	7.7	
Effective Green, g (s)	41.0	70.6		0.8	30.4		17.0	9.7		15.0	7.7	
Actuated g/C Ratio	0.37	0.63		0.01	0.27		0.15	0.09		0.13	0.07	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	590	1998		12	844		268	149		157	73	
v/s Ratio Prot	c0.39	0.13		0.00	c0.28		c0.17	0.02		0.12	c0.02	
v/s Ratio Perm												
v/c Ratio	1.06	0.20		0.42	1.03		1.09	0.24		0.92	0.35	
Uniform Delay, d1	35.5	8.8		55.4	40.8		47.5	47.8		48.0	49.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	54.8	0.0		8.3	39.9		82.2	0.3		48.9	1.1	
Delay (s)	90.4	8.8		63.7	80.8		129.7	48.1		96.9	50.9	
Level of Service	F	A		E	F		F	D		F	D	
Approach Delay (s)		58.2			80.7			114.7			81.0	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM Average Control Delay	76.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	112.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	577	337	40	5	531	354	270	30	30	133	20	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	150		0	200		0	200		200
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		981			861			425			493	
Travel Time (s)		19.1			16.8			8.3			9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	12%	12%	12%	9%	9%	9%	2%	2%	2%	54%	2%	82%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	627	409	0	5	962	0	293	66	0	145	77	0
v/c Ratio	1.03	0.20		0.08	1.11		1.06	0.36		0.90	0.61	
Control Delay	79.5	8.5		55.4	100.0		115.7	31.8		95.7	39.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	79.5	8.5		55.4	100.0		115.7	31.8		95.7	39.5	
Queue Length 50th (ft)	~462	48		3	~364		~221	22		100	15	
Queue Length 95th (ft)	#745	102		17	#540		#423	64		#236	64	
Internal Link Dist (ft)		901			781			345			413	
Turn Bay Length (ft)	200			150			200			200		
Base Capacity (vph)	608	2062		61	866		277	359		162	232	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.03	0.20		0.08	1.11		1.06	0.18		0.90	0.33	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

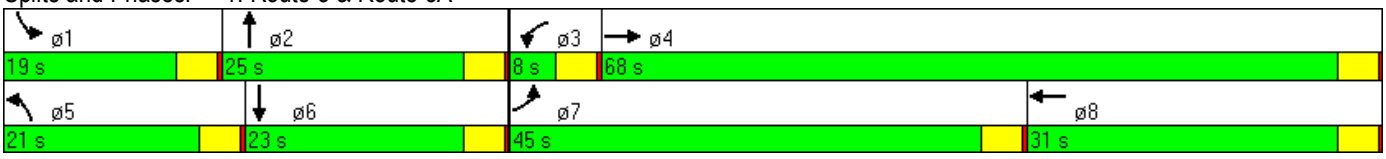
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	577	337	5	531	270	30	133	20
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	45.0	68.0	8.0	31.0	21.0	25.0	19.0	23.0
Total Split (%)	37.5%	56.7%	6.7%	25.8%	17.5%	20.8%	15.8%	19.2%
Maximum Green (s)	41.0	64.0	4.0	27.0	17.0	21.0	15.0	19.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 108.8
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Route 3 & Route 3A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	5	131	50	10	30	425	806	10	10	566	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.89		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1609		1770	1653		1641	3276		1703	3262	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1609		1770	1653		1641	3276		1703	3262	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	5	142	54	11	33	462	876	11	11	615	240
RTOR Reduction (vph)	0	125	0	0	32	0	0	1	0	0	42	0
Lane Group Flow (vph)	204	22	0	54	12	0	462	886	0	11	813	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	10%	10%	10%	6%	6%	6%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.1	9.7		3.9	3.5		25.2	50.1		0.7	25.6	
Effective Green, g (s)	10.1	9.7		3.9	3.5		25.2	50.1		0.7	25.6	
Actuated g/C Ratio	0.13	0.12		0.05	0.04		0.31	0.62		0.01	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	224	194		86	72		514	2041		15	1039	
v/s Ratio Prot	c0.11	c0.01		0.03	0.01		c0.28	0.27		0.01	c0.25	
v/s Ratio Perm												
v/c Ratio	0.91	0.11		0.63	0.17		0.90	0.43		0.73	0.78	
Uniform Delay, d1	34.7	31.5		37.5	37.1		26.4	7.8		39.8	24.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.2	0.1		9.9	0.4		17.9	0.1		93.0	3.6	
Delay (s)	70.9	31.6		47.4	37.5		44.3	7.9		132.7	28.5	
Level of Service	E	C		D	D		D	A		F	C	
Approach Delay (s)		54.4			42.9			20.4			29.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	5	131	50	10	30	425	806	10	10	566	221
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	10%	10%	10%	6%	6%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	147	0	54	44	0	462	887	0	11	855	0
v/c Ratio	0.86	0.45		0.38	0.29		0.84	0.41		0.12	0.84	
Control Delay	67.3	11.7		42.2	21.9		41.6	7.8		39.8	33.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	67.3	11.7		42.2	21.9		41.6	7.8		39.8	33.4	
Queue Length 50th (ft)	101	2		26	5		214	93		5	194	
Queue Length 95th (ft)	#231	53		62	35		#405	188		21	#314	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	238	514		165	379		547	2175		91	1043	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.86	0.29		0.33	0.12		0.84	0.41		0.12	0.82	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	188	5	50	10	425	806	10	566
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	14.0	23.0	11.0	20.0	29.0	48.0	8.0	27.0
Total Split (%)	15.6%	25.6%	12.2%	22.2%	32.2%	53.3%	8.9%	30.0%
Maximum Green (s)	10.0	19.0	7.0	16.0	25.0	44.0	4.0	23.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 75.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	19	118	228	1092	962	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1599	1671	3343	3355	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1787	1599	1671	3343	3355	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	128	248	1187	1046	201
RTOR Reduction (vph)	0	118	0	0	16	0
Lane Group Flow (vph)	21	10	248	1187	1231	0
Heavy Vehicles (%)	1%	1%	8%	8%	5%	5%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.7	4.7	14.3	49.6	31.3	
Effective Green, g (s)	4.7	4.7	14.3	49.6	31.3	
Actuated g/C Ratio	0.08	0.08	0.23	0.80	0.50	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	135	121	384	2662	1686	
v/s Ratio Prot	c0.01		c0.15	0.36	c0.37	
v/s Ratio Perm		0.01				
v/c Ratio	0.16	0.08	0.65	0.45	0.73	
Uniform Delay, d1	26.9	26.8	21.7	2.0	12.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.1	2.8	0.0	1.4	
Delay (s)	27.1	26.9	24.5	2.1	13.5	
Level of Service	C	C	C	A	B	
Approach Delay (s)	26.9			5.9	13.5	
Approach LOS	C			A	B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	19	118	228	1092	962	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	8%	8%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	128	248	1187	1247	0
v/c Ratio	0.12	0.47	0.64	0.43	0.73	
Control Delay	32.6	13.3	32.3	2.7	16.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.6	13.3	32.3	2.7	16.1	
Queue Length 50th (ft)	7	0	81	49	180	
Queue Length 95th (ft)	31	49	194	102	330	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	496	536	580	3141	2414	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.24	0.43	0.38	0.52	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	19	118	228	1092	962
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	24.0	70.0	46.0
Total Split (%)	22.2%	22.2%	26.7%	77.8%	51.1%
Maximum Green (s)	16.0	16.0	20.0	66.0	42.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 61.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	455	160	20	386	144	70	20	10	315	20	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	0.95		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3212		1517	2910		1770	1770		1480	1383	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1671	3212		1517	2910		1770	1770		1480	1383	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	495	174	22	420	157	76	22	11	342	22	616
RTOR Reduction (vph)	0	49	0	0	55	0	0	8	0	0	150	0
Lane Group Flow (vph)	53	620	0	22	522	0	76	25	0	342	488	0
Heavy Vehicles (%)	8%	8%	8%	19%	19%	19%	2%	2%	2%	22%	2%	18%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.2	16.3		1.5	15.6		3.1	17.2		17.1	31.2	
Effective Green, g (s)	2.2	16.3		1.5	15.6		3.1	17.2		17.1	31.2	
Actuated g/C Ratio	0.03	0.24		0.02	0.23		0.05	0.25		0.25	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	54	769		33	667		81	447		372	634	
v/s Ratio Prot	c0.03	c0.19		0.01	0.18		0.04	0.01		c0.23	c0.35	
v/s Ratio Perm												
v/c Ratio	0.98	0.81		0.67	0.78		0.94	0.06		0.92	0.77	
Uniform Delay, d1	32.9	24.4		33.1	24.7		32.4	19.3		24.8	15.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	115.0	5.8		32.9	5.5		77.7	0.2		26.7	5.1	
Delay (s)	148.0	30.2		66.0	30.2		110.1	19.5		51.5	20.5	
Level of Service	F	C		E	C		F	B		D	C	
Approach Delay (s)		38.9			31.5			82.7			31.3	
Approach LOS		D			C			F			C	

Intersection Summary			
HCM Average Control Delay	35.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	68.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	455	160	20	386	144	70	20	10	315	20	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		0	200		0	200		200
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1035			564			429			440	
Travel Time (s)		20.2			11.0			8.4			8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	8%	19%	19%	19%	2%	2%	2%	22%	2%	18%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	669	0	22	577	0	76	33	0	342	638	0
v/c Ratio	0.51	0.78		0.23	0.80		0.68	0.07		0.87	0.79	
Control Delay	51.2	29.2		37.6	31.5		66.1	16.8		49.7	18.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.2	29.2		37.6	31.5		66.1	16.8		49.7	18.6	
Queue Length 50th (ft)	23	110		9	108		33	7		142	137	
Queue Length 95th (ft)	#71	#222		30	#186		#101	28		#288	#354	
Internal Link Dist (ft)		955			484			349			360	
Turn Bay Length (ft)	150			150			200			200		
Base Capacity (vph)	104	925		95	782		111	452		418	811	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.51	0.72		0.23	0.74		0.68	0.07		0.82	0.79	

Intersection Summary

Area Type: Other

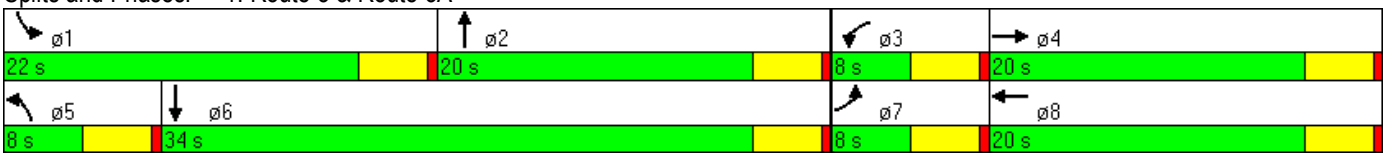
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	49	455	20	386	70	20	315	20
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	22.0	34.0
Total Split (%)	11.4%	28.6%	11.4%	28.6%	11.4%	28.6%	31.4%	48.6%
Maximum Green (s)	4.0	16.0	4.0	16.0	4.0	16.0	18.0	30.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Max	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 64.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Route 3 & Route 3A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	10	431	20	5	20	221	494	40	30	786	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.88		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1605		1770	1635		1703	3368		1641	3164	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1605		1770	1635		1703	3368		1641	3164	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	11	468	22	5	22	240	537	43	33	854	268
RTOR Reduction (vph)	0	238	0	0	21	0	0	5	0	0	30	0
Lane Group Flow (vph)	239	241	0	22	6	0	240	575	0	33	1092	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	6%	6%	6%	10%	10%	10%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.1	16.5		1.4	4.8		13.3	44.4		2.1	33.2	
Effective Green, g (s)	13.1	16.5		1.4	4.8		13.3	44.4		2.1	33.2	
Actuated g/C Ratio	0.16	0.21		0.02	0.06		0.17	0.55		0.03	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	291	329		31	98		282	1860		43	1307	
v/s Ratio Prot	c0.13	c0.15		0.01	0.00		c0.14	0.17		0.02	c0.35	
v/s Ratio Perm												
v/c Ratio	0.82	0.73		0.71	0.06		0.85	0.31		0.77	0.84	
Uniform Delay, d1	32.5	29.9		39.3	35.7		32.6	9.7		38.9	21.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.0	7.0		46.1	0.1		20.4	0.0		51.8	4.6	
Delay (s)	48.5	36.9		85.4	35.8		53.0	9.8		90.7	25.7	
Level of Service	D	D		F	D		D	A		F	C	
Approach Delay (s)		40.8			58.1			22.4			27.6	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	10	431	20	5	20	221	494	40	30	786	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	479	0	22	27	0	240	580	0	33	1122	0
v/c Ratio	0.77	0.82		0.23	0.14		0.80	0.29		0.28	0.85	
Control Delay	50.8	23.2		44.9	17.6		54.7	10.8		43.1	29.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.8	23.2		44.9	17.6		54.7	10.8		43.1	29.1	
Queue Length 50th (ft)	98	73		9	2		101	40		14	197	
Queue Length 95th (ft)	#276	208		37	25		#284	155		48	#459	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	319	742		96	372		300	1993		133	1402	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.75	0.65		0.23	0.07		0.80	0.29		0.25	0.80	

Intersection Summary

Area Type: Other

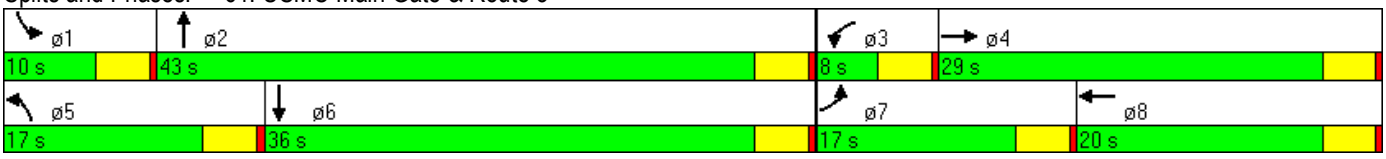
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	220	10	20	5	221	494	30	786
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	17.0	29.0	8.0	20.0	17.0	43.0	10.0	36.0
Total Split (%)	18.9%	32.2%	8.9%	22.2%	18.9%	47.8%	11.1%	40.0%
Maximum Green (s)	13.0	25.0	4.0	16.0	13.0	39.0	6.0	32.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 75.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	115	222	130	670	1038	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1599	1703	3406	3268	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1787	1599	1703	3406	3268	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	241	141	728	1128	32
RTOR Reduction (vph)	0	204	0	0	2	0
Lane Group Flow (vph)	125	37	141	728	1158	0
Heavy Vehicles (%)	1%	1%	6%	6%	10%	10%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	9.2	9.2	8.0	42.1	30.1	
Effective Green, g (s)	9.2	9.2	8.0	42.1	30.1	
Actuated g/C Ratio	0.16	0.16	0.13	0.71	0.51	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	277	248	230	2418	1659	
v/s Ratio Prot	c0.07		c0.08	0.21	c0.35	
v/s Ratio Perm		0.02				
v/c Ratio	0.45	0.15	0.61	0.30	0.70	
Uniform Delay, d1	22.8	21.7	24.2	3.2	11.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.1	3.4	0.0	1.0	
Delay (s)	23.2	21.8	27.6	3.2	12.2	
Level of Service	C	C	C	A	B	
Approach Delay (s)	22.3			7.2	12.2	
Approach LOS	C			A	B	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	59.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	115	222	130	670	1038	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	6%	6%	10%	10%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	241	141	728	1160	0
v/c Ratio	0.45	0.53	0.50	0.31	0.70	
Control Delay	32.4	9.5	33.2	3.7	15.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.4	9.5	33.2	3.7	15.2	
Queue Length 50th (ft)	40	0	45	36	159	
Queue Length 95th (ft)	114	61	126	76	307	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	530	644	474	3219	2626	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.37	0.30	0.23	0.44	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	115	222	130	670	1038
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	19.0	70.0	51.0
Total Split (%)	22.2%	22.2%	21.1%	77.8%	56.7%
Maximum Green (s)	16.0	16.0	15.0	66.0	47.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 59.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	46	485	715	10	10	25
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	58	606	894	12	12	31
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1290				
pX, platoon unblocked					0.96	
vC, conflicting volume	906				1621	900
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	906				1626	900
tC, single (s)	4.1				7.0	6.8
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.8
p0 queue free %	92				83	88
cM capacity (veh/h)	755				73	267

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	58	606	906	44
Volume Left	58	0	0	12
Volume Right	0	0	12	31
cSH	755	1700	1700	152
Volume to Capacity	0.08	0.36	0.53	0.29
Queue Length 95th (ft)	6	0	0	28
Control Delay (s)	10.2	0.0	0.0	38.0
Lane LOS	B			E
Approach Delay (s)	0.9		0.0	38.0
Approach LOS				E

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	455	40	20	485	230	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	569	50	25	606	288	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			619		1250	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			619		1250	594
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		0	88
cM capacity (veh/h)			966		186	505

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	619	631	350
Volume Left	0	25	288
Volume Right	50	0	62
cSH	1700	966	209
Volume to Capacity	0.36	0.03	1.67
Queue Length 95th (ft)	0	2	581
Control Delay (s)	0.0	0.7	362.1
Lane LOS		A	F
Approach Delay (s)	0.0	0.7	362.1
Approach LOS			F

Intersection Summary			
Average Delay	79.5		
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	505	505	45	25	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	12	631	631	56	31	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	688				1316	659
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	688				1316	659
tC, single (s)	4.1				7.1	6.9
tC, 2 stage (s)						
tF (s)	2.2				4.1	3.9
p0 queue free %	99				75	97
cM capacity (veh/h)	911				126	367

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	644	688	44
Volume Left	12	0	31
Volume Right	0	56	12
cSH	911	1700	155
Volume to Capacity	0.01	0.40	0.28
Queue Length 95th (ft)	1	0	27
Control Delay (s)	0.4	0.0	37.1
Lane LOS	A		E
Approach Delay (s)	0.4	0.0	37.1
Approach LOS			E

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	160	530	290	120	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3390		1863	1583	1752	3505
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3390		1863	1583	1752	3505
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1069	184	609	333	138	1184
RTOR Reduction (vph)	12	0	0	180	0	0
Lane Group Flow (vph)	1241	0	609	153	138	1184
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	45.5		46.1	46.1	11.4	63.0
Effective Green, g (s)	45.5		46.1	46.1	11.4	63.0
Actuated g/C Ratio	0.38		0.38	0.38	0.10	0.52
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1285		716	608	166	1840
v/s Ratio Prot	c0.37		c0.33		c0.08	0.34
v/s Ratio Perm				0.10		
v/c Ratio	0.97		0.85	0.25	0.83	0.64
Uniform Delay, d1	36.5		33.8	25.2	53.4	20.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	17.5		12.1	1.0	28.9	1.7
Delay (s)	54.0		45.9	26.2	82.3	22.2
Level of Service	D		D	C	F	C
Approach Delay (s)	54.0		38.9			28.5
Approach LOS	D		D			C

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	160	530	290	120	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1253	0	609	333	138	1184
v/c Ratio	0.97		0.85	0.42	0.83	0.64
Control Delay	54.5		46.8	6.2	90.0	22.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	54.5		46.8	6.2	90.0	22.5
Queue Length 50th (ft)	479		427	19	107	333
Queue Length 95th (ft)	#593		#570	74	#206	385
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1297		716	789	168	1841
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.97		0.85	0.42	0.82	0.64

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	930	530	290	120	1030
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	51.0	52.0	52.0	17.0	69.0
Total Split (%)	42.5%	43.3%	43.3%	14.2%	57.5%
Maximum Green (s)	45.5	46.0	46.0	11.5	63.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	20	10	750	2030	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	23	12	872	2360	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2831	1192	2384			
vC1, stage 1 conf vol	2372					
vC2, stage 2 conf vol	459					
vCu, unblocked vol	2831	1192	2384			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	79	87	94			
cM capacity (veh/h)	55	180	200			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	35	12	436	436	1574	810
Volume Left	12	12	0	0	0	0
Volume Right	23	0	0	0	0	23
cSH	102	200	1700	1700	1700	1700
Volume to Capacity	0.34	0.06	0.26	0.26	0.93	0.48
Queue Length 95th (ft)	34	5	0	0	0	0
Control Delay (s)	57.8	24.1	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	57.8	0.3			0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	290	550	190	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1845	1568	1752	1845
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1845	1568	1752	1845
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	89	322	611	211	267
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	156	89	322	611	211	267
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	8.2	85.2	46.9	85.2	14.6	67.0
Effective Green, g (s)	8.2	85.2	46.9	85.2	14.6	67.0
Actuated g/C Ratio	0.10	1.00	0.55	1.00	0.17	0.79
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	330	1583	1016	1568	300	1451
v/s Ratio Prot	0.05		0.17		c0.12	0.14
v/s Ratio Perm		0.06		c0.39		
v/c Ratio	0.47	0.06	0.32	0.39	0.70	0.18
Uniform Delay, d1	36.5	0.0	10.4	0.0	33.3	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.8	0.7	6.0	0.3
Delay (s)	36.8	0.1	11.2	0.7	39.2	2.6
Level of Service	D	A	B	A	D	A
Approach Delay (s)	23.5		4.4			18.8
Approach LOS	C		A			B

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	85.2	Sum of lost time (s)	5.5
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	290	550	190	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	89	322	611	211	267
v/c Ratio	0.47	0.06	0.32	0.39	0.70	0.18
Control Delay	41.2	0.1	12.9	0.7	45.7	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	0.1	12.9	0.7	45.7	2.8
Queue Length 50th (ft)	41	0	88	0	108	26
Queue Length 95th (ft)	71	0	175	0	171	52
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	524	1583	1015	1568	524	1450
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.06	0.32	0.39	0.40	0.18

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	290	550	190	240
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	17.0	0.0	42.0	0.0	31.0	73.0
Total Split (%)	18.9%	0.0%	46.7%	0.0%	34.4%	81.1%
Maximum Green (s)	13.0		36.0		25.5	67.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 85.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	70	70	730	280	150	840	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.97		1.00	0.96		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1655		1752	3359		1752	3470	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1655		1752	3359		1752	3470	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	75	75	785	301	161	903	65
RTOR Reduction (vph)	0	51	0	0	8	0	0	31	0	0	4	0
Lane Group Flow (vph)	0	36	0	355	335	0	75	1055	0	161	964	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		28.7	28.7		7.9	49.3		13.9	55.3	
Effective Green, g (s)		7.1		28.7	28.7		7.9	49.3		13.9	55.3	
Actuated g/C Ratio		0.06		0.24	0.24		0.07	0.41		0.12	0.46	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		402	396		115	1380		203	1599	
v/s Ratio Prot		c0.02		c0.21	0.20		0.04	c0.31		c0.09	0.28	
v/s Ratio Perm												
v/c Ratio		0.36		0.88	0.85		0.65	0.76		0.79	0.60	
Uniform Delay, d1		54.3		44.0	43.5		54.7	30.4		51.7	24.2	
Progression Factor		1.00		1.00	1.00		1.45	0.43		1.00	1.00	
Incremental Delay, d2		0.8		19.4	14.6		7.4	3.1		17.7	1.7	
Delay (s)		55.1		63.4	58.1		86.5	16.2		69.4	25.8	
Level of Service		E		E	E		F	B		E	C	
Approach Delay (s)		55.1			60.8			20.7			32.1	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	70	70	730	280	150	840	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				40%								
Lane Group Flow (vph)	0	87	0	355	343	0	75	1086	0	161	968	0
v/c Ratio		0.58		0.88	0.85		0.57	0.77		0.79	0.59	
Control Delay		39.4		67.2	61.3		89.9	16.9		78.6	27.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		67.2	61.3		89.9	16.9		78.6	27.5	
Queue Length 50th (ft)		25		273	253		62	287		120	302	
Queue Length 95th (ft)		77		#420	#378		m92	#327		#235	411	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	452		162	1410		214	1631	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.79	0.76		0.46	0.77		0.75	0.59	

Intersection Summary

Area Type: Other

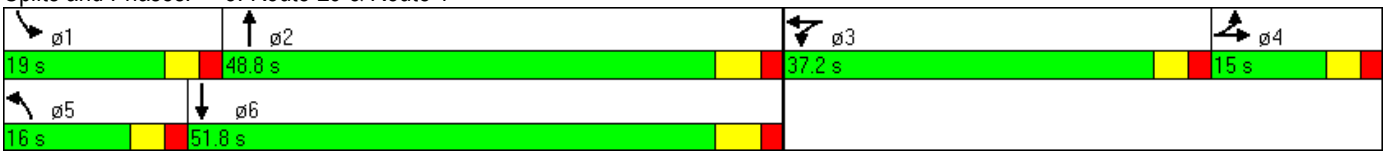
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	730	150	840
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	20	40	50	40	10	30	330	20	10	300	200
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	176	22	44	55	44	11	33	363	22	11	330	220
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	934	912	440	956	1011	374	549			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934	912	440	956	1011	374	549			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	12	92	93	73	81	98	97			99		
cM capacity (veh/h)	200	262	617	200	230	673	1015			1168		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	110	418	560
Volume Left	176	55	33	11
Volume Right	44	11	22	220
cSH	234	228	1015	1168
Volume to Capacity	1.03	0.48	0.03	0.01
Queue Length 95th (ft)	251	60	3	1
Control Delay (s)	113.0	34.7	1.0	0.3
Lane LOS	F	D	A	A
Approach Delay (s)	113.0	34.7	1.0	0.3
Approach LOS	F	D		

Intersection Summary			
Average Delay	23.9		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	120	1000	150	160	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3436		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3436		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	130	1087	163	174	1641
RTOR Reduction (vph)	0	61	9	0	0	0
Lane Group Flow (vph)	337	69	1241	0	174	1641
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	26.6	26.6	62.5		14.9	82.4
Effective Green, g (s)	26.6	26.6	62.5		14.9	82.4
Actuated g/C Ratio	0.22	0.22	0.52		0.12	0.69
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	388	348	1790		218	2407
v/s Ratio Prot	c0.19		0.36		c0.10	c0.47
v/s Ratio Perm		0.04				
v/c Ratio	0.87	0.20	0.69		0.80	0.68
Uniform Delay, d1	45.0	38.0	21.6		51.1	11.1
Progression Factor	1.00	1.00	0.43		1.06	0.99
Incremental Delay, d2	17.7	0.1	2.1		14.6	1.3
Delay (s)	62.7	38.1	11.4		68.8	12.3
Level of Service	E	D	B		E	B
Approach Delay (s)	55.8		11.4			17.7
Approach LOS	E		B			B

Intersection Summary			
HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	120	1000	150	160	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	337	130	1250	0	174	1641
v/c Ratio	0.87	0.32	0.69		0.80	0.68
Control Delay	66.9	17.7	12.0		76.2	13.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	66.9	17.7	12.0		76.2	13.3
Queue Length 50th (ft)	251	32	137		142	304
Queue Length 95th (ft)	347	82	m440		m#223	346
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	467	476	1799		239	2408
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.72	0.27	0.69		0.73	0.68

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	310	120	1000	160	1510
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	170	90	150	300	190
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	137	233	123	205	411	260
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	993	541	671			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	993	541	671			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	42	57	87			
cM capacity (veh/h)	234	539	915			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	370	329	671
Volume Left	137	123	0
Volume Right	233	0	260
cSH	364	915	1700
Volume to Capacity	1.02	0.13	0.39
Queue Length 95th (ft)	304	12	0
Control Delay (s)	86.0	4.5	0.0
Lane LOS	F	A	
Approach Delay (s)	86.0	4.5	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	24.3		
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	630	370	0	1740	320	280	1940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4919		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4919		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	685	402	0	1891	348	304	2109
RTOR Reduction (vph)	0	0	0	22	0	0	456
Lane Group Flow (vph)	685	402	0	2217	0	304	1653
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	380	3022		1681		531	825
v/s Ratio Prot	c0.39	0.08		c0.45		0.17	
v/s Ratio Perm							c0.60
v/c Ratio	1.80	0.13		1.32		0.57	2.00
Uniform Delay, d1	47.0	10.4		39.5		35.5	42.0
Progression Factor	0.50	1.00		0.70		1.00	1.00
Incremental Delay, d2	368.4	0.1		147.1		0.9	456.1
Delay (s)	391.9	10.5		174.6		36.4	498.1
Level of Service	F	B		F		D	F
Approach Delay (s)		250.8		174.6		439.9	
Approach LOS		F		F		F	

Intersection Summary			
HCM Average Control Delay	300.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	118.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	630	370	0	1740	320	280	1940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	685	402	0	2239	0	304	2109
v/c Ratio	1.80	0.13		1.31		0.57	1.65
Control Delay	390.5	10.6		171.8		40.6	316.9
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	390.5	10.6		171.8		40.6	316.9
Queue Length 50th (ft)	~822	72		~817		199	~1142
Queue Length 95th (ft)	#1060	m58		#884		294	#1293
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	380	3022		1703		531	1280
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.80	0.13		1.31		0.57	1.65

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	630	370	1740	280	1940	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	750	2480	410	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4851		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4851		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	819	266	798	2638	436	330
RTOR Reduction (vph)	0	47	0	0	0	0	274
Lane Group Flow (vph)	11	1038	0	798	2638	436	56
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	29.6		53.0	81.6	20.4	20.4
Effective Green, g (s)	1.0	29.6		53.0	81.6	20.4	20.4
Actuated g/C Ratio	0.01	0.25		0.44	0.68	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1197		774	3424	578	267
v/s Ratio Prot	0.01	c0.21		c0.46	0.52	c0.13	
v/s Ratio Perm							0.04
v/c Ratio	0.73	0.87		1.03	0.77	0.75	0.21
Uniform Delay, d1	59.4	43.3		33.5	12.9	47.4	42.9
Progression Factor	0.99	0.88		0.82	0.81	0.63	0.41
Incremental Delay, d2	88.3	8.0		19.1	0.2	4.1	0.1
Delay (s)	147.0	46.0		46.4	10.6	33.8	17.7
Level of Service	F	D		D	B	C	B
Approach Delay (s)		47.0			18.9	26.9	
Approach LOS		D			B	C	

Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	750	2480	410	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1085	0	798	2638	436	330
v/c Ratio	0.15	0.77		1.12	0.73	0.75	0.61
Control Delay	59.1	37.6		83.6	9.8	36.9	6.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	59.1	37.6		83.6	9.8	36.9	6.1
Queue Length 50th (ft)	8	137		~725	302	75	2
Queue Length 95th (ft)	m25	m#222		m266	m216	106	18
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1404		715	3593	765	609
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	0.77		1.12	0.73	0.57	0.54

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	770	750	2480	410	310
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	780	10	2000	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4826	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4826	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	322	133	267	867	11	2222	856
RTOR Reduction (vph)	0	120	0	0	0	58	0
Lane Group Flow (vph)	322	13	267	867	11	3020	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Effective Green, g (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Actuated g/C Ratio	0.10	0.10	0.16	0.76	0.01	0.61	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	277	3827	12	2936	
v/s Ratio Prot	c0.09		c0.15	0.17	0.01	c0.63	
v/s Ratio Perm		0.01					
v/c Ratio	0.94	0.08	0.96	0.23	0.92	1.03	
Uniform Delay, d1	53.6	49.0	50.2	4.2	59.6	23.5	
Progression Factor	1.00	1.00	1.08	0.99	0.98	0.60	
Incremental Delay, d2	32.3	0.1	39.7	0.1	171.7	21.9	
Delay (s)	86.0	49.1	94.0	4.2	229.9	35.9	
Level of Service	F	D	F	A	F	D	
Approach Delay (s)	75.2			25.4		36.5	
Approach LOS	E			C		D	

Intersection Summary			
HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	780	10	2000	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	322	133	267	867	11	3078	0
v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.03	
Control Delay	89.2	14.5	95.8	3.4	60.2	36.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.2	14.5	95.8	3.4	60.2	36.5	
Queue Length 50th (ft)	129	0	217	42	9	~471	
Queue Length 95th (ft)	#219	60	#384	80	m13	#220	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	278	277	3995	60	2993	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.03	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	290	120	240	780	10	2000
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	600	200	80	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4847		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4847		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	774	298	714	238	95	1333
RTOR Reduction (vph)	0	140	48	0	0	0
Lane Group Flow (vph)	774	158	904	0	95	1333
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	59.4	59.4	33.6		11.0	49.6
Effective Green, g (s)	59.4	59.4	33.6		11.0	49.6
Actuated g/C Ratio	0.49	0.49	0.28		0.09	0.41
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	876	784	1357		161	2082
v/s Ratio Prot	c0.44	0.10	0.19		0.05	c0.26
v/s Ratio Perm						
v/c Ratio	0.88	0.20	0.67		0.59	0.64
Uniform Delay, d1	27.2	17.0	38.2		52.3	28.1
Progression Factor	0.88	0.39	0.74		0.71	0.56
Incremental Delay, d2	10.1	0.0	2.2		2.4	0.9
Delay (s)	33.9	6.7	30.6		39.3	16.7
Level of Service	C	A	C		D	B
Approach Delay (s)	26.3		30.6			18.2
Approach LOS	C		C			B

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	600	200	80	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	774	298	952	0	95	1333
v/c Ratio	0.88	0.32	0.68		0.59	0.64
Control Delay	36.1	1.8	29.7		47.1	17.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.1	1.8	29.7		47.1	17.4
Queue Length 50th (ft)	569	12	235		66	196
Queue Length 95th (ft)	611	6	m270		m78	m215
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	984	1405		161	2082
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.81	0.30	0.68		0.59	0.64

Intersection Summary

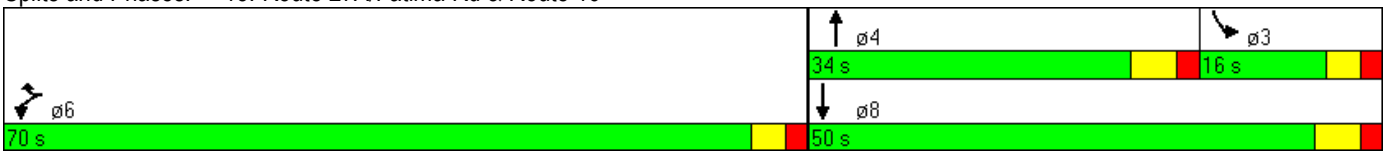
Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	650	250	600	80	1120
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1100	10	120	120	100	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4916		1752	5029		1770	1736		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4916		1752	5029		1770	1736		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	154	527	99	165	1209	11	132	132	110	33	253	505
RTOR Reduction (vph)	0	19	0	0	1	0	0	26	0	0	0	328
Lane Group Flow (vph)	154	607	0	165	1219	0	132	217	0	33	253	177
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	44.6		15.5	46.4		18.0	18.0		20.9	20.9	20.9
Effective Green, g (s)	13.7	44.6		15.5	46.4		18.0	18.0		20.9	20.9	20.9
Actuated g/C Ratio	0.11	0.37		0.13	0.39		0.15	0.15		0.17	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	200	1827		226	1945		266	260		308	324	276
v/s Ratio Prot	0.09	0.12		c0.09	c0.24		0.07	c0.12		0.02	c0.14	
v/s Ratio Perm												0.11
v/c Ratio	0.77	0.33		0.73	0.63		0.50	0.83		0.11	0.78	0.64
Uniform Delay, d1	51.6	27.0		50.2	29.8		46.8	49.5		41.7	47.4	46.1
Progression Factor	1.19	0.30		1.40	0.66		1.36	1.40		1.00	1.00	1.00
Incremental Delay, d2	14.8	0.5		8.3	1.3		0.4	16.1		0.1	10.7	3.8
Delay (s)	76.1	8.7		78.7	21.0		64.0	85.3		41.8	58.1	49.9
Level of Service	E	A		E	C		E	F		D	E	D
Approach Delay (s)		22.0			27.9			77.8			52.1	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM Average Control Delay	37.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1100	10	120	120	100	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	626	0	165	1220	0	132	242	0	33	253	505
v/c Ratio	0.77	0.34		0.73	0.63		0.50	0.85		0.11	0.78	0.84
Control Delay	84.4	9.1		85.1	22.6		68.2	81.5		39.8	63.5	23.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	84.4	9.1		85.1	22.6		68.2	81.5		39.8	63.5	23.6
Queue Length 50th (ft)	99	75		130	137		107	179		22	190	79
Queue Length 95th (ft)	#185	113		m205	m257		m165	#277		48	263	211
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	234	1850		307	1947		310	329		413	435	674
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.34		0.54	0.63		0.43	0.74		0.08	0.58	0.75

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

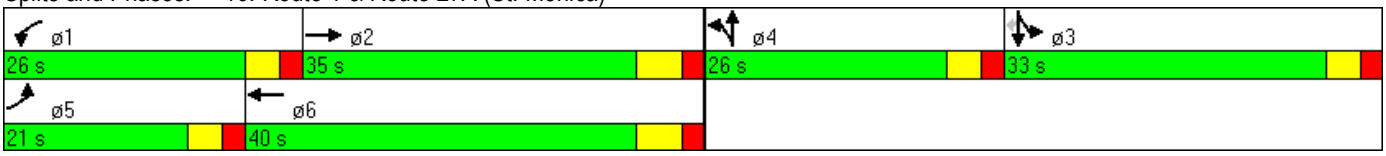
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	140	480	150	1100	120	120	30	230	460
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	40	150	20	30	10	60	200	20	20	250	130
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	45	170	23	34	11	68	227	23	23	284	148

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	80	216	68	68	250	307	148
Volume Left (vph)	80	0	23	68	0	23	0
Volume Right (vph)	0	170	11	0	23	0	148
Hadj (s)	0.53	-0.52	0.00	0.53	-0.03	0.07	-0.67
Departure Headway (s)	7.2	6.1	7.0	6.8	6.3	6.2	5.5
Degree Utilization, x	0.16	0.37	0.13	0.13	0.43	0.53	0.22
Capacity (veh/h)	468	550	459	500	549	559	627
Control Delay (s)	10.3	11.4	11.1	9.6	12.8	14.8	8.8
Approach Delay (s)	11.1		11.1	12.1		12.8	
Approach LOS	B		B	B		B	

Intersection Summary			
Delay	12.1		
HCM Level of Service	B		
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	870	1330	30	110	150	690	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	641	87	946	1446	33	120	163	750	43	326	43
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	700	0	0	10
Lane Group Flow (vph)	76	713	0	946	1477	0	120	163	50	0	369	33
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.07	0.22		0.38	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	118	1070		657	2631		118	124	183		293	247
v/s Ratio Prot	0.04	c0.14		c0.54	0.29		0.07	c0.09			c0.20	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.64	0.67		1.44	0.56		1.02	1.31	0.27		1.26	0.13
Uniform Delay, d1	54.5	43.0		37.5	19.2		56.0	56.0	53.2		50.5	43.4
Progression Factor	1.36	0.71		0.99	0.64		0.92	0.93	4.01		1.00	1.00
Incremental Delay, d2	8.4	3.2		204.6	0.7		29.2	146.8	0.0		141.4	0.1
Delay (s)	82.6	33.8		241.9	13.1		80.9	198.8	213.4		191.9	43.5
Level of Service	F	C		F	B		F	F	F		F	D
Approach Delay (s)		38.5			102.3			195.7			176.4	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	118.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	114.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	870	1330	30	110	150	690	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	728	0	946	1479	0	120	163	750	0	369	43
v/c Ratio	0.57	0.67		1.44	0.55		1.02	1.31	0.85		1.26	0.17
Control Delay	87.6	33.2		235.3	13.2		81.3	188.1	14.5		183.0	35.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.6	33.2		235.3	13.2		81.3	188.1	14.5		183.0	35.8
Queue Length 50th (ft)	62	183		~994	191		~98	~166	103		~358	21
Queue Length 95th (ft)	m111	235		m#1190	m241		m#137	m#200	m84		#550	56
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	172	1085		657	2675		118	124	883		293	257
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.44	0.67		1.44	0.55		1.02	1.31	0.85		1.26	0.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

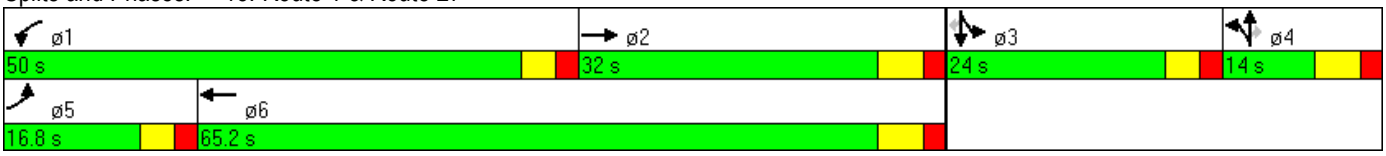
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	70	590	870	1330	110	150	690	300	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	890	370	640	1780	560	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4814		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4814		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	947	394	681	1894	596	394
RTOR Reduction (vph)	0	65	0	0	0	0	325
Lane Group Flow (vph)	11	1276	0	681	1894	596	69
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	30.0		51.0	81.2	21.0	21.0
Effective Green, g (s)	0.8	30.0		51.0	81.2	21.0	21.0
Actuated g/C Ratio	0.01	0.25		0.42	0.68	0.18	0.18
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1204		745	3408	601	277
v/s Ratio Prot	0.01	c0.27		c0.39	0.38	c0.17	
v/s Ratio Perm							0.04
v/c Ratio	0.92	1.06		0.91	0.56	0.99	0.25
Uniform Delay, d1	59.6	45.0		32.4	10.1	49.4	42.7
Progression Factor	1.31	0.60		0.62	0.27	1.00	1.00
Incremental Delay, d2	158.4	38.0		4.7	0.2	34.4	0.2
Delay (s)	236.4	65.2		24.7	2.9	83.8	42.9
Level of Service	F	E		C	A	F	D
Approach Delay (s)		66.6			8.6	67.5	
Approach LOS		E			A	E	

Intersection Summary			
HCM Average Control Delay	36.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	890	370	640	1780	560	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1341	0	681	1894	596	394
v/c Ratio	0.18	0.94		0.99	0.53	0.99	0.65
Control Delay	78.4	33.4		39.8	2.4	84.4	10.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	78.4	33.4		39.8	2.4	84.4	10.0
Queue Length 50th (ft)	9	175		551	55	240	0
Queue Length 95th (ft)	m11	m#227		m548	m59	#360	93
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1426		686	3575	601	602
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.18	0.94		0.99	0.53	0.99	0.65

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	890	640	1780	560	370
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	950	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4496			1636	1425		1608	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4496			1636	1425		1608	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	1000	0	21	2074	116	53	53	11	179	32	400
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	176
Lane Group Flow (vph)	211	1000	0	21	2185	0	0	106	1	0	211	224
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	197	2666		37	2188			131	114		214	190
v/s Ratio Prot	c0.13	0.22		0.01	c0.49			c0.06			0.13	
v/s Ratio Perm									0.00			c0.16
v/c Ratio	1.07	0.38		0.57	1.00			0.81	0.01		0.99	1.18
Uniform Delay, d1	52.5	13.0		58.0	30.8			54.3	50.8		51.9	52.0
Progression Factor	1.19	0.35		1.12	0.78			1.00	1.00		1.00	1.00
Incremental Delay, d2	65.0	0.2		9.0	16.8			28.1	0.0		56.9	121.9
Delay (s)	127.5	4.7		74.1	40.8			82.4	50.8		108.8	173.9
Level of Service	F	A		E	D			F	D		F	F
Approach Delay (s)		26.1			41.2			79.4			151.4	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM Average Control Delay	54.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	950	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	1000	0	21	2190	0	0	106	11	0	211	400
v/c Ratio	1.07	0.36		0.24	1.00			0.81	0.09		0.99	1.09
Control Delay	122.3	4.5		66.3	41.6			95.0	26.6		110.4	98.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	122.3	4.5		66.3	41.6			95.0	26.6		110.4	98.7
Queue Length 50th (ft)	~186	36		16	~645			82	0		165	~204
Queue Length 95th (ft)	m#248	m49		m26	#738			#179	19		#324	#404
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2780		92	2193			136	129		214	366
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.07	0.36		0.23	1.00			0.78	0.09		0.99	1.09

Intersection Summary

Area Type: CBD

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	200	950	20	1970	50	10	30	380
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	210	580	550	480	170	1280	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4957	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4957	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	115	356	368	816	874	241	667	632	552	195	1471	172
RTOR Reduction (vph)	0	155	0	0	0	91	0	0	351	0	12	0
Lane Group Flow (vph)	115	569	0	816	874	150	667	632	201	195	1631	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.36	0.36	0.13	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	191		915	497	422	219	1276	571	223	1818	
v/s Ratio Prot	0.06	c0.17		0.24	c0.47		c0.38	0.18		0.11	c0.33	
v/s Ratio Perm						0.09			0.13			
v/c Ratio	1.12	2.98		0.89	1.76	0.36	3.05	0.50	0.35	0.87	0.90	
Uniform Delay, d1	56.5	56.5		42.3	44.0	35.6	52.5	29.6	27.8	51.4	35.9	
Progression Factor	0.81	0.68		0.85	0.86	0.71	1.00	1.00	1.00	1.05	0.89	
Incremental Delay, d2	121.0	902.9		3.9	344.1	0.1	932.6	1.4	1.7	21.8	5.4	
Delay (s)	166.8	941.1		40.1	382.0	25.4	985.1	31.0	29.5	75.7	37.4	
Level of Service	F	F		D	F	C	F	C	C	E	D	
Approach Delay (s)		835.0			193.0			374.4			41.5	
Approach LOS		F			F			F			D	

Intersection Summary			
HCM Average Control Delay	285.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	210	580	550	480	170	1280	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		3085			2934			862			2992	
Travel Time (s)		70.1			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	724	0	816	874	241	667	632	552	195	1643	0
v/c Ratio	1.12	2.09		0.89	1.76	0.47	3.05	0.49	0.60	0.87	0.90	
Control Delay	164.9	520.4		41.5	371.1	13.6	951.5	31.4	5.3	80.5	37.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	164.9	520.4		41.5	371.1	13.6	951.5	31.4	5.3	80.5	37.4	
Queue Length 50th (ft)	~102	~401		332	~1028	72	~899	200	0	152	293	
Queue Length 95th (ft)	#212	#500		m285	m#830	m62	#1086	246	60	m#244	371	
Internal Link Dist (ft)		3005			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	346		915	497	513	219	1277	922	234	1829	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.12	2.09		0.89	1.76	0.47	3.05	0.49	0.60	0.83	0.90	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

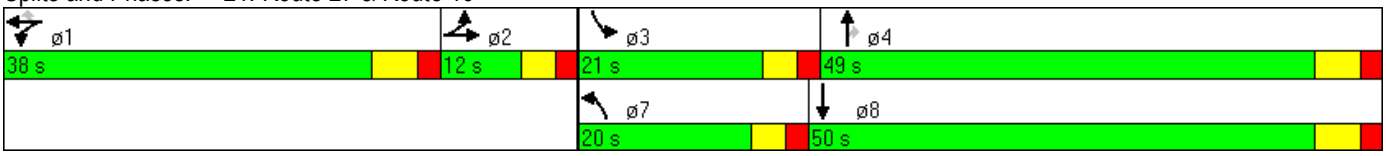
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	310	710	760	210	580	550	480	170	1280
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	5	112	50	10	20	275	380	10	10	483	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.90		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1626		1770	1676		1770	3525		1736	3326	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1626		1770	1676		1770	3525		1736	3326	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	5	122	54	11	22	299	413	11	11	525	203
RTOR Reduction (vph)	0	102	0	0	21	0	0	2	0	0	42	0
Lane Group Flow (vph)	229	25	0	54	12	0	299	422	0	11	686	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.9	11.5		3.5	2.1		15.7	37.3		0.6	22.2	
Effective Green, g (s)	12.9	11.5		3.5	2.1		15.7	37.3		0.6	22.2	
Actuated g/C Ratio	0.19	0.17		0.05	0.03		0.23	0.54		0.01	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	338	271		90	51		403	1908		15	1072	
v/s Ratio Prot	c0.13	0.02		0.03	c0.01		c0.17	0.12		0.01	c0.21	
v/s Ratio Perm												
v/c Ratio	0.68	0.09		0.60	0.23		0.74	0.22		0.73	0.64	
Uniform Delay, d1	26.1	24.3		32.0	32.6		24.7	8.2		34.1	19.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	0.1		7.0	0.8		6.3	0.0		93.0	0.9	
Delay (s)	30.3	24.3		39.0	33.4		31.0	8.3		127.0	20.9	
Level of Service	C	C		D	C		C	A		F	C	
Approach Delay (s)		28.2			36.9			17.7			22.4	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	68.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	5	112	50	10	20	275	380	10	10	483	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	100		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	127	0	54	33	0	299	424	0	11	728	0
v/c Ratio	0.62	0.34		0.31	0.20		0.68	0.20		0.09	0.72	
Control Delay	35.3	9.6		37.1	22.4		33.8	7.9		37.4	24.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.3	9.6		37.1	22.4		33.8	7.9		37.4	24.2	
Queue Length 50th (ft)	81	2		21	4		105	30		4	121	
Queue Length 95th (ft)	#203	46		62	31		#249	92		21	220	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	200			100			250			200		
Base Capacity (vph)	462	735		210	471		570	2433		118	1391	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.17		0.26	0.07		0.52	0.17		0.09	0.52	

Intersection Summary

Area Type: Other

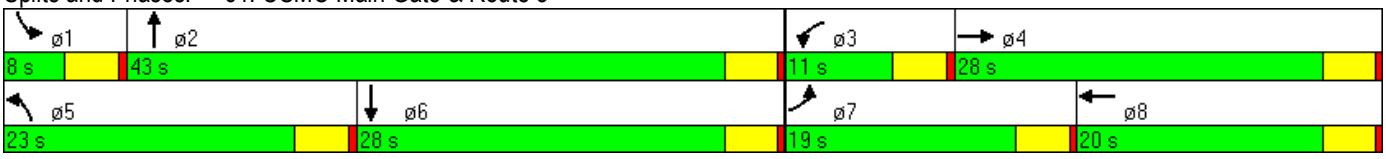
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	211	5	50	10	275	380	10	483
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	19.0	28.0	11.0	20.0	23.0	43.0	8.0	28.0
Total Split (%)	21.1%	31.1%	12.2%	22.2%	25.6%	47.8%	8.9%	31.1%
Maximum Green (s)	15.0	24.0	7.0	16.0	19.0	39.0	4.0	24.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 63.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	74	93	79	631	917	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1599	1770	3539	3459	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1787	1599	1770	3539	3459	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	101	86	686	997	96
RTOR Reduction (vph)	0	89	0	0	10	0
Lane Group Flow (vph)	80	12	86	686	1083	0
Heavy Vehicles (%)	1%	1%	2%	2%	3%	3%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.3	5.3	3.6	32.3	24.7	
Effective Green, g (s)	5.3	5.3	3.6	32.3	24.7	
Actuated g/C Ratio	0.12	0.12	0.08	0.71	0.54	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	208	186	140	2507	1874	
v/s Ratio Prot	c0.04		c0.05	0.19	c0.31	
v/s Ratio Perm		0.01				
v/c Ratio	0.38	0.06	0.61	0.27	0.58	
Uniform Delay, d1	18.6	17.9	20.3	2.4	7.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.1	5.5	0.0	0.3	
Delay (s)	19.1	18.0	25.8	2.4	7.2	
Level of Service	B	B	C	A	A	
Approach Delay (s)	18.5			5.0	7.2	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	45.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	74	93	79	631	917	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	2%	2%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	101	86	686	1093	0
v/c Ratio	0.28	0.30	0.33	0.26	0.52	
Control Delay	21.4	8.0	23.3	3.1	9.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.4	8.0	23.3	3.1	9.4	
Queue Length 50th (ft)	19	0	21	26	111	
Queue Length 95th (ft)	53	32	60	52	185	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		200			
Base Capacity (vph)	710	696	308	2910	2163	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.11	0.15	0.28	0.24	0.51	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	74	93	79	631	917
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	11.0	40.0	29.0
Total Split (%)	33.3%	33.3%	18.3%	66.7%	48.3%
Maximum Green (s)	16.0	16.0	7.0	36.0	25.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 42.8
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	180	350	420	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	196	380	457	5	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	462				1231	459
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	462				1231	459
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				97	99
cM capacity (veh/h)	1094				161	602

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	196	380	462	11
Volume Left	196	0	0	5
Volume Right	0	0	5	5
cSH	1094	1700	1700	322
Volume to Capacity	0.18	0.22	0.27	0.03
Queue Length 95th (ft)	16	0	0	3
Control Delay (s)	9.0	0.0	0.0	19.6
Lane LOS	A			C
Approach Delay (s)	3.1		0.0	19.6
Approach LOS				C

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	21	517	616	10	10	45
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	23	574	684	11	11	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	696				1311	690
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	696				1311	690
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	97				93	88
cM capacity (veh/h)	891				162	428

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	23	574	696	61
Volume Left	23	0	0	11
Volume Right	0	0	11	50
cSH	891	1700	1700	330
Volume to Capacity	0.03	0.34	0.41	0.19
Queue Length 95th (ft)	2	0	0	17
Control Delay (s)	9.1	0.0	0.0	18.4
Lane LOS	A			C
Approach Delay (s)	0.4		0.0	18.4
Approach LOS				C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	357	120	50	496	80	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	397	133	56	551	89	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			530		1126	463
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			530		1126	463
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		59	96
cM capacity (veh/h)			1042		215	599

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	530	607	111
Volume Left	0	56	89
Volume Right	133	0	22
cSH	1700	1042	246
Volume to Capacity	0.31	0.05	0.45
Queue Length 95th (ft)	0	4	55
Control Delay (s)	0.0	1.4	31.1
Lane LOS		A	D
Approach Delay (s)	0.0	1.4	31.1
Approach LOS			D

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	377	516	54	63	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	419	573	60	70	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	633				1044	603
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	633				1044	603
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	99				72	98
cM capacity (veh/h)	954				246	491

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	430	633	81
Volume Left	11	0	70
Volume Right	0	60	11
cSH	954	1700	264
Volume to Capacity	0.01	0.37	0.31
Queue Length 95th (ft)	1	0	31
Control Delay (s)	0.4	0.0	24.5
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	24.5
Approach LOS			C

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	130	730	560	170	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.95		1.00	0.85	1.00	1.00
Flt Protected	0.97		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3334		1845	1568	1770	3539
Flt Permitted	0.97		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3334		1845	1568	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	141	793	609	185	652
RTOR Reduction (vph)	43	0	0	238	0	0
Lane Group Flow (vph)	424	0	793	371	185	652
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	19.4		64.7	64.7	16.4	86.6
Effective Green, g (s)	19.4		64.7	64.7	16.4	86.6
Actuated g/C Ratio	0.17		0.55	0.55	0.14	0.74
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	550		1016	863	247	2608
v/s Ratio Prot	c0.13		c0.43		c0.10	0.18
v/s Ratio Perm				0.24		
v/c Ratio	0.77		0.78	0.43	0.75	0.25
Uniform Delay, d1	46.9		20.8	15.5	48.6	5.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	6.8		5.9	1.6	12.1	0.2
Delay (s)	53.7		26.7	17.1	60.7	5.2
Level of Service	D		C	B	E	A
Approach Delay (s)	53.7		22.6			17.5
Approach LOS	D		C			B

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	117.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	130	730	560	170	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	467	0	793	609	185	652
v/c Ratio	0.79		0.78	0.55	0.75	0.25
Control Delay	51.8		28.8	4.7	67.8	5.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	51.8		28.8	4.7	67.8	5.5
Queue Length 50th (ft)	157		479	29	135	76
Queue Length 95th (ft)	217		689	108	#222	102
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	667		1016	1101	279	2608
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.70		0.78	0.55	0.66	0.25

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	300	730	560	170	600
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	27.5	68.5	68.5	24.0	92.5
Total Split (%)	22.9%	57.1%	57.1%	20.0%	77.1%
Maximum Green (s)	22.0	62.5	62.5	18.5	86.5
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 117.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	10	10	1360	950	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	10	10	10	1417	990	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1724	500	1000			
vC1, stage 1 conf vol	995					
vC2, stage 2 conf vol	729					
vCu, unblocked vol	1724	500	1000			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	98	98			
cM capacity (veh/h)	260	516	688			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	21	10	708	708	660	340
Volume Left	10	10	0	0	0	0
Volume Right	10	0	0	0	0	10
cSH	346	688	1700	1700	1700	1700
Volume to Capacity	0.06	0.02	0.42	0.42	0.39	0.20
Queue Length 95th (ft)	5	1	0	0	0	0
Control Delay (s)	16.1	10.3	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	16.1	0.1			0.0	
Approach LOS	C					

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	47.6%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	640	170	260	230	100	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1727	1468	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1727	1468	1770	1863
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	753	200	306	271	118	259
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	753	200	306	271	118	259
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	18.0	59.1	16.8	59.1	7.3	29.6
Effective Green, g (s)	18.0	59.1	16.8	59.1	7.3	29.6
Actuated g/C Ratio	0.30	1.00	0.28	1.00	0.12	0.50
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1046	1583	491	1468	219	933
v/s Ratio Prot	c0.22		c0.18		c0.07	0.14
v/s Ratio Perm		0.13		0.18		
v/c Ratio	0.72	0.13	0.62	0.18	0.54	0.28
Uniform Delay, d1	18.3	0.0	18.4	0.0	24.3	8.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.2	1.8	0.3	1.3	0.1
Delay (s)	20.3	0.2	20.2	0.3	25.6	8.6
Level of Service	C	A	C	A	C	A
Approach Delay (s)	16.1		10.8			13.9
Approach LOS	B		B			B

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

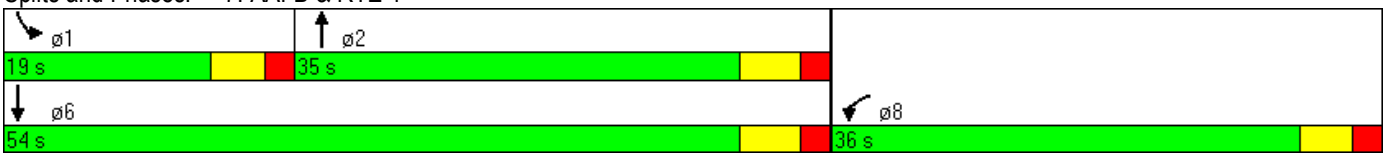
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	640	170	260	230	100	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	753	200	306	271	118	259
v/c Ratio	0.72	0.13	0.62	0.18	0.38	0.29
Control Delay	24.1	0.2	27.5	0.3	31.3	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.1	0.2	27.5	0.3	31.3	10.4
Queue Length 50th (ft)	121	0	97	0	39	49
Queue Length 95th (ft)	218	0	202	0	102	106
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	1995	1583	954	1468	455	1490
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.13	0.32	0.18	0.26	0.17

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	640	170	260	230	100	220
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	36.0	0.0	35.0	0.0	19.0	54.0
Total Split (%)	40.0%	0.0%	38.9%	0.0%	21.1%	60.0%
Maximum Green (s)	30.5		29.0		13.5	48.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 59.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	60	1070	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.93		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1610		1703	3277		1752	3500	
Flt Permitted		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1610		1703	3277		1752	3500	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	341	11	99	11	1077	363	66	1176	11
RTOR Reduction (vph)	0	29	0	0	24	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	37	0	232	195	0	11	1418	0	66	1187	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Effective Green, g (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.57		0.06	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		277	265		34	1863		102	2124	
v/s Ratio Prot		c0.02		c0.14	0.12		0.01	c0.43		c0.04	c0.34	
v/s Ratio Perm												
v/c Ratio		0.46		0.84	0.73		0.32	0.76		0.65	0.56	
Uniform Delay, d1		60.4		52.6	51.6		62.8	21.3		59.9	15.2	
Progression Factor		1.00		1.00	1.00		1.16	0.56		1.00	1.00	
Incremental Delay, d2		1.5		18.5	8.8		1.6	2.4		10.1	1.1	
Delay (s)		61.9		71.2	60.4		74.2	14.3		70.0	16.3	
Level of Service		E		E	E		E	B		E	B	
Approach Delay (s)		61.9			65.9			14.7			19.1	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM Average Control Delay	24.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	60	1070	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Shared Lane Traffic (%)				32%								
Lane Group Flow (vph)	0	66	0	232	219	0	11	1440	0	66	1187	0
v/c Ratio		0.54		0.84	0.76		0.15	0.74		0.57	0.53	
Control Delay		51.6		77.4	61.2		72.3	15.0		77.1	16.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		77.4	61.2		72.3	15.0		77.1	16.5	
Queue Length 50th (ft)		30		200	162		9	153		55	258	
Queue Length 95th (ft)		78		292	249		m16	204		104	449	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	345		92	1935		137	2234	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.69	0.63		0.12	0.74		0.48	0.53	

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	310	10	10	980	60	1070
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	50	40	20	20	10	50	150	30	10	270	140
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	53	42	21	21	11	53	158	32	11	284	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	679	674	358	726	732	174	432			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	679	674	358	726	732	174	432			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	85	94	92	94	99	95			99		
cM capacity (veh/h)	329	356	686	271	330	870	1123			1378		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	53	242	442
Volume Left	147	21	53	11
Volume Right	42	11	32	147
cSH	369	343	1123	1378
Volume to Capacity	0.66	0.15	0.05	0.01
Queue Length 95th (ft)	112	13	4	1
Control Delay (s)	31.6	17.4	2.2	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	31.6	17.4	2.2	0.3
Approach LOS	D	C		

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	160	1190	180	130	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3370		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3370		1752	3505
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	167	1240	188	135	1219
RTOR Reduction (vph)	0	131	7	0	0	0
Lane Group Flow (vph)	188	36	1421	0	135	1219
Heavy Vehicles (%)	3%	3%	5%	5%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	18.3	18.3	81.8		13.9	100.7
Effective Green, g (s)	18.3	18.3	81.8		13.9	100.7
Actuated g/C Ratio	0.14	0.14	0.63		0.11	0.77
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	247	221	2121		187	2715
v/s Ratio Prot	c0.11		c0.42		c0.08	0.35
v/s Ratio Perm		0.02				
v/c Ratio	0.76	0.16	0.67		0.72	0.45
Uniform Delay, d1	53.7	49.1	15.4		56.2	5.1
Progression Factor	1.00	1.00	0.29		1.19	0.71
Incremental Delay, d2	11.7	0.1	1.3		9.3	0.5
Delay (s)	65.5	49.3	5.9		76.3	4.0
Level of Service	E	D	A		E	A
Approach Delay (s)	57.8		5.9			11.2
Approach LOS	E		A			B

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	160	1190	180	130	1170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	3%	5%	5%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	167	1428	0	135	1219
v/c Ratio	0.76	0.48	0.67		0.72	0.45
Control Delay	72.9	13.9	6.3		84.2	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	72.9	13.9	6.3		84.2	4.4
Queue Length 50th (ft)	155	11	54		96	73
Queue Length 95th (ft)	225	74	m277		m175	106
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	337	424	2128		243	2716
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.56	0.39	0.67		0.56	0.45

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	180	160	1190	130	1170
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	140	120	210	270	270	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	130	228	293	293	109
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1098	348	402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1098	348	402			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	19	81	80			
cM capacity (veh/h)	188	693	1151			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	283	522	402
Volume Left	152	228	0
Volume Right	130	0	109
cSH	283	1151	1700
Volume to Capacity	1.00	0.20	0.24
Queue Length 95th (ft)	256	18	0
Control Delay (s)	92.7	5.1	0.0
Lane LOS	F	A	
Approach Delay (s)	92.7	5.1	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	23.9		
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1250	1230	0	850	170	160	850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.97		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4910		1770	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4910		1770	2787
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1316	1295	0	895	179	168	895
RTOR Reduction (vph)	0	0	0	22	0	0	772
Lane Group Flow (vph)	1316	1295	0	1052	0	168	123
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	100.1		31.1		17.9	17.9
Effective Green, g (s)	64.0	100.1		31.1		17.9	17.9
Actuated g/C Ratio	0.49	0.77		0.24		0.14	0.14
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	863	3878		1175		244	384
v/s Ratio Prot	c0.75	0.26		c0.21		c0.09	
v/s Ratio Perm							0.04
v/c Ratio	1.52	0.33		0.90		0.69	0.32
Uniform Delay, d1	33.0	4.6		47.9		53.4	50.6
Progression Factor	0.48	0.75		0.48		1.00	1.00
Incremental Delay, d2	236.8	0.0		9.9		6.3	0.2
Delay (s)	252.7	3.5		32.8		59.7	50.7
Level of Service	F	A		C		E	D
Approach Delay (s)		129.1		32.8		52.2	
Approach LOS		F		C		D	

Intersection Summary			
HCM Average Control Delay	90.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1250	1230	0	850	170	160	850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1316	1295	0	1074	0	168	895
v/c Ratio	1.52	0.33		0.90		0.69	0.77
Control Delay	257.1	3.8		34.9		67.3	8.2
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	257.1	3.8		34.9		67.3	8.2
Queue Length 50th (ft)	~1590	79		97		136	0
Queue Length 95th (ft)	m#1482	m109		#420		206	60
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	863	3876		1195		313	1230
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.52	0.33		0.90		0.54	0.73

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

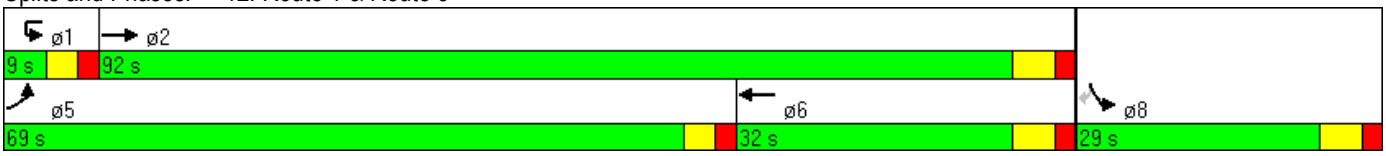
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1250	1230	850	160	850	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1850	680	320	1440	560	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4815		1752	5036	3400	1544
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4815		1752	5036	3400	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1927	708	333	1500	583	562
RTOR Reduction (vph)	0	54	0	0	0	0	219
Lane Group Flow (vph)	10	2581	0	333	1500	583	343
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	62.0		25.0	86.0	26.0	26.0
Effective Green, g (s)	1.0	62.0		25.0	86.0	26.0	26.0
Actuated g/C Ratio	0.01	0.48		0.19	0.66	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2296		337	3332	680	309
v/s Ratio Prot	0.01	c0.54		c0.19	0.30	0.17	
v/s Ratio Perm							c0.22
v/c Ratio	0.71	1.12		0.99	0.45	0.86	1.11
Uniform Delay, d1	64.4	34.0		52.4	10.6	50.2	52.0
Progression Factor	0.90	1.00		0.63	0.54	0.54	0.48
Incremental Delay, d2	56.2	59.5		33.9	0.3	5.3	69.7
Delay (s)	113.9	93.4		66.7	6.0	32.4	94.5
Level of Service	F	F		E	A	C	F
Approach Delay (s)		93.5			17.0	62.9	
Approach LOS		F			B	E	

Intersection Summary			
HCM Average Control Delay	62.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1850	680	320	1440	560	540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2635	0	333	1500	583	562
v/c Ratio	0.14	1.06		1.18	0.43	0.86	1.06
Control Delay	56.9	61.5		132.3	5.2	34.9	61.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	56.9	61.5		132.3	5.2	34.9	61.9
Queue Length 50th (ft)	8	~870		~340	75	204	~242
Queue Length 95th (ft)	m11	m#906		m#459	146	m235	m#397
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2496		283	3487	680	528
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.06		1.18	0.43	0.86	1.06

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

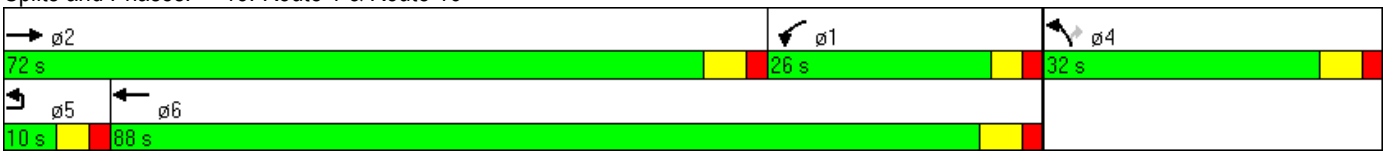
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1850	320	1440	560	540
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	830	190	260	2020	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4768	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4768	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	922	211	289	2244	33	1478	811
RTOR Reduction (vph)	0	110	0	0	0	76	0
Lane Group Flow (vph)	922	101	289	2244	33	2213	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Effective Green, g (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Actuated g/C Ratio	0.25	0.25	0.16	0.60	0.02	0.46	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	283	3022	42	2201	
v/s Ratio Prot	c0.27		c0.16	0.45	0.02	c0.46	
v/s Ratio Perm		0.06					
v/c Ratio	1.06	0.25	1.02	0.74	0.79	1.01	
Uniform Delay, d1	48.5	38.6	54.5	18.8	63.2	35.0	
Progression Factor	1.00	1.00	1.06	1.00	1.18	0.85	
Incremental Delay, d2	47.2	0.1	31.3	0.4	53.5	19.4	
Delay (s)	95.7	38.8	89.2	19.1	128.4	49.1	
Level of Service	F	D	F	B	F	D	
Approach Delay (s)	85.1			27.1		50.2	
Approach LOS	F			C		D	

Intersection Summary			
HCM Average Control Delay	47.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	830	190	260	2020	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	922	211	289	2244	33	2289	0
v/c Ratio	1.06	0.41	1.02	0.72	0.49	1.01	
Control Delay	93.5	15.5	87.5	18.6	93.6	47.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	93.5	15.5	87.5	18.6	93.6	47.3	
Queue Length 50th (ft)	~438	42	~266	368	26	~718	
Queue Length 95th (ft)	#569	114	m#269	m369	m56	#783	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	512	283	3099	69	2277	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.06	0.41	1.02	0.72	0.48	1.01	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	830	190	260	2020	30	1330
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1110	650	300	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.94		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4757		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4757		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	409	194	1194	699	323	946
RTOR Reduction (vph)	0	143	81	0	0	0
Lane Group Flow (vph)	409	51	1812	0	323	946
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1939		364	3293
v/s Ratio Prot	c0.23	0.03	c0.38		c0.18	0.19
v/s Ratio Perm						
v/c Ratio	0.88	0.12	0.93		0.89	0.29
Uniform Delay, d1	46.1	36.6	36.8		50.0	9.6
Progression Factor	0.61	0.27	0.35		0.76	0.29
Incremental Delay, d2	17.7	0.5	4.0		10.6	0.1
Delay (s)	45.9	10.5	16.9		48.6	2.9
Level of Service	D	B	B		D	A
Approach Delay (s)	34.5		16.9			14.5
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1110	650	300	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	194	1893	0	323	946
v/c Ratio	0.88	0.35	0.94		0.89	0.29
Control Delay	47.2	2.8	16.6		52.1	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	47.2	2.8	16.6		52.1	2.9
Queue Length 50th (ft)	327	16	176		269	48
Queue Length 95th (ft)	m#478	m3	m171		m266	m45
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	557	2021		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.88	0.35	0.94		0.89	0.29

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	380	180	1110	300	880
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	930	90	180	680	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4969		1752	5024		1770	1727		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4969		1752	5024		1770	1727		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	979	95	189	716	11	105	211	200	21	179	158
RTOR Reduction (vph)	0	8	0	0	1	0	0	28	0	0	0	140
Lane Group Flow (vph)	316	1066	0	189	726	0	105	383	0	21	179	18
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Effective Green, g (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Actuated g/C Ratio	0.20	0.36		0.12	0.28		0.25	0.25		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	349	1766		217	1407		440	429		196	206	175
v/s Ratio Prot	c0.18	c0.21		0.11	0.14		0.06	c0.22		0.01	c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.91	0.60		0.87	0.52		0.24	0.89		0.11	0.87	0.10
Uniform Delay, d1	50.9	34.4		55.9	39.4		39.0	47.2		52.0	56.9	52.0
Progression Factor	1.37	0.67		1.03	0.70		1.17	1.14		1.00	1.00	1.00
Incremental Delay, d2	24.5	1.5		27.5	1.3		0.0	8.9		0.1	29.0	0.1
Delay (s)	94.3	24.4		85.2	28.9		45.9	62.9		52.1	85.9	52.1
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		40.3			40.5			59.4			69.0	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	46.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	930	90	180	680	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	316	1074	0	189	727	0	105	411	0	21	179	158
v/c Ratio	0.91	0.60		0.87	0.51		0.24	0.90		0.11	0.87	0.50
Control Delay	97.4	25.2		91.2	30.2		44.7	59.3		53.0	92.7	13.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	97.4	25.2		91.2	30.2		44.7	59.3		53.0	92.7	13.7
Queue Length 50th (ft)	258	138		160	203		61	222		16	150	0
Queue Length 95th (ft)	#394	174		#281	268		m60	m218		43	#278	65
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1776		229	1412		517	531		204	215	322
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.84	0.60		0.83	0.51		0.20	0.77		0.10	0.83	0.49

Intersection Summary

Area Type: Other

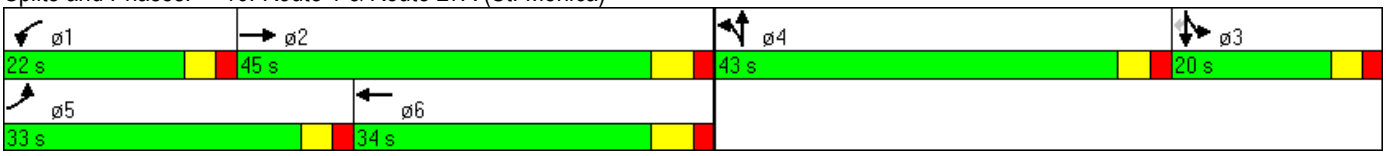
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	300	930	180	680	100	200	20	170	150
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	80	220	40	70	20	20	340	30	20	310	330
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	117	104	286	52	91	26	26	442	39	26	403	429

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	117	390	169	26	481	429	429
Volume Left (vph)	117	0	52	26	0	26	0
Volume Right (vph)	0	286	26	0	39	0	429
Hadj (s)	0.53	-0.48	0.00	0.53	-0.02	0.06	-0.67
Departure Headway (s)	9.1	8.1	9.4	9.3	8.7	8.4	7.6
Degree Utilization, x	0.29	0.87	0.44	0.07	1.16	0.99	0.91
Capacity (veh/h)	390	439	352	382	429	429	460
Control Delay (s)	14.6	44.4	19.6	11.7	123.2	70.0	48.2
Approach Delay (s)	37.6		19.6	117.4		59.1	
Approach LOS	E		C	F		F	

Intersection Summary			
Delay	65.0		
HCM Level of Service	F		
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1090	70	490	760	30	140	340	1090	50	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (prot)	1752	4986		1752	5007		1770	1863	2745		1834	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.98	1.00
Satd. Flow (perm)	1752	4986		1752	5007		1770	1863	2745		1834	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1160	74	521	809	32	149	362	1160	53	117	43
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	788	0	0	21
Lane Group Flow (vph)	106	1229	0	521	838	0	149	362	372	0	170	22
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Effective Green, g (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Actuated g/C Ratio	0.09	0.25		0.29	0.45		0.19	0.19	0.19		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	159	1227		512	2242		340	358	528		183	158
v/s Ratio Prot	0.06	c0.25		c0.30	0.17		0.08	c0.19			c0.09	
v/s Ratio Perm									0.14			0.01
v/c Ratio	0.67	1.00		1.02	0.37		0.44	1.01	0.70		0.93	0.14
Uniform Delay, d1	57.2	49.0		46.0	23.8		46.3	52.5	49.0		58.0	53.4
Progression Factor	1.25	0.59		1.45	0.81		0.83	0.85	0.98		1.00	1.00
Incremental Delay, d2	6.7	23.8		42.3	0.4		0.0	17.1	0.3		45.5	0.1
Delay (s)	78.1	52.7		108.8	19.8		38.6	61.5	48.3		103.5	53.6
Level of Service	E	D		F	B		D	E	D		F	D
Approach Delay (s)		54.7			53.9			50.3			93.4	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM Average Control Delay	54.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1090	70	490	760	30	140	340	1090	50	110	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	1234	0	521	841	0	149	362	1160	0	170	43
v/c Ratio	0.67	1.00		1.02	0.37		0.44	1.01	0.88		0.92	0.24
Control Delay	88.2	53.6		105.6	20.1		39.5	62.0	9.2		106.9	34.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	88.2	53.6		105.6	20.1		39.5	62.0	9.2		106.9	34.3
Queue Length 50th (ft)	94	~378		~423	98		109	~308	155		144	16
Queue Length 95th (ft)	m151	#490		m#625	m117		m78	m206	m54		#286	54
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1233		512	2246		340	358	1316		184	179
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.52	1.00		1.02	0.37		0.44	1.01	0.88		0.92	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	100	1090	490	760	140	340	1090	110	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	540	580	1090	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4859		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4859		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1872	574	617	1160	340	649
RTOR Reduction (vph)	0	44	0	0	0	0	430
Lane Group Flow (vph)	21	2402	0	617	1160	340	219
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2093		580	3758	343	158
v/s Ratio Prot	0.01	c0.49		c0.35	0.23	0.10	
v/s Ratio Perm							c0.14
v/c Ratio	0.50	1.15		1.06	0.31	0.99	1.38
Uniform Delay, d1	62.8	37.0		43.5	5.4	58.4	58.5
Progression Factor	1.16	0.56		0.34	0.34	1.00	1.00
Incremental Delay, d2	1.4	69.1		43.8	0.1	46.0	207.4
Delay (s)	74.4	89.9		58.6	1.9	104.5	265.9
Level of Service	E	F		E	A	F	F
Approach Delay (s)		89.8			21.6	210.4	
Approach LOS		F			C	F	

Intersection Summary			
HCM Average Control Delay	89.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	540	580	1090	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2446	0	617	1160	340	649
v/c Ratio	0.31	1.11		1.12	0.30	0.99	1.10
Control Delay	76.2	72.5		82.5	1.8	104.6	82.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	76.2	72.5		82.5	1.8	104.6	82.3
Queue Length 50th (ft)	18	~815		~588	34	150	~234
Queue Length 95th (ft)	m20	m#864		m#700	m53	#251	#473
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2211		553	3835	343	589
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.11		1.12	0.30	0.99	1.10

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

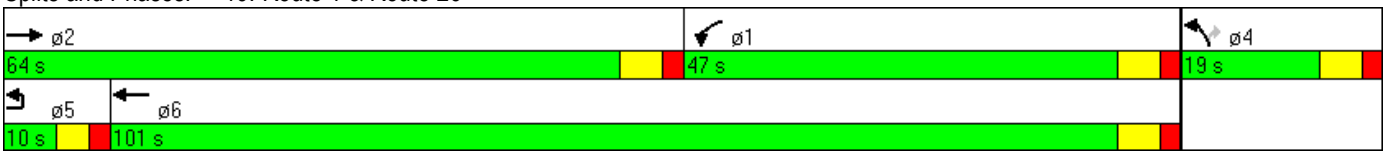
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1760	580	1090	320	610
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1320	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4973			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4973			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	521	1883	0	21	1404	128	74	106	53	160	21	298
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	48	0	0	228
Lane Group Flow (vph)	521	1883	0	21	1524	0	0	180	5	0	181	70
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Effective Green, g (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.29	0.60		0.03	0.34			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	512	3022		54	1683			183	158		192	170
v/s Ratio Prot	c0.30	0.37		0.01	c0.31			c0.10			c0.10	
v/s Ratio Perm									0.00			0.04
v/c Ratio	1.02	0.62		0.39	0.91			0.98	0.03		0.94	0.41
Uniform Delay, d1	46.0	16.6		61.8	41.0			58.4	52.8		57.6	54.2
Progression Factor	1.28	0.18		0.89	0.91			1.00	1.00		1.00	1.00
Incremental Delay, d2	16.6	0.1		1.6	8.0			61.2	0.0		48.0	0.6
Delay (s)	75.5	3.0		56.3	45.4			119.6	52.9		105.7	54.8
Level of Service	E	A		E	D			F	D		F	D
Approach Delay (s)		18.7			45.5			104.4			74.0	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1320	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	521	1883	0	21	1532	0	0	180	53	0	181	298
v/c Ratio	1.02	0.61		0.27	0.91			0.98	0.26		0.94	0.75
Control Delay	73.3	2.9		60.4	45.4			120.6	17.1		109.0	23.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	73.3	2.9		60.4	45.4			120.6	17.1		109.0	23.3
Queue Length 50th (ft)	~408	71		18	284			154	0		154	34
Queue Length 95th (ft)	m343	m66		m40	516			#306	41		#299	#141
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3100		94	1690			183	206		192	398
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.02	0.61		0.22	0.91			0.98	0.26		0.94	0.75

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	490	1770	20	1320	100	50	20	280
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	830	530	490	270	300	340	1090	820	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3332		3433	1863	1583	1752	3505	1568	1752	5002	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3332		3433	1863	1583	1752	3505	1568	1752	5002	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	874	558	516	284	316	358	1147	863	263	884	42
RTOR Reduction (vph)	0	79	0	0	0	246	0	0	242	0	4	0
Lane Group Flow (vph)	337	1353	0	516	284	70	358	1147	621	263	922	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.22	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	948		555	301	256	283	971	434	189	1116	
v/s Ratio Prot	0.19	c0.41		0.15	c0.15		c0.20	0.33		0.15	0.18	
v/s Ratio Perm						0.04			c0.40			
v/c Ratio	0.67	1.43		0.93	0.94	0.27	1.27	1.18	1.43	1.39	0.83	
Uniform Delay, d1	41.1	46.5		53.8	53.9	47.8	54.5	47.0	47.0	58.0	48.1	
Progression Factor	1.01	1.01		0.95	0.94	2.15	1.00	1.00	1.00	0.92	1.03	
Incremental Delay, d2	4.5	196.4		18.0	30.9	0.2	144.3	92.2	206.6	202.6	6.4	
Delay (s)	46.2	243.3		68.8	81.8	103.1	198.8	139.2	253.6	255.8	55.9	
Level of Service	D	F		E	F	F	F	F	F	F	E	
Approach Delay (s)		205.7			81.8			189.9			100.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	159.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	117.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	830	530	490	270	300	340	1090	820	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		3150			1269			820			2979	
Travel Time (s)		71.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	337	1432	0	516	284	316	358	1147	863	263	926	0
v/c Ratio	0.67	1.39		0.93	0.94	0.63	1.27	1.18	1.28	1.39	0.83	
Control Delay	46.9	214.2		71.3	84.7	20.8	188.2	133.7	160.5	242.3	55.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.9	214.2		71.3	84.7	20.8	188.2	133.7	160.5	242.3	55.9	
Queue Length 50th (ft)	237	~810		214	231	87	~379	~609	~705	~298	279	
Queue Length 95th (ft)	m264	m#844		m#243	m#295	m110	#575	#746	#958	m#441	m321	
Internal Link Dist (ft)		3070			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1028		555	301	501	283	971	676	189	1119	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.67	1.39		0.93	0.94	0.63	1.27	1.18	1.28	1.39	0.83	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

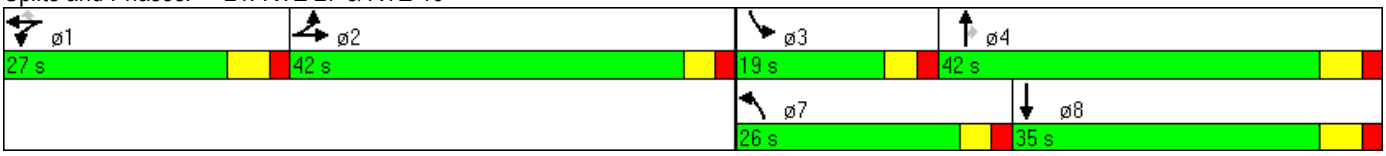
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	320	830	490	270	300	340	1090	820	250	840
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	167	10	286	20	5	10	173	411	40	20	370	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.90		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1625		1770	1671		1752	3459		1770	3335	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1625		1770	1671		1752	3459		1770	3335	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	182	11	311	22	5	11	188	447	43	22	402	251
RTOR Reduction (vph)	0	249	0	0	10	0	0	7	0	0	98	0
Lane Group Flow (vph)	182	73	0	22	6	0	188	483	0	22	555	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.1	10.4		0.6	2.9		8.4	24.8		0.6	17.0	
Effective Green, g (s)	8.1	10.4		0.6	2.9		8.4	24.8		0.6	17.0	
Actuated g/C Ratio	0.15	0.20		0.01	0.06		0.16	0.47		0.01	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	279	323		20	92		281	1637		20	1082	
v/s Ratio Prot	c0.10	c0.04		0.01	0.00		c0.11	0.14		0.01	c0.17	
v/s Ratio Perm												
v/c Ratio	0.65	0.23		1.10	0.06		0.67	0.30		1.10	0.51	
Uniform Delay, d1	20.8	17.6		25.9	23.5		20.7	8.4		25.9	14.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.1	0.1		234.8	0.1		4.6	0.0		234.8	0.2	
Delay (s)	25.0	17.7		260.7	23.6		25.3	8.5		260.7	14.5	
Level of Service	C	B		F	C		C	A		F	B	
Approach Delay (s)		20.4			160.8			13.2			22.5	
Approach LOS		C			F			B			C	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	52.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	167	10	286	20	5	10	173	411	40	20	370	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	150		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	182	322	0	22	16	0	188	490	0	22	653	0
v/c Ratio	0.44	0.54		0.10	0.07		0.45	0.27		0.10	0.58	
Control Delay	23.8	7.4		29.3	20.1		23.6	7.5		29.3	15.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.8	7.4		29.3	20.1		23.6	7.5		29.3	15.2	
Queue Length 50th (ft)	41	2		5	1		42	23		5	56	
Queue Length 95th (ft)	140	67		33	21		144	111		33	169	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	200			150			250			200		
Base Capacity (vph)	798	1163		230	701		820	2693		230	1959	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.23	0.28		0.10	0.02		0.23	0.18		0.10	0.33	

Intersection Summary

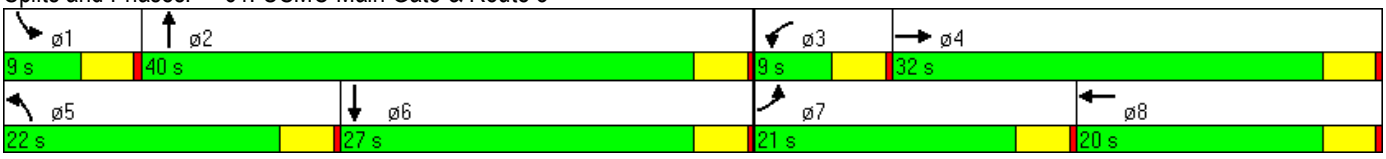
Area Type: Other

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	167	10	20	5	173	411	20	370
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	21.0	32.0	9.0	20.0	22.0	40.0	9.0	27.0
Total Split (%)	23.3%	35.6%	10.0%	22.2%	24.4%	44.4%	10.0%	30.0%
Maximum Green (s)	17.0	28.0	5.0	16.0	18.0	36.0	5.0	23.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 47.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	69	46	614	651	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1599	1752	3505	3491	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1787	1599	1752	3505	3491	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	75	50	667	708	71
RTOR Reduction (vph)	0	69	0	0	10	0
Lane Group Flow (vph)	33	6	50	667	769	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.1	3.1	2.0	26.9	20.9	
Effective Green, g (s)	3.1	3.1	2.0	26.9	20.9	
Actuated g/C Ratio	0.08	0.08	0.05	0.71	0.55	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	146	130	92	2481	1920	
v/s Ratio Prot	c0.02		c0.03	0.19	c0.22	
v/s Ratio Perm		0.00				
v/c Ratio	0.23	0.05	0.54	0.27	0.40	
Uniform Delay, d1	16.3	16.1	17.6	2.0	4.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.1	3.5	0.0	0.1	
Delay (s)	16.6	16.1	21.0	2.0	5.0	
Level of Service	B	B	C	A	A	
Approach Delay (s)	16.3			3.3	5.0	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	5.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	38.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	69	46	614	651	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	75	50	667	779	0
v/c Ratio	0.11	0.23	0.17	0.24	0.32	
Control Delay	15.7	7.3	16.5	2.6	6.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.7	7.3	16.5	2.6	6.1	
Queue Length 50th (ft)	5	0	8	21	25	
Queue Length 95th (ft)	24	25	33	42	105	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		200			
Base Capacity (vph)	896	839	329	3334	2810	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.09	0.15	0.20	0.28	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	69	46	614	651
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	10.0	40.0	30.0
Total Split (%)	33.3%	33.3%	16.7%	66.7%	50.0%
Maximum Green (s)	16.0	16.0	6.0	36.0	26.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 33.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	330	400	5	5	180
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	359	435	5	5	196
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	440				807	438
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	440				807	438
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	68
cM capacity (veh/h)	1120				349	619

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	5	359	440	201
Volume Left	5	0	0	5
Volume Right	0	0	5	196
cSH	1120	1700	1700	636
Volume to Capacity	0.00	0.21	0.26	0.32
Queue Length 95th (ft)	0	0	0	34
Control Delay (s)	8.2	0.0	0.0	13.5
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	13.5
Approach LOS				B

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	455	30	10	495	45	220	20	40	25	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3541		1770	3495		1770	1678		1081	1306	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	3541		1770	3495		1770	1678		1081	1306	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	495	33	11	538	49	239	22	43	27	22	27
RTOR Reduction (vph)	0	5	0	0	7	0	0	28	0	0	22	0
Lane Group Flow (vph)	50	523	0	11	580	0	239	37	0	27	27	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	67%	2%	59%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.0	17.6		0.6	15.2		12.1	19.0		2.4	9.3	
Effective Green, g (s)	3.0	17.6		0.6	15.2		12.1	19.0		2.4	9.3	
Actuated g/C Ratio	0.05	0.32		0.01	0.27		0.22	0.34		0.04	0.17	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	96	1121		19	955		385	573		47	218	
v/s Ratio Prot	c0.03	0.15		0.01	c0.17		c0.14	0.02		0.02	c0.02	
v/s Ratio Perm												
v/c Ratio	0.52	0.47		0.58	0.61		0.62	0.06		0.57	0.12	
Uniform Delay, d1	25.6	15.2		27.4	17.6		19.7	12.3		26.1	19.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	0.1		23.8	0.8		2.2	0.0		10.1	0.1	
Delay (s)	27.9	15.3		51.2	18.4		21.9	12.3		36.2	19.8	
Level of Service	C	B		D	B		C	B		D	B	
Approach Delay (s)		16.4			19.0			19.9			25.6	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	55.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	455	30	10	495	45	220	20	40	25	20	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	150		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		981			549			425			503	
Travel Time (s)		19.1			10.7			8.3			9.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	67%	2%	59%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	528	0	11	587	0	239	65	0	27	49	0
v/c Ratio	0.24	0.42		0.07	0.61		0.56	0.10		0.20	0.26	
Control Delay	29.7	14.1		30.3	20.2		24.9	9.9		29.6	20.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.7	14.1		30.3	20.2		24.9	9.9		29.6	20.2	
Queue Length 50th (ft)	15	52		3	84		67	4		8	6	
Queue Length 95th (ft)	53	137		20	161		155	34		33	38	
Internal Link Dist (ft)		901			469			345			423	
Turn Bay Length (ft)	200			200			150			200		
Base Capacity (vph)	237	2047		156	1854		937	1261		215	591	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.26		0.07	0.32		0.26	0.05		0.13	0.08	

Intersection Summary

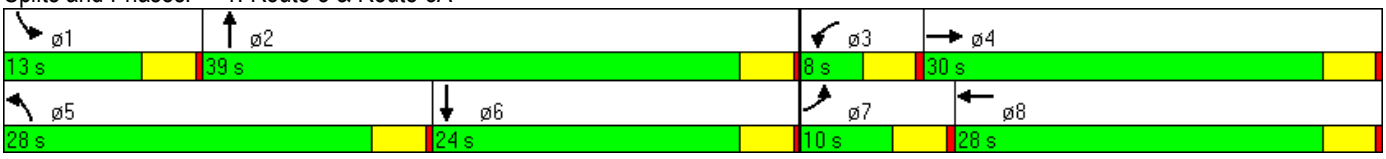
Area Type: Other

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	46	455	10	495	220	20	25	20
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	10.0	30.0	8.0	28.0	28.0	39.0	13.0	24.0
Total Split (%)	11.1%	33.3%	8.9%	31.1%	31.1%	43.3%	14.4%	26.7%
Maximum Green (s)	6.0	26.0	4.0	24.0	24.0	35.0	9.0	20.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 50.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Route 3 & Route 3A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	5	112	50	10	20	275	380	10	10	483	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.90		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1626		1770	1676		1770	3525		1736	3326	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1626		1770	1676		1770	3525		1736	3326	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	5	122	54	11	22	299	413	11	11	525	203
RTOR Reduction (vph)	0	102	0	0	21	0	0	2	0	0	42	0
Lane Group Flow (vph)	229	25	0	54	12	0	299	422	0	11	686	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.9	11.5		3.5	2.1		15.7	37.3		0.6	22.2	
Effective Green, g (s)	12.9	11.5		3.5	2.1		15.7	37.3		0.6	22.2	
Actuated g/C Ratio	0.19	0.17		0.05	0.03		0.23	0.54		0.01	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	338	271		90	51		403	1908		15	1072	
v/s Ratio Prot	c0.13	0.02		0.03	c0.01		c0.17	0.12		0.01	c0.21	
v/s Ratio Perm												
v/c Ratio	0.68	0.09		0.60	0.23		0.74	0.22		0.73	0.64	
Uniform Delay, d1	26.1	24.3		32.0	32.6		24.7	8.2		34.1	19.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	0.1		7.0	0.8		6.3	0.0		93.0	0.9	
Delay (s)	30.3	24.3		39.0	33.4		31.0	8.3		127.0	20.9	
Level of Service	C	C		D	C		C	A		F	C	
Approach Delay (s)		28.2			36.9			17.7			22.4	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	68.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	5	112	50	10	20	275	380	10	10	483	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	100		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	127	0	54	33	0	299	424	0	11	728	0
v/c Ratio	0.62	0.34		0.31	0.20		0.68	0.20		0.09	0.72	
Control Delay	35.3	9.6		37.1	22.4		33.8	7.9		37.4	24.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.3	9.6		37.1	22.4		33.8	7.9		37.4	24.2	
Queue Length 50th (ft)	81	2		21	4		105	30		4	121	
Queue Length 95th (ft)	#203	46		62	31		#249	92		21	220	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	200			100			250			200		
Base Capacity (vph)	462	735		210	471		570	2433		118	1391	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.17		0.26	0.07		0.52	0.17		0.09	0.52	

Intersection Summary

Area Type: Other

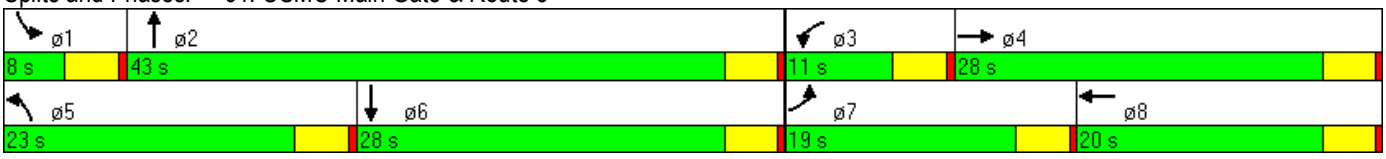
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	211	5	50	10	275	380	10	483
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	19.0	28.0	11.0	20.0	23.0	43.0	8.0	28.0
Total Split (%)	21.1%	31.1%	12.2%	22.2%	25.6%	47.8%	8.9%	31.1%
Maximum Green (s)	15.0	24.0	7.0	16.0	19.0	39.0	4.0	24.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 63.4
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	74	93	79	631	917	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1599	1770	3539	3459	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1787	1599	1770	3539	3459	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	101	86	686	997	96
RTOR Reduction (vph)	0	89	0	0	10	0
Lane Group Flow (vph)	80	12	86	686	1083	0
Heavy Vehicles (%)	1%	1%	2%	2%	3%	3%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	5.3	5.3	3.6	32.3	24.7	
Effective Green, g (s)	5.3	5.3	3.6	32.3	24.7	
Actuated g/C Ratio	0.12	0.12	0.08	0.71	0.54	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	208	186	140	2507	1874	
v/s Ratio Prot	c0.04		c0.05	0.19	c0.31	
v/s Ratio Perm		0.01				
v/c Ratio	0.38	0.06	0.61	0.27	0.58	
Uniform Delay, d1	18.6	17.9	20.3	2.4	7.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.1	5.5	0.0	0.3	
Delay (s)	19.1	18.0	25.8	2.4	7.2	
Level of Service	B	B	C	A	A	
Approach Delay (s)	18.5			5.0	7.2	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	45.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	74	93	79	631	917	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	2%	2%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	101	86	686	1093	0
v/c Ratio	0.28	0.30	0.33	0.26	0.52	
Control Delay	21.4	8.0	23.3	3.1	9.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.4	8.0	23.3	3.1	9.4	
Queue Length 50th (ft)	19	0	21	26	111	
Queue Length 95th (ft)	53	32	60	52	185	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		200			
Base Capacity (vph)	710	696	308	2910	2163	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.11	0.15	0.28	0.24	0.51	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	74	93	79	631	917
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	11.0	40.0	29.0
Total Split (%)	33.3%	33.3%	18.3%	66.7%	48.3%
Maximum Green (s)	16.0	16.0	7.0	36.0	25.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 42.8
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	407	110	40	476	54	70	20	10	63	20	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.95		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3360		1671	3291		1770	1770		1703	1564	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1736	3360		1671	3291		1770	1770		1703	1564	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	442	120	43	517	59	76	22	11	68	22	49
RTOR Reduction (vph)	0	27	0	0	10	0	0	9	0	0	41	0
Lane Group Flow (vph)	23	535	0	43	566	0	76	24	0	68	30	0
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	2%	2%	2%	6%	2%	12%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.8	13.1		2.0	14.3		3.7	6.5		3.7	6.5	
Effective Green, g (s)	0.8	13.1		2.0	14.3		3.7	6.5		3.7	6.5	
Actuated g/C Ratio	0.02	0.32		0.05	0.35		0.09	0.16		0.09	0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	34	1066		81	1139		159	279		153	246	
v/s Ratio Prot	0.01	0.16		c0.03	c0.17		c0.04	0.01		0.04	c0.02	
v/s Ratio Perm												
v/c Ratio	0.68	0.50		0.53	0.50		0.48	0.09		0.44	0.12	
Uniform Delay, d1	20.1	11.4		19.2	10.7		17.9	14.9		17.8	14.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	34.5	0.1		3.3	0.1		0.8	0.0		0.8	0.1	
Delay (s)	54.7	11.6		22.5	10.8		18.7	14.9		18.6	15.0	
Level of Service	D	B		C	B		B	B		B	B	
Approach Delay (s)		13.3			11.6			17.6			16.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	41.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	407	110	40	476	54	70	20	10	63	20	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	150		0	200		200
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1031			585			400			593	
Travel Time (s)		20.1			11.4			7.8			11.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	8%	8%	8%	2%	2%	2%	6%	2%	12%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	562	0	43	576	0	76	33	0	68	71	0
v/c Ratio	0.08	0.49		0.14	0.46		0.22	0.10		0.21	0.23	
Control Delay	22.3	13.2		21.3	11.3		20.2	17.4		20.4	13.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.3	13.2		21.3	11.3		20.2	17.4		20.4	13.0	
Queue Length 50th (ft)	4	40		7	44		13	4		11	4	
Queue Length 95th (ft)	27	126		39	130		58	28		54	38	
Internal Link Dist (ft)		951			505			320			513	
Turn Bay Length (ft)	200			200			150			200		
Base Capacity (vph)	398	2599		493	2625		754	1232		726	1100	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.06	0.22		0.09	0.22		0.10	0.03		0.09	0.06	

Intersection Summary

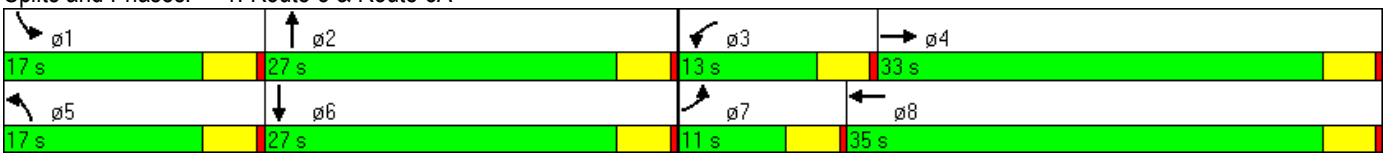
Area Type: Other

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	21	407	40	476	70	20	63	20
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	11.0	33.0	13.0	35.0	17.0	27.0	17.0	27.0
Total Split (%)	12.2%	36.7%	14.4%	38.9%	18.9%	30.0%	18.9%	30.0%
Maximum Green (s)	7.0	29.0	9.0	31.0	13.0	23.0	13.0	23.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 37.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Route 3 & Route 3A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	167	10	286	20	5	10	173	411	40	20	370	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.90		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1625		1770	1671		1752	3459		1770	3335	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1625		1770	1671		1752	3459		1770	3335	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	182	11	311	22	5	11	188	447	43	22	402	251
RTOR Reduction (vph)	0	249	0	0	10	0	0	7	0	0	98	0
Lane Group Flow (vph)	182	73	0	22	6	0	188	483	0	22	555	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.1	10.4		0.6	2.9		8.4	24.8		0.6	17.0	
Effective Green, g (s)	8.1	10.4		0.6	2.9		8.4	24.8		0.6	17.0	
Actuated g/C Ratio	0.15	0.20		0.01	0.06		0.16	0.47		0.01	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	279	323		20	92		281	1637		20	1082	
v/s Ratio Prot	c0.10	c0.04		0.01	0.00		c0.11	0.14		0.01	c0.17	
v/s Ratio Perm												
v/c Ratio	0.65	0.23		1.10	0.06		0.67	0.30		1.10	0.51	
Uniform Delay, d1	20.8	17.6		25.9	23.5		20.7	8.4		25.9	14.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.1	0.1		234.8	0.1		4.6	0.0		234.8	0.2	
Delay (s)	25.0	17.7		260.7	23.6		25.3	8.5		260.7	14.5	
Level of Service	C	B		F	C		C	A		F	B	
Approach Delay (s)		20.4			160.8			13.2			22.5	
Approach LOS		C			F			B			C	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	52.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	167	10	286	20	5	10	173	411	40	20	370	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	100		0	250		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	182	322	0	22	16	0	188	490	0	22	653	0
v/c Ratio	0.44	0.54		0.10	0.07		0.45	0.27		0.10	0.58	
Control Delay	23.8	7.4		29.3	20.1		23.6	7.5		29.3	15.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.8	7.4		29.3	20.1		23.6	7.5		29.3	15.2	
Queue Length 50th (ft)	41	2		5	1		42	23		5	56	
Queue Length 95th (ft)	140	67		33	21		144	111		33	169	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	200			100			250			200		
Base Capacity (vph)	798	1163		230	701		820	2693		230	1959	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.23	0.28		0.10	0.02		0.23	0.18		0.10	0.33	

Intersection Summary

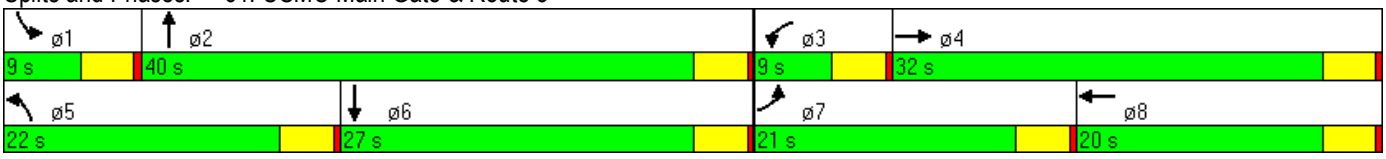
Area Type: Other

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	167	10	20	5	173	411	20	370
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	21.0	32.0	9.0	20.0	22.0	40.0	9.0	27.0
Total Split (%)	23.3%	35.6%	10.0%	22.2%	24.4%	44.4%	10.0%	30.0%
Maximum Green (s)	17.0	28.0	5.0	16.0	18.0	36.0	5.0	23.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 47.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	69	46	614	651	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1599	1752	3505	3491	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1787	1599	1752	3505	3491	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	75	50	667	708	71
RTOR Reduction (vph)	0	69	0	0	10	0
Lane Group Flow (vph)	33	6	50	667	769	0
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.1	3.1	2.0	26.9	20.9	
Effective Green, g (s)	3.1	3.1	2.0	26.9	20.9	
Actuated g/C Ratio	0.08	0.08	0.05	0.71	0.55	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	146	130	92	2481	1920	
v/s Ratio Prot	c0.02		c0.03	0.19	c0.22	
v/s Ratio Perm		0.00				
v/c Ratio	0.23	0.05	0.54	0.27	0.40	
Uniform Delay, d1	16.3	16.1	17.6	2.0	4.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.1	3.5	0.0	0.1	
Delay (s)	16.6	16.1	21.0	2.0	5.0	
Level of Service	B	B	C	A	A	
Approach Delay (s)	16.3			3.3	5.0	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	5.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	38.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	69	46	614	651	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	75	50	667	779	0
v/c Ratio	0.11	0.23	0.17	0.24	0.32	
Control Delay	15.7	7.3	16.5	2.6	6.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.7	7.3	16.5	2.6	6.1	
Queue Length 50th (ft)	5	0	8	21	25	
Queue Length 95th (ft)	24	25	33	42	105	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		200			
Base Capacity (vph)	896	839	329	3334	2810	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.09	0.15	0.20	0.28	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	69	46	614	651
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	10.0	40.0	30.0
Total Split (%)	33.3%	33.3%	16.7%	66.7%	50.0%
Maximum Green (s)	16.0	16.0	6.0	36.0	26.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 33.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Guam and CNMI Military Relocation
(2012 Roadmap Adjustments)

TRAFFIC OPERATIONS REPORT
SUPPLEMENTAL ANALYSES

Appendix B

Synchro Analyses for
Finegayan/AAFB Alternative

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	446	395	828	30	10	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	558	494	1035	38	12	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1290				
pX, platoon unblocked						
vC, conflicting volume	1072				2662	1054
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1072				2662	1054
tC, single (s)	4.2				7.1	6.9
tC, 2 stage (s)						
tF (s)	2.3				4.1	3.9
p0 queue free %	10				0	78
cM capacity (veh/h)	621				2	208

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	558	494	1072	58
Volume Left	558	0	0	12
Volume Right	0	0	38	45
cSH	621	1700	1700	7
Volume to Capacity	0.90	0.29	0.63	8.35
Queue Length 95th (ft)	276	0	0	Err
Control Delay (s)	41.5	0.0	0.0	Err
Lane LOS	E			F
Approach Delay (s)	22.0		0.0	Err
Approach LOS				F

Intersection Summary			
Average Delay	274.2		
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	375	50	10	578	270	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	469	62	12	722	338	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			531		1248	500
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			531		1248	500
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		0	89
cM capacity (veh/h)			1041		189	571

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	531	735	400
Volume Left	0	12	338
Volume Right	62	0	62
cSH	1700	1041	211
Volume to Capacity	0.31	0.01	1.89
Queue Length 95th (ft)	0	1	720
Control Delay (s)	0.0	0.3	457.7
Lane LOS		A	F
Approach Delay (s)	0.0	0.3	457.7
Approach LOS			F

Intersection Summary			
Average Delay	110.0		
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	20	405	598	392	85	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	25	506	748	490	106	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1238				1549	992
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1238				1549	992
tC, single (s)	4.1				7.1	6.9
tC, 2 stage (s)						
tF (s)	2.2				4.1	3.9
p0 queue free %	96				0	95
cM capacity (veh/h)	566				86	228

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	531	1238	119
Volume Left	25	0	106
Volume Right	0	490	12
cSH	566	1700	92
Volume to Capacity	0.04	0.73	1.29
Queue Length 95th (ft)	3	0	214
Control Delay (s)	1.2	0.0	275.4
Lane LOS	A		F
Approach Delay (s)	1.2	0.0	275.4
Approach LOS			F

Intersection Summary			
Average Delay	17.7		
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	900	140	960	300	120	990
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3394		1776	1509	1736	3471
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3394		1776	1509	1736	3471
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1034	161	1103	345	138	1138
RTOR Reduction (vph)	11	0	0	102	0	0
Lane Group Flow (vph)	1184	0	1103	243	138	1138
Heavy Vehicles (%)	2%	2%	7%	7%	4%	4%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	44.3		46.1	46.1	11.4	63.0
Effective Green, g (s)	44.3		46.1	46.1	11.4	63.0
Actuated g/C Ratio	0.37		0.39	0.39	0.10	0.53
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1266		689	586	167	1841
v/s Ratio Prot	c0.35		c0.62		c0.08	0.33
v/s Ratio Perm				0.16		
v/c Ratio	0.94		1.60	0.41	0.83	0.62
Uniform Delay, d1	35.9		36.3	26.5	52.7	19.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	12.9		277.2	2.2	27.7	1.6
Delay (s)	48.8		313.5	28.7	80.4	21.1
Level of Service	D		F	C	F	C
Approach Delay (s)	48.8		245.7			27.5
Approach LOS	D		F			C

Intersection Summary			
HCM Average Control Delay	114.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	118.8	Sum of lost time (s)	17.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	900	140	960	300	120	990
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	7%	7%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1195	0	1103	345	138	1138
v/c Ratio	0.94		1.60	0.50	0.83	0.62
Control Delay	49.6		304.6	16.7	89.9	21.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	49.6		304.6	16.7	89.9	21.5
Queue Length 50th (ft)	445		~1229	100	107	315
Queue Length 95th (ft)	#524		#1418	176	#208	366
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1311		690	688	168	1841
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.91		1.60	0.50	0.82	0.62

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	900	960	300	120	990
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	51.0	52.0	52.0	17.0	69.0
Total Split (%)	42.5%	43.3%	43.3%	14.2%	57.5%
Maximum Green (s)	45.5	46.0	46.0	11.5	63.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 118.8
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	20	10	1140	1950	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	23	12	1326	2267	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2965	1145	2291			
vC1, stage 1 conf vol	2279					
vC2, stage 2 conf vol	686					
vCu, unblocked vol	2965	1145	2291			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	88	95			
cM capacity (veh/h)	61	193	217			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	35	12	663	663	1512	779
Volume Left	12	12	0	0	0	0
Volume Right	23	0	0	0	0	23
cSH	112	217	1700	1700	1700	1700
Volume to Capacity	0.31	0.05	0.39	0.39	0.89	0.46
Queue Length 95th (ft)	30	4	0	0	0	0
Control Delay (s)	50.9	22.5	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	50.9	0.2			0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	220	500	830	200	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3273	1509	1727	1468	1597	1681
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3273	1509	1727	1468	1597	1681
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	200	244	556	922	222	267
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	200	244	556	922	222	267
Heavy Vehicles (%)	7%	7%	10%	10%	13%	13%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	9.6	86.7	45.2	86.7	16.4	67.1
Effective Green, g (s)	9.6	86.7	45.2	86.7	16.4	67.1
Actuated g/C Ratio	0.11	1.00	0.52	1.00	0.19	0.77
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	362	1509	900	1468	302	1301
v/s Ratio Prot	0.06		0.32		0.14	0.16
v/s Ratio Perm		0.16		c0.63		
v/c Ratio	0.55	0.16	0.62	0.63	0.74	0.21
Uniform Delay, d1	36.5	0.0	14.7	0.0	33.1	2.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.2	3.2	2.0	7.8	0.4
Delay (s)	37.6	0.2	17.8	2.0	40.9	3.0
Level of Service	D	A	B	A	D	A
Approach Delay (s)	17.0		8.0			20.2
Approach LOS	B		A			C

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	86.7	Sum of lost time (s)	0.0
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	220	500	830	200	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	7%	10%	10%	13%	13%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	200	244	556	922	222	267
v/c Ratio	0.55	0.16	0.62	0.63	0.74	0.21
Control Delay	42.4	0.2	20.5	2.0	47.4	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	0.2	20.5	2.0	47.4	3.3
Queue Length 50th (ft)	54	0	203	0	115	30
Queue Length 95th (ft)	87	0	395	0	181	60
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	491	1509	900	1468	470	1300
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.16	0.62	0.63	0.47	0.21

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	220	500	830	200	240
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	17.0	0.0	42.0	0.0	31.0	73.0
Total Split (%)	18.9%	0.0%	46.7%	0.0%	34.4%	81.1%
Maximum Green (s)	13.0		36.0		25.5	67.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 86.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	90	70	1150	270	140	850	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.96		1.00	0.97		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1645		1656	3218		1656	3279	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1645		1656	3218		1656	3279	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	97	75	1237	290	151	914	65
RTOR Reduction (vph)	0	51	0	0	11	0	0	15	0	0	4	0
Lane Group Flow (vph)	0	36	0	366	343	0	75	1512	0	151	975	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	9%	9%	9%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		29.3	29.3		8.1	48.8		13.8	54.5	
Effective Green, g (s)		7.1		29.3	29.3		8.1	48.8		13.8	54.5	
Actuated g/C Ratio		0.06		0.24	0.24		0.07	0.41		0.12	0.45	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		410	402		112	1309		190	1489	
v/s Ratio Prot		c0.02		c0.22	0.21		0.05	c0.47		c0.09	0.30	
v/s Ratio Perm												
v/c Ratio		0.36		0.89	0.85		0.67	1.15		0.79	0.65	
Uniform Delay, d1		54.3		43.8	43.3		54.6	35.6		51.7	25.4	
Progression Factor		1.00		1.00	1.00		1.34	0.52		1.00	1.00	
Incremental Delay, d2		0.8		20.5	15.3		5.2	74.0		18.9	2.3	
Delay (s)		55.1		64.4	58.6		78.5	92.5		70.6	27.7	
Level of Service		E		E	E		E	F		E	C	
Approach Delay (s)		55.1			61.5			91.8			33.4	
Approach LOS		E			E			F			C	

Intersection Summary			
HCM Average Control Delay	66.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	90	70	1150	270	140	850	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	9%	9%	9%	9%	9%
Shared Lane Traffic (%)				38%								
Lane Group Flow (vph)	0	87	0	366	354	0	75	1527	0	151	979	0
v/c Ratio		0.58		0.89	0.86		0.60	1.15		0.79	0.64	
Control Delay		39.4		67.7	61.3		80.4	95.6		79.9	29.4	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		67.7	61.3		80.4	95.6		79.9	29.4	
Queue Length 50th (ft)		25		280	257		62	~765		113	323	
Queue Length 95th (ft)		77		#438	#408		m73	m#865		#225	430	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	452		154	1323		202	1519	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.81	0.78		0.49	1.15		0.75	0.64	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

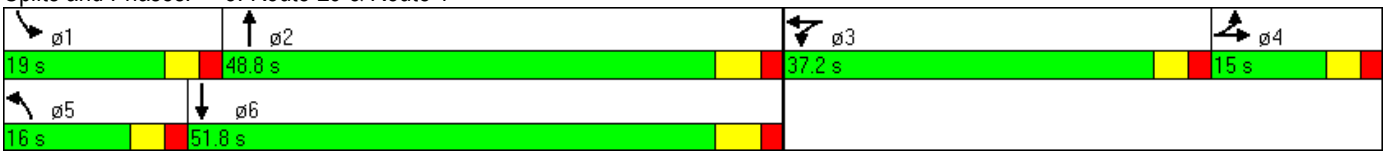
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	1150	140	850
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	170	20	30	40	40	10	30	350	20	10	280	200
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	187	22	33	44	44	11	33	385	22	11	308	220
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	934	912	418	945	1011	396	527			407		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934	912	418	945	1011	396	527			407		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	7	92	95	79	81	98	97			99		
cM capacity (veh/h)	200	262	635	208	230	654	1034			1147		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	99	440	538
Volume Left	187	44	33	11
Volume Right	33	11	22	220
cSH	226	236	1034	1147
Volume to Capacity	1.07	0.42	0.03	0.01
Queue Length 95th (ft)	264	49	2	1
Control Delay (s)	125.6	30.9	1.0	0.3
Lane LOS	F	D	A	A
Approach Delay (s)	125.6	30.9	1.0	0.3
Approach LOS	F	D		

Intersection Summary			
Average Delay	25.8		
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	290	270	1260	140	220	1470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1570	1404	3387		1687	3374
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1570	1404	3387		1687	3374
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	293	1370	152	239	1598
RTOR Reduction (vph)	0	147	7	0	0	0
Lane Group Flow (vph)	315	146	1515	0	239	1598
Heavy Vehicles (%)	15%	15%	5%	5%	7%	7%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	27.4	27.4	56.7		19.9	81.6
Effective Green, g (s)	27.4	27.4	56.7		19.9	81.6
Actuated g/C Ratio	0.23	0.23	0.47		0.17	0.68
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	358	321	1600		280	2294
v/s Ratio Prot	c0.20		c0.45		c0.14	0.47
v/s Ratio Perm		0.10				
v/c Ratio	0.88	0.46	0.95		0.85	0.70
Uniform Delay, d1	44.7	39.9	30.2		48.6	11.7
Progression Factor	1.00	1.00	0.46		1.08	0.95
Incremental Delay, d2	20.5	0.4	12.0		17.5	1.4
Delay (s)	65.2	40.3	25.8		69.8	12.5
Level of Service	E	D	C		E	B
Approach Delay (s)	53.2		25.8			20.0
Approach LOS	D		C			B

Intersection Summary			
HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	290	270	1260	140	220	1470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	15%	15%	5%	5%	7%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	315	293	1522	0	239	1598
v/c Ratio	0.88	0.63	0.95		0.85	0.70
Control Delay	69.2	20.2	27.1		76.0	13.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	69.2	20.2	27.1		76.0	13.6
Queue Length 50th (ft)	234	67	595		196	295
Queue Length 95th (ft)	#352	158	m#740		m#353	336
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	419	514	1607		280	2294
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.75	0.57	0.95		0.85	0.70

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	290	270	1260	220	1470
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	120	200	220	180	280	190
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	164	274	301	247	384	260
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1363	514	644			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1363	514	644			
tC, single (s)	6.6	6.4	4.2			
tC, 2 stage (s)						
tF (s)	3.7	3.5	2.3			
p0 queue free %	0	48	66			
cM capacity (veh/h)	97	523	882			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	438	548	644
Volume Left	164	301	0
Volume Right	274	0	260
cSH	198	882	1700
Volume to Capacity	2.22	0.34	0.38
Queue Length 95th (ft)	870	38	0
Control Delay (s)	601.9	8.2	0.0
Lane LOS	F	A	
Approach Delay (s)	601.9	8.2	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	164.6		
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	710	440	0	1820	310	300	1830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1736	4988		4926		1752	2722
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1736	4988		4926		1752	2722
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	772	478	0	1978	337	326	1989
RTOR Reduction (vph)	0	0	0	20	0	0	456
Lane Group Flow (vph)	772	478	0	2295	0	326	1533
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	4%	4%	0%	3%	3%	3%	3%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	376	2993		1683		526	817
v/s Ratio Prot	c0.44	0.10		c0.47		0.19	
v/s Ratio Perm							c0.56
v/c Ratio	2.05	0.16		1.36		0.62	1.88
Uniform Delay, d1	47.0	10.6		39.5		36.1	42.0
Progression Factor	0.44	0.77		0.65		1.00	1.00
Incremental Delay, d2	477.2	0.0		166.9		1.5	399.2
Delay (s)	497.8	8.3		192.7		37.7	441.2
Level of Service	F	A		F		D	F
Approach Delay (s)		310.6		192.7		384.4	
Approach LOS		F		F		F	

Intersection Summary			
HCM Average Control Delay	293.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	116.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	710	440	0	1820	310	300	1830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	0%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	772	478	0	2315	0	326	1989
v/c Ratio	2.05	0.16		1.36		0.62	1.56
Control Delay	497.1	8.3		190.6		42.2	279.7
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	497.1	8.3		190.6		42.2	279.7
Queue Length 50th (ft)	~965	52		~858		217	~1034
Queue Length 95th (ft)	m#974	m50		#927		318	#1186
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	376	2993		1702		526	1272
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	2.05	0.16		1.36		0.62	1.56

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	710	440	1820	300	1830	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	870	290	640	2640	660	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1787	4800		1736	4988	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1787	4800		1736	4988	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	926	309	681	2809	702	383
RTOR Reduction (vph)	0	52	0	0	0	0	298
Lane Group Flow (vph)	11	1183	0	681	2809	702	85
Heavy Vehicles (%)	1%	4%	4%	4%	4%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	23.4		53.0	75.4	26.6	26.6
Effective Green, g (s)	1.0	23.4		53.0	75.4	26.6	26.6
Actuated g/C Ratio	0.01	0.19		0.44	0.63	0.22	0.22
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	936		767	3134	754	348
v/s Ratio Prot	0.01	c0.25		0.39	c0.56	c0.21	
v/s Ratio Perm							0.05
v/c Ratio	0.73	1.26		0.89	0.90	0.93	0.24
Uniform Delay, d1	59.4	48.3		30.8	19.0	45.8	38.4
Progression Factor	0.94	0.80		0.77	0.70	0.62	0.54
Incremental Delay, d2	87.7	126.5		1.3	0.4	15.5	0.1
Delay (s)	143.8	165.3		24.9	13.7	44.1	21.0
Level of Service	F	F		C	B	D	C
Approach Delay (s)		165.1			15.9	35.9	
Approach LOS		F			B	D	

Intersection Summary			
HCM Average Control Delay	51.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	870	290	640	2640	660	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	4%	4%	4%	4%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1235	0	681	2809	702	383
v/c Ratio	0.15	1.08		0.96	0.85	0.93	0.59
Control Delay	56.6	83.6		32.4	12.3	46.9	5.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	56.6	83.6		32.4	12.3	46.9	5.5
Queue Length 50th (ft)	7	~369		448	320	288	30
Queue Length 95th (ft)	m25	m#353		m190	m223	#367	5
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	74	1147		709	3301	765	650
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	1.08		0.96	0.85	0.92	0.59

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	870	640	2640	660	360
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	300	100	160	870	10	2420	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1736	4988	1787	4800	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1736	4988	1787	4800	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	333	111	178	967	11	2689	900
RTOR Reduction (vph)	0	100	0	0	0	47	0
Lane Group Flow (vph)	333	11	178	967	11	3542	0
Heavy Vehicles (%)	2%	2%	4%	4%	1%	4%	4%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	15.8	91.2	0.8	76.2	
Effective Green, g (s)	12.0	12.0	15.8	91.2	0.8	76.2	
Actuated g/C Ratio	0.10	0.10	0.13	0.76	0.01	0.64	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	229	3791	12	3048	
v/s Ratio Prot	c0.10		c0.10	0.19	0.01	c0.74	
v/s Ratio Perm		0.01					
v/c Ratio	0.97	0.07	0.78	0.26	0.92	1.16	
Uniform Delay, d1	53.8	48.9	50.4	4.3	59.6	21.9	
Progression Factor	1.00	1.00	0.99	1.23	0.96	0.59	
Incremental Delay, d2	40.5	0.1	13.5	0.2	144.7	75.1	
Delay (s)	94.3	49.0	63.6	5.4	201.9	88.1	
Level of Service	F	D	E	A	F	F	
Approach Delay (s)	83.0			14.5		88.4	
Approach LOS	F			B		F	

Intersection Summary			
HCM Average Control Delay	71.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	300	100	160	870	10	2420	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	4%	4%	1%	4%	4%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	333	111	178	967	11	3589	0
v/c Ratio	0.97	0.43	0.78	0.24	0.18	1.16	
Control Delay	95.8	14.7	71.8	4.3	58.0	90.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	95.8	14.7	71.8	4.3	58.0	90.5	
Queue Length 50th (ft)	134	0	142	63	8	~1199	
Queue Length 95th (ft)	#228	55	212	108	m10	#483	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	258	275	3957	60	3095	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.97	0.43	0.65	0.24	0.18	1.16	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	300	100	160	870	10	2420
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	510	390	730	210	200	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4867		1736	4988
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4867		1736	4988
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	607	464	869	250	238	1060
RTOR Reduction (vph)	0	170	37	0	0	0
Lane Group Flow (vph)	607	294	1082	0	238	1060
Heavy Vehicles (%)	2%	2%	3%	3%	4%	4%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	50.2	50.2	42.8		11.0	58.8
Effective Green, g (s)	50.2	50.2	42.8		11.0	58.8
Actuated g/C Ratio	0.42	0.42	0.36		0.09	0.49
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	740	662	1736		159	2444
v/s Ratio Prot	c0.34	0.19	c0.22		c0.14	0.21
v/s Ratio Perm						
v/c Ratio	0.82	0.44	0.62		1.50	0.43
Uniform Delay, d1	30.9	24.9	31.9		54.5	19.8
Progression Factor	0.68	0.27	0.55		0.71	0.48
Incremental Delay, d2	6.6	0.2	1.3		243.2	0.4
Delay (s)	27.5	6.8	19.0		281.9	9.8
Level of Service	C	A	B		F	A
Approach Delay (s)	18.5		19.0			59.7
Approach LOS	B		B			E

Intersection Summary			
HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	510	390	730	210	200	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	607	464	1119	0	238	1060
v/c Ratio	0.82	0.56	0.63		1.50	0.43
Control Delay	29.7	4.7	19.5		274.1	10.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	29.7	4.7	19.5		274.1	10.6
Queue Length 50th (ft)	349	15	277		~253	113
Queue Length 95th (ft)	344	18	330		m#287	m160
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	991	1770		159	2442
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.63	0.47	0.63		1.50	0.43

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

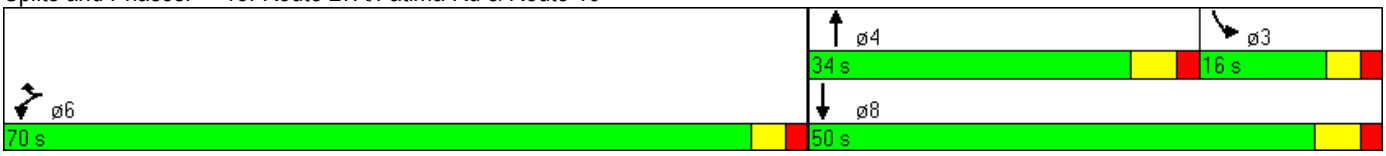
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	510	390	730	200	890
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	520	110	200	1190	10	130	130	220	40	240	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	4857		1752	5030		1719	1639		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1736	4857		1752	5030		1719	1639		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	187	571	121	220	1308	11	143	143	242	44	264	451
RTOR Reduction (vph)	0	24	0	0	1	0	0	51	0	0	0	317
Lane Group Flow (vph)	187	668	0	220	1318	0	143	334	0	44	264	134
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	15.1	38.4		18.2	41.5		21.0	21.0		21.4	21.4	21.4
Effective Green, g (s)	15.1	38.4		18.2	41.5		21.0	21.0		21.4	21.4	21.4
Actuated g/C Ratio	0.13	0.32		0.15	0.35		0.18	0.18		0.18	0.18	0.18
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	218	1554		266	1740		301	287		316	332	282
v/s Ratio Prot	0.11	0.14		c0.13	c0.26		0.08	c0.20		0.02	c0.14	
v/s Ratio Perm												0.08
v/c Ratio	0.86	0.43		0.83	0.76		0.48	1.16		0.14	0.80	0.47
Uniform Delay, d1	51.4	32.2		49.4	34.8		44.5	49.5		41.5	47.2	44.3
Progression Factor	1.16	0.35		1.46	0.66		1.32	1.39		1.00	1.00	1.00
Incremental Delay, d2	25.2	0.8		14.3	2.4		0.1	84.2		0.1	11.6	0.5
Delay (s)	84.6	12.0		86.5	25.3		58.7	152.8		41.6	58.8	44.7
Level of Service	F	B		F	C		E	F		D	E	D
Approach Delay (s)		27.4			34.1			127.3			49.4	
Approach LOS		C			C			F			D	

Intersection Summary			
HCM Average Control Delay	48.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	520	110	200	1190	10	130	130	220	40	240	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	692	0	220	1319	0	143	385	0	44	264	451
v/c Ratio	0.86	0.44		0.83	0.76		0.48	1.14		0.14	0.80	0.75
Control Delay	91.5	12.0		91.6	26.7		61.0	121.7		40.1	64.0	16.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	91.5	12.0		91.6	26.7		61.0	121.7		40.1	64.0	16.2
Queue Length 50th (ft)	124	89		183	147		118	~326		29	198	44
Queue Length 95th (ft)	#260	118		m#271	#365		m137	m#341		59	275	155
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	231	1580		307	1742		301	338		413	435	665
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.81	0.44		0.72	0.76		0.48	1.14		0.11	0.61	0.68

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

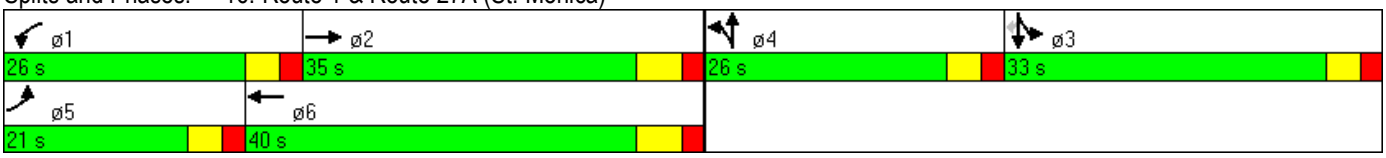
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	170	520	200	1190	130	130	40	240	410
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	40	150	20	30	20	60	250	20	20	210	120
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	91	45	170	23	34	23	68	284	23	23	239	136

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	91	216	80	68	307	261	136
Volume Left (vph)	91	0	23	68	0	23	0
Volume Right (vph)	0	170	23	0	23	0	136
Hadj (s)	0.53	-0.52	-0.08	0.53	-0.02	0.11	-0.63
Departure Headway (s)	7.3	6.2	7.0	6.9	6.3	6.4	5.7
Degree Utilization, x	0.18	0.37	0.16	0.13	0.54	0.47	0.21
Capacity (veh/h)	463	542	458	499	550	537	600
Control Delay (s)	10.7	11.6	11.3	9.7	15.2	13.7	9.0
Approach Delay (s)	11.3		11.3	14.2		12.1	
Approach LOS	B		B	B		B	

Intersection Summary				
Delay	12.5			
HCM Level of Service	B			
Intersection Capacity Utilization	55.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	760	70	700	1470	30	90	130	680	40	240	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1719	4871		1752	5021		1770	1863	2745		1850	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1719	4871		1752	5021		1770	1863	2745		1850	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	826	76	761	1598	33	98	141	739	43	261	54
RTOR Reduction (vph)	0	9	0	0	1	0	0	0	690	0	0	16
Lane Group Flow (vph)	87	893	0	761	1630	0	98	141	49	0	304	38
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	9.7	26.0		45.0	61.3		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	9.7	26.0		45.0	61.3		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.08	0.22		0.38	0.51		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	139	1055		657	2565		118	124	183		293	247
v/s Ratio Prot	0.05	c0.18		c0.43	0.32		0.06	c0.08			c0.16	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.63	0.85		1.16	0.64		0.83	1.14	0.27		1.04	0.15
Uniform Delay, d1	53.4	45.1		37.5	21.3		55.3	56.0	53.2		50.5	43.6
Progression Factor	1.35	0.72		0.97	0.58		0.93	0.94	2.71		1.00	1.00
Incremental Delay, d2	5.3	7.3		84.9	1.0		23.3	103.8	0.2		62.7	0.1
Delay (s)	77.5	39.8		121.3	13.4		75.0	156.5	144.6		113.2	43.7
Level of Service	E	D		F	B		E	F	F		F	D
Approach Delay (s)		43.1			47.7			139.3			102.7	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM Average Control Delay	69.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	760	70	700	1470	30	90	130	680	40	240	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	902	0	761	1631	0	98	141	739	0	304	54
v/c Ratio	0.63	0.85		1.16	0.64		0.83	1.14	0.85		1.04	0.21
Control Delay	88.5	39.7		119.2	13.7		83.9	151.4	15.7		112.0	33.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	88.5	39.7		119.2	13.7		83.9	151.4	15.7		112.0	33.3
Queue Length 50th (ft)	72	230		~690	210		78	~128	70		~254	24
Queue Length 95th (ft)	m111	m264		#932	270		m#121	m#215	m97		#433	62
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	169	1064		657	2566		118	124	873		293	263
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.51	0.85		1.16	0.64		0.83	1.14	0.85		1.04	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

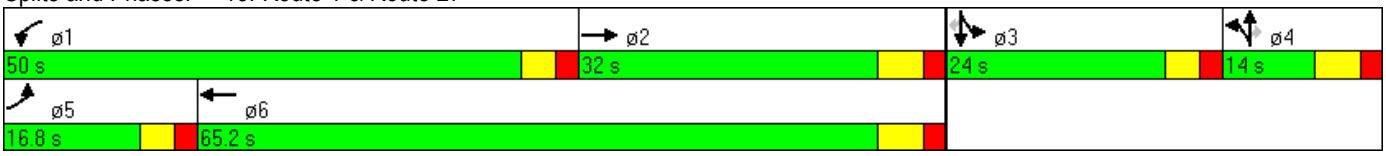
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	80	760	700	1470	90	130	680	240	50
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1150	280	510	1810	460	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	4795		1736	4988	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	4795		1736	4988	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	1223	298	543	1926	489	351
RTOR Reduction (vph)	0	36	0	0	0	0	293
Lane Group Flow (vph)	11	1485	0	543	1926	489	58
Heavy Vehicles (%)	2%	5%	5%	4%	4%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	31.2		51.0	82.4	19.8	19.8
Effective Green, g (s)	0.8	31.2		51.0	82.4	19.8	19.8
Actuated g/C Ratio	0.01	0.26		0.42	0.69	0.17	0.17
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1247		738	3425	566	261
v/s Ratio Prot	0.01	c0.31		c0.31	0.39	c0.14	
v/s Ratio Perm							0.04
v/c Ratio	0.92	1.19		0.74	0.56	0.86	0.22
Uniform Delay, d1	59.6	44.4		28.9	9.6	48.8	43.4
Progression Factor	1.35	0.59		0.59	0.26	1.00	1.00
Incremental Delay, d2	142.4	90.3		0.9	0.2	12.5	0.2
Delay (s)	222.8	116.5		17.9	2.7	61.3	43.6
Level of Service	F	F		B	A	E	D
Approach Delay (s)		117.3			6.0	53.9	
Approach LOS		F			A	D	

Intersection Summary			
HCM Average Control Delay	49.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1150	280	510	1810	460	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	5%	5%	4%	4%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1521	0	543	1926	489	351
v/c Ratio	0.19	1.05		0.80	0.54	0.86	0.63
Control Delay	80.1	59.3		22.6	2.3	64.9	10.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	80.1	59.3		22.6	2.3	64.9	10.2
Queue Length 50th (ft)	9	~446		375	55	189	0
Queue Length 95th (ft)	m11	m#543		m376	m61	#264	86
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	59	1442		680	3592	601	567
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.19	1.05		0.80	0.54	0.81	0.62

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1150	510	1810	460	330
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	1150	0	20	1910	110	50	50	10	170	30	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1547	4446		1577	4495			1636	1425		1593	1411
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1547	4446		1577	4495			1636	1425		1593	1411
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	242	1211	0	21	2011	116	53	53	11	179	32	389
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	177
Lane Group Flow (vph)	242	1211	0	21	2122	0	0	106	1	0	211	212
Heavy Vehicles (%)	5%	5%	3%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	193	2616		37	2188			131	114		212	188
v/s Ratio Prot	c0.16	0.27		0.01	c0.47			c0.06			0.13	
v/s Ratio Perm									0.00			c0.15
v/c Ratio	1.25	0.46		0.57	0.97			0.81	0.01		1.00	1.13
Uniform Delay, d1	52.5	14.0		58.0	29.9			54.3	50.8		52.0	52.0
Progression Factor	1.20	0.29		1.12	0.78			1.00	1.00		1.00	1.00
Incremental Delay, d2	127.0	0.2		8.9	11.2			28.1	0.0		60.1	104.5
Delay (s)	189.9	4.3		73.8	34.5			82.4	50.8		112.0	156.5
Level of Service	F	A		E	C			F	D		F	F
Approach Delay (s)		35.2			34.9			79.4			140.8	
Approach LOS		D			C			E			F	

Intersection Summary			
HCM Average Control Delay	50.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	230	1150	0	20	1910	110	50	50	10	170	30	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	3%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	242	1211	0	21	2127	0	0	106	11	0	211	389
v/c Ratio	1.25	0.44		0.24	0.97			0.81	0.09		1.00	1.07
Control Delay	176.3	4.1		66.1	35.2			95.0	26.6		113.0	89.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	176.3	4.1		66.1	35.2			95.0	26.6		113.0	89.6
Queue Length 50th (ft)	~240	45		16	500			82	0		166	~186
Queue Length 95th (ft)	m#262	m44		m26	#702			#179	19		#325	#385
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	193	2727		92	2193			136	129		212	365
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.25	0.44		0.23	0.97			0.78	0.09		1.00	1.07

Intersection Summary

Area Type: CBD

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	230	1150	20	1910	50	10	30	370
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	190	220	900	300	250	270	800	580	130	1080	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3254		3433	1863	1583	1752	3505	1568	1752	5003	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3254		3433	1863	1583	1752	3505	1568	1752	5003	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	80	218	253	1034	345	287	310	920	667	149	1241	57
RTOR Reduction (vph)	0	176	0	0	0	210	0	0	414	0	4	0
Lane Group Flow (vph)	80	295	0	1034	345	77	310	920	253	149	1294	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	45.5	45.5	13.5	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	45.5	45.5	13.5	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.38	0.38	0.11	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	190		915	497	422	219	1329	595	197	1834	
v/s Ratio Prot	0.05	c0.09		c0.30	0.19		c0.18	c0.26		0.09	0.26	
v/s Ratio Perm						0.05			0.16			
v/c Ratio	0.78	1.55		1.13	0.69	0.18	1.42	0.69	0.43	0.76	0.71	
Uniform Delay, d1	55.7	56.5		44.0	39.6	33.9	52.5	31.4	27.6	51.7	32.5	
Progression Factor	0.93	0.91		0.87	0.86	0.97	1.00	1.00	1.00	1.03	0.85	
Incremental Delay, d2	27.1	272.2		68.3	2.3	0.1	211.7	3.0	2.2	12.1	2.0	
Delay (s)	78.8	323.7		106.7	36.2	32.8	264.2	34.3	29.8	65.0	29.6	
Level of Service	E	F		F	D	C	F	C	C	E	C	
Approach Delay (s)		288.1			79.4			70.3			33.3	
Approach LOS		F			E			E			C	

Intersection Summary			
HCM Average Control Delay	85.0	HCM Level of Service	F
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	190	220	900	300	250	270	800	580	130	1080	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		364			2934			862			2992	
Travel Time (s)		8.3			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	471	0	1034	345	287	310	920	667	149	1298	0
v/c Ratio	0.78	1.29		1.13	0.69	0.45	1.42	0.69	0.66	0.76	0.71	
Control Delay	94.6	173.6		104.7	39.8	5.5	250.4	35.2	5.7	73.6	29.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	94.6	173.6		104.7	39.8	5.5	250.4	35.2	5.7	73.6	29.7	
Queue Length 50th (ft)	60	~164		~486	257	27	~323	316	0	113	231	
Queue Length 95th (ft)	#143	#260		m#465	m272	m31	#481	382	62	178	241	
Internal Link Dist (ft)		284			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	366		915	497	633	219	1330	1009	234	1838	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.78	1.29		1.13	0.69	0.45	1.42	0.69	0.66	0.64	0.71	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

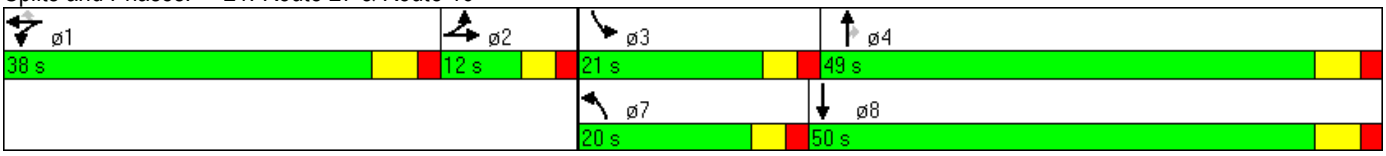
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	70	190	900	300	250	270	800	580	130	1080
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	205	5	124	40	20	30	434	686	10	10	506	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.91		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1609		1770	1695		1671	3335		1719	3251	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1609		1770	1695		1671	3335		1719	3251	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	223	5	135	43	22	33	472	746	11	11	550	313
RTOR Reduction (vph)	0	116	0	0	31	0	0	1	0	0	82	0
Lane Group Flow (vph)	223	24	0	43	24	0	472	756	0	11	781	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	8%	8%	8%	5%	5%	5%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.1	11.6		3.4	3.9		25.2	49.3		0.7	24.8	
Effective Green, g (s)	11.1	11.6		3.4	3.9		25.2	49.3		0.7	24.8	
Actuated g/C Ratio	0.14	0.14		0.04	0.05		0.31	0.61		0.01	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	245	230		74	82		520	2030		15	995	
v/s Ratio Prot	c0.12	0.02		0.02	c0.01		c0.28	0.23		0.01	c0.24	
v/s Ratio Perm												
v/c Ratio	0.91	0.11		0.58	0.29		0.91	0.37		0.73	0.79	
Uniform Delay, d1	34.5	30.2		38.1	37.2		26.8	8.0		40.1	25.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	33.9	0.1		7.3	0.7		19.1	0.0		93.0	3.8	
Delay (s)	68.4	30.3		45.4	37.9		45.9	8.1		133.0	29.5	
Level of Service	E	C		D	D		D	A		F	C	
Approach Delay (s)		53.7			41.2			22.6			30.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	205	5	124	40	20	30	434	686	10	10	506	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	8%	8%	8%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	140	0	43	55	0	472	757	0	11	863	0
v/c Ratio	0.86	0.39		0.33	0.34		0.85	0.35		0.12	0.86	
Control Delay	64.7	10.2		42.7	25.0		42.6	7.9		40.2	33.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	64.7	10.2		42.7	25.0		42.6	7.9		40.2	33.2	
Queue Length 50th (ft)	111	2		21	11		222	80		5	187	
Queue Length 95th (ft)	#248	50		53	44		#418	162		22	#312	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	260	544		141	385		553	2164		91	1031	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.86	0.26		0.30	0.14		0.85	0.35		0.12	0.84	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	205	5	40	20	434	686	10	506
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	15.0	25.0	10.0	20.0	29.0	47.0	8.0	26.0
Total Split (%)	16.7%	27.8%	11.1%	22.2%	32.2%	52.2%	8.9%	28.9%
Maximum Green (s)	11.0	21.0	6.0	16.0	25.0	43.0	4.0	22.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 76
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	10	40	60	1090	940	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1687	3374	3430	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1687	3374	3430	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	43	65	1185	1022	87
RTOR Reduction (vph)	0	40	0	0	6	0
Lane Group Flow (vph)	11	3	65	1185	1103	0
Heavy Vehicles (%)	2%	2%	7%	7%	4%	4%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	2.8	2.8	3.9	36.5	28.6	
Effective Green, g (s)	2.8	2.8	3.9	36.5	28.6	
Actuated g/C Ratio	0.06	0.06	0.08	0.77	0.60	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	105	94	139	2604	2074	
v/s Ratio Prot	c0.01		0.04	c0.35	c0.32	
v/s Ratio Perm		0.00				
v/c Ratio	0.10	0.03	0.47	0.46	0.53	
Uniform Delay, d1	21.1	21.0	20.7	1.9	5.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.9	0.0	0.1	
Delay (s)	21.2	21.0	21.6	1.9	5.6	
Level of Service	C	C	C	A	A	
Approach Delay (s)	21.1			3.0	5.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	47.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	10	40	60	1090	940	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	7%	7%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	43	65	1185	1109	0
v/c Ratio	0.05	0.18	0.25	0.42	0.45	
Control Delay	22.2	10.9	22.2	2.5	7.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	22.2	10.9	22.2	2.5	7.5	
Queue Length 50th (ft)	3	0	18	45	102	
Queue Length 95th (ft)	16	24	50	83	184	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	747	693	460	3374	3319	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.01	0.06	0.14	0.35	0.33	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	10	40	60	1090	940
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	21.0	15.0	69.0	54.0
Total Split (%)	23.3%	23.3%	16.7%	76.7%	60.0%
Maximum Green (s)	17.0	17.0	11.0	65.0	50.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 43.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	110	370	760	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	402	826	5	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	832				1470	829
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	832				1470	829
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	84				95	99
cM capacity (veh/h)	759				118	371

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	120	402	832	11
Volume Left	120	0	0	5
Volume Right	0	0	5	5
cSH	759	1700	1700	236
Volume to Capacity	0.16	0.24	0.49	0.05
Queue Length 95th (ft)	14	0	0	4
Control Delay (s)	10.6	0.0	0.0	25.9
Lane LOS	B			D
Approach Delay (s)	2.4		0.0	25.9
Approach LOS				D

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	37	620	543	10	20	440
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	41	689	603	11	22	489
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	614				1380	609
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	614				1380	609
tC, single (s)	4.2				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	96				84	0
cM capacity (veh/h)	946				142	470

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	41	689	614	511
Volume Left	41	0	0	22
Volume Right	0	0	11	489
cSH	946	1700	1700	427
Volume to Capacity	0.04	0.41	0.36	1.20
Queue Length 95th (ft)	3	0	0	501
Control Delay (s)	9.0	0.0	0.0	138.0
Lane LOS	A			F
Approach Delay (s)	0.5		0.0	138.0
Approach LOS				F

Intersection Summary			
Average Delay	38.2		
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	430	160	30	443	80	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	478	178	33	492	89	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			656		1126	567
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			656		1126	567
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		59	96
cM capacity (veh/h)			936		219	523

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	656	526	111
Volume Left	0	33	89
Volume Right	178	0	22
cSH	1700	936	247
Volume to Capacity	0.39	0.04	0.45
Queue Length 95th (ft)	0	3	54
Control Delay (s)	0.0	1.0	30.9
Lane LOS		A	D
Approach Delay (s)	0.0	1.0	30.9
Approach LOS			D

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	450	443	97	390	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	500	492	108	433	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	600				1068	546
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	600				1068	546
tC, single (s)	4.1				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.7	3.5
p0 queue free %	99				0	98
cM capacity (veh/h)	982				226	508

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	511	600	444
Volume Left	11	0	433
Volume Right	0	108	11
cSH	982	1700	229
Volume to Capacity	0.01	0.35	1.94
Queue Length 95th (ft)	1	0	802
Control Delay (s)	0.3	0.0	473.0
Lane LOS	A		F
Approach Delay (s)	0.3	0.0	473.0
Approach LOS			F

Intersection Summary			
Average Delay	135.3		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	290	110	750	530	140	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.97		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3311		1827	1553	1687	3374
Flt Permitted	0.97		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3311		1827	1553	1687	3374
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	120	815	576	152	1054
RTOR Reduction (vph)	35	0	0	213	0	0
Lane Group Flow (vph)	400	0	815	363	152	1054
Heavy Vehicles (%)	3%	3%	4%	4%	7%	7%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	19.0		65.8	65.8	15.3	86.6
Effective Green, g (s)	19.0		65.8	65.8	15.3	86.6
Actuated g/C Ratio	0.16		0.56	0.56	0.13	0.74
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	537		1027	873	220	2495
v/s Ratio Prot	c0.12		c0.45		c0.09	0.31
v/s Ratio Perm				0.23		
v/c Ratio	0.74		0.79	0.42	0.69	0.42
Uniform Delay, d1	46.7		20.3	14.7	48.6	5.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	5.7		6.3	1.5	9.3	0.5
Delay (s)	52.5		26.6	16.1	58.0	6.3
Level of Service	D		C	B	E	A
Approach Delay (s)	52.5		22.3			12.8
Approach LOS	D		C			B

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	117.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	290	110	750	530	140	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	4%	4%	7%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	435	0	815	576	152	1054
v/c Ratio	0.76		0.79	0.53	0.69	0.42
Control Delay	51.4		29.0	4.8	64.9	6.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	51.4		29.0	4.8	64.9	6.6
Queue Length 50th (ft)	147		480	31	111	141
Queue Length 95th (ft)	204		#754	112	183	190
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	657		1026	1086	267	2495
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.66		0.79	0.53	0.57	0.42

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	290	750	530	140	970
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	27.5	68.5	68.5	24.0	92.5
Total Split (%)	22.9%	57.1%	57.1%	20.0%	77.1%
Maximum Green (s)	22.0	62.5	62.5	18.5	86.5
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 117
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	10	10	1330	1250	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	10	10	10	1385	1302	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2021	656	1312			
vC1, stage 1 conf vol	1307					
vC2, stage 2 conf vol	714					
vCu, unblocked vol	2021	656	1312			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	97	98			
cM capacity (veh/h)	193	408	523			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	21	10	693	693	868	444
Volume Left	10	10	0	0	0	0
Volume Right	10	0	0	0	0	10
cSH	262	523	1700	1700	1700	1700
Volume to Capacity	0.08	0.02	0.41	0.41	0.51	0.26
Queue Length 95th (ft)	6	2	0	0	0	0
Control Delay (s)	19.9	12.0	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	19.9	0.1			0.0	
Approach LOS	C					

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	46.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	940	210	270	300	260	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3367	1553	1570	1335	1626	1712
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3367	1553	1570	1335	1626	1712
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1106	247	318	353	306	459
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1106	247	318	353	306	459
Heavy Vehicles (%)	4%	4%	21%	21%	11%	11%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	29.3	80.3	20.4	80.3	13.6	39.5
Effective Green, g (s)	29.3	80.3	20.4	80.3	13.6	39.5
Actuated g/C Ratio	0.36	1.00	0.25	1.00	0.17	0.49
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1229	1553	399	1335	275	842
v/s Ratio Prot	c0.33		c0.20		c0.19	0.27
v/s Ratio Perm		0.16		0.26		
v/c Ratio	0.90	0.16	0.80	0.26	1.11	0.55
Uniform Delay, d1	24.1	0.0	28.0	0.0	33.4	14.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	0.2	9.9	0.5	88.0	0.4
Delay (s)	32.9	0.2	37.9	0.5	121.3	14.6
Level of Service	C	A	D	A	F	B
Approach Delay (s)	27.0		18.2			57.3
Approach LOS	C		B			E

Intersection Summary			
HCM Average Control Delay	33.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.3	Sum of lost time (s)	17.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	940	210	270	300	260	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	4%	4%	21%	21%	11%	11%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1106	247	318	353	306	459
v/c Ratio	0.90	0.16	0.80	0.26	1.11	0.55
Control Delay	36.8	0.2	44.2	0.5	122.5	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	0.2	44.2	0.5	122.5	17.1
Queue Length 50th (ft)	265	0	152	0	~185	157
Queue Length 95th (ft)	#408	0	225	0	#350	220
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	1290	1553	572	1335	276	1032
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.16	0.56	0.26	1.11	0.44

Intersection Summary

Area Type: Other

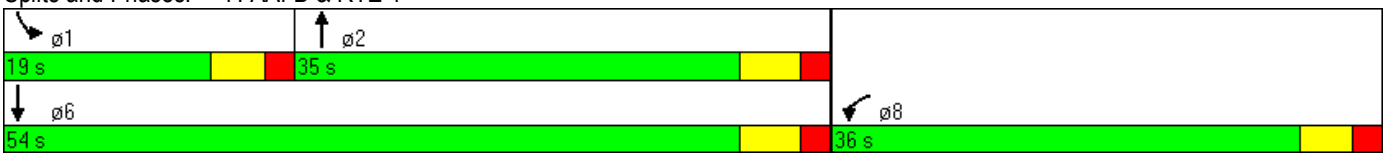
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	940	210	270	300	260	390
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	36.0	0.0	35.0	0.0	19.0	54.0
Total Split (%)	40.0%	0.0%	38.9%	0.0%	21.1%	60.0%
Maximum Green (s)	30.5		29.0		13.5	48.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 80.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	290	10	90	10	1000	330	50	1450	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.93		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1606		1641	3160		1656	3309	
Flt Permitted		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1606		1641	3160		1656	3309	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	319	11	99	11	1099	363	55	1593	11
RTOR Reduction (vph)	0	29	0	0	26	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	37	0	220	183	0	11	1441	0	55	1604	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	10%	10%	10%	9%	9%	9%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		20.7	20.7		2.6	75.0		7.2	79.6	
Effective Green, g (s)		6.1		20.7	20.7		2.6	75.0		7.2	79.6	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.58		0.06	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		268	256		33	1823		92	2026	
v/s Ratio Prot		c0.02		c0.13	0.11		0.01	0.46		c0.03	c0.48	
v/s Ratio Perm												
v/c Ratio		0.46		0.82	0.71		0.33	0.79		0.60	0.79	
Uniform Delay, d1		60.4		52.9	51.8		62.8	21.4		60.0	19.0	
Progression Factor		1.00		1.00	1.00		1.12	0.53		1.00	1.00	
Incremental Delay, d2		1.5		17.2	7.6		1.5	2.5		6.8	3.3	
Delay (s)		61.9		70.0	59.5		71.7	14.0		66.8	22.2	
Level of Service		E		E	E		E	B		E	C	
Approach Delay (s)		61.9			64.9			14.4			23.7	
Approach LOS		E			E			B			C	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	290	10	90	10	1000	330	50	1450	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	10%	10%	10%	9%	9%	9%
Shared Lane Traffic (%)				31%								
Lane Group Flow (vph)	0	66	0	220	209	0	11	1462	0	55	1604	0
v/c Ratio		0.54		0.82	0.74		0.15	0.77		0.52	0.75	
Control Delay		51.6		76.2	59.6		69.8	15.0		76.2	22.3	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		76.2	59.6		69.8	15.0		76.2	22.3	
Queue Length 50th (ft)		30		190	151		10	164		46	437	
Queue Length 95th (ft)		78		275	236		m13	#270		91	#832	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	346		88	1891		128	2128	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.65	0.60		0.13	0.77		0.43	0.75	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	290	10	10	1000	50	1450
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	40	40	20	20	10	50	140	30	10	270	150
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	42	42	21	21	11	53	147	32	11	284	158
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	674	668	363	716	732	163	442			179		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	674	668	363	716	732	163	442			179		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	56	88	94	93	94	99	95			99		
cM capacity (veh/h)	332	358	682	283	329	882	1113			1391		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	232	53	232	453
Volume Left	147	21	53	11
Volume Right	42	11	32	158
cSH	372	350	1113	1391
Volume to Capacity	0.62	0.15	0.05	0.01
Queue Length 95th (ft)	101	13	4	1
Control Delay (s)	29.4	17.1	2.3	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	29.4	17.1	2.3	0.3
Approach LOS	D	C		

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	170	200	1180	150	250	1380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1504	1346	3348		1671	3343
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1504	1346	3348		1671	3343
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	177	208	1229	156	260	1438
RTOR Reduction (vph)	0	171	8	0	0	0
Lane Group Flow (vph)	177	37	1377	0	260	1438
Heavy Vehicles (%)	20%	20%	6%	6%	8%	8%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	19.1	19.1	71.0		23.9	99.9
Effective Green, g (s)	19.1	19.1	71.0		23.9	99.9
Actuated g/C Ratio	0.15	0.15	0.55		0.18	0.77
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	221	198	1829		307	2569
v/s Ratio Prot	c0.12		c0.41		c0.16	0.43
v/s Ratio Perm		0.03				
v/c Ratio	0.80	0.18	0.75		0.85	0.56
Uniform Delay, d1	53.6	48.6	22.7		51.3	6.1
Progression Factor	1.00	1.00	0.29		1.13	0.47
Incremental Delay, d2	17.5	0.2	2.3		12.9	0.6
Delay (s)	71.1	48.8	9.0		70.9	3.5
Level of Service	E	D	A		E	A
Approach Delay (s)	59.1		9.0			13.8
Approach LOS	E		A			B

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	170	200	1180	150	250	1380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	20%	20%	6%	6%	8%	8%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	208	1385	0	260	1438
v/c Ratio	0.80	0.56	0.75		0.85	0.56
Control Delay	78.1	13.1	9.0		75.4	3.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	78.1	13.1	9.0		75.4	3.8
Queue Length 50th (ft)	145	5	120		196	62
Queue Length 95th (ft)	219	77	m153		m#402	91
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	289	421	1836		307	2568
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.61	0.49	0.75		0.85	0.56

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	170	200	1180	250	1380
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	150	210	220	240	300	110
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	163	228	239	261	326	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1125	386	446			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1125	386	446			
tC, single (s)	6.6	6.4	4.2			
tC, 2 stage (s)						
tF (s)	3.7	3.5	2.3			
p0 queue free %	0	63	78			
cM capacity (veh/h)	161	620	1064			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	391	500	446
Volume Left	163	239	0
Volume Right	228	0	120
cSH	283	1064	1700
Volume to Capacity	1.38	0.22	0.26
Queue Length 95th (ft)	516	22	0
Control Delay (s)	227.3	5.8	0.0
Lane LOS	F	A	
Approach Delay (s)	227.3	5.8	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	68.7		
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1210	1350	0	1050	220	180	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.97		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1736	4988		4811		1736	2733
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1736	4988		4811		1736	2733
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1274	1421	0	1105	232	189	853
RTOR Reduction (vph)	0	0	0	24	0	0	728
Lane Group Flow (vph)	1274	1421	0	1313	0	189	125
Heavy Vehicles (%)	4%	4%	0%	5%	5%	4%	4%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	99.0		30.0		19.0	19.0
Effective Green, g (s)	64.0	99.0		30.0		19.0	19.0
Actuated g/C Ratio	0.49	0.76		0.23		0.15	0.15
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	855	3799		1110		254	399
v/s Ratio Prot	c0.73	0.28		c0.27		c0.11	
v/s Ratio Perm							0.05
v/c Ratio	1.49	0.37		1.18		0.74	0.31
Uniform Delay, d1	33.0	5.2		50.0		53.2	49.7
Progression Factor	0.43	0.64		0.58		1.00	1.00
Incremental Delay, d2	221.1	0.0		90.2		9.9	0.2
Delay (s)	235.4	3.3		119.3		63.0	49.8
Level of Service	F	A		F		E	D
Approach Delay (s)		113.1		119.3		52.2	
Approach LOS		F		F		D	

Intersection Summary			
HCM Average Control Delay	102.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	116.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1210	1350	0	1050	220	180	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	0%	5%	5%	4%	4%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1274	1421	0	1337	0	189	853
v/c Ratio	1.49	0.37		1.18		0.74	0.76
Control Delay	240.8	3.6		117.8		70.4	7.9
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	240.8	3.6		117.8		70.4	7.9
Queue Length 50th (ft)	~1525	94		~464		153	0
Queue Length 95th (ft)	m#1272	m101		#597		231	59
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	855	3797		1133		307	1186
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.49	0.37		1.18		0.62	0.72

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

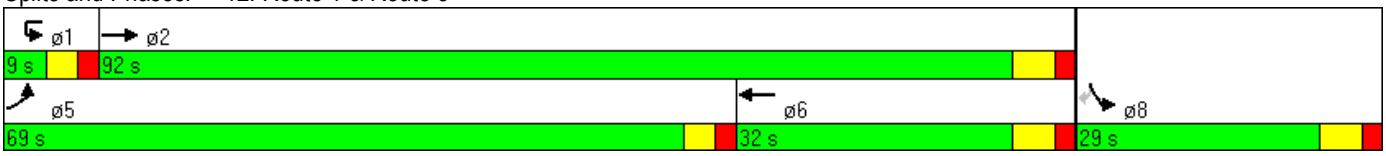
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1210	1350	1050	180	810	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	2150	720	290	1560	540	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1787	4784		1736	4988	3400	1544
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1787	4784		1736	4988	3400	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	2240	750	302	1625	562	438
RTOR Reduction (vph)	0	48	0	0	0	0	220
Lane Group Flow (vph)	10	2942	0	302	1625	562	218
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	1%	4%	4%	4%	4%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	63.3		25.0	87.3	24.7	24.7
Effective Green, g (s)	1.0	63.3		25.0	87.3	24.7	24.7
Actuated g/C Ratio	0.01	0.49		0.19	0.67	0.19	0.19
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2329		334	3350	646	293
v/s Ratio Prot	0.01	c0.61		c0.17	0.33	c0.17	
v/s Ratio Perm							0.14
v/c Ratio	0.71	1.26		0.90	0.49	0.87	0.75
Uniform Delay, d1	64.4	33.4		51.3	10.4	51.1	49.7
Progression Factor	0.92	0.97		0.54	0.68	0.57	0.35
Incremental Delay, d2	41.7	119.8		9.1	0.1	8.4	6.1
Delay (s)	101.2	152.1		36.6	7.2	37.7	23.4
Level of Service	F	F		D	A	D	C
Approach Delay (s)		152.0			11.9	31.4	
Approach LOS		F			B	C	

Intersection Summary			
HCM Average Control Delay	86.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	2150	720	290	1560	540	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	4%	4%	4%	4%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2990	0	302	1625	562	438
v/c Ratio	0.14	1.19		1.08	0.46	0.87	0.85
Control Delay	57.9	114.2		82.6	6.4	40.5	19.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	57.9	114.2		82.6	6.4	40.5	19.5
Queue Length 50th (ft)	8	~1113		~276	69	186	78
Queue Length 95th (ft)	m8	m#1142		m#309	m116	#273	#90
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2521		280	3503	680	526
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.19		1.08	0.46	0.83	0.83

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

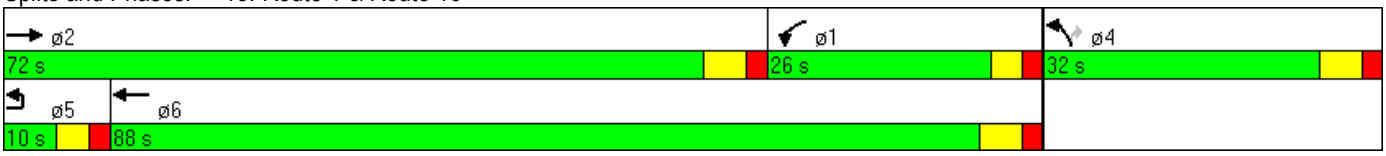
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	2150	290	1560	540	420
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	840	130	190	2440	30	1460	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1736	4988	1787	4740	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1736	4988	1787	4740	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	933	144	211	2711	33	1622	800
RTOR Reduction (vph)	0	75	0	0	0	66	0
Lane Group Flow (vph)	933	69	211	2711	33	2356	0
Heavy Vehicles (%)	2%	2%	4%	4%	1%	4%	4%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	18.7	78.0	3.0	62.3	
Effective Green, g (s)	33.0	33.0	18.7	78.0	3.0	62.3	
Actuated g/C Ratio	0.25	0.25	0.14	0.60	0.02	0.48	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	250	2993	41	2272	
v/s Ratio Prot	c0.27		c0.12	c0.54	0.02	c0.50	
v/s Ratio Perm		0.04					
v/c Ratio	1.07	0.17	0.84	0.91	0.80	1.04	
Uniform Delay, d1	48.5	37.8	54.2	22.8	63.2	33.9	
Progression Factor	1.00	1.00	1.14	0.89	1.22	0.87	
Incremental Delay, d2	51.4	0.1	9.2	2.1	60.5	28.2	
Delay (s)	99.9	37.9	71.1	22.4	137.4	57.8	
Level of Service	F	D	E	C	F	E	
Approach Delay (s)	91.6			25.9		58.8	
Approach LOS	F			C		E	

Intersection Summary			
HCM Average Control Delay	49.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	840	130	190	2440	30	1460	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	4%	4%	1%	4%	4%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	933	144	211	2711	33	2422	0
v/c Ratio	1.07	0.30	0.84	0.88	0.49	1.04	
Control Delay	97.3	15.4	73.9	21.6	95.5	56.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	97.3	15.4	73.9	21.6	95.5	56.5	
Queue Length 50th (ft)	~448	29	190	419	27	~819	
Queue Length 95th (ft)	#578	86	m205	600	m54	#879	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	476	280	3070	69	2335	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.07	0.30	0.75	0.88	0.48	1.04	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	840	130	190	2440	30	1460
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	370	190	940	530	310	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4764		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4764		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	398	204	1011	570	333	989
RTOR Reduction (vph)	0	151	78	0	0	0
Lane Group Flow (vph)	398	53	1503	0	333	989
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1942		364	3293
v/s Ratio Prot	c0.22	0.03	c0.32		c0.19	0.20
v/s Ratio Perm						
v/c Ratio	0.86	0.13	0.77		0.91	0.30
Uniform Delay, d1	45.7	36.7	33.3		50.4	9.7
Progression Factor	0.60	0.20	0.30		0.80	0.33
Incremental Delay, d2	15.4	0.5	1.5		12.7	0.1
Delay (s)	42.9	8.0	11.4		52.8	3.3
Level of Service	D	A	B		D	A
Approach Delay (s)	31.1		11.4			15.8
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	370	190	940	530	310	920
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	398	204	1581	0	333	989
v/c Ratio	0.86	0.36	0.78		0.91	0.30
Control Delay	44.1	2.4	10.6		55.8	3.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	44.1	2.4	10.6		55.8	3.3
Queue Length 50th (ft)	226	6	101		284	55
Queue Length 95th (ft)	m#452	m1	m112		m267	m49
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	565	2020		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.86	0.36	0.78		0.91	0.30

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	370	190	940	310	920
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	1080	90	190	920	10	90	190	230	20	150	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4978		1719	4932		1770	1710		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4978		1719	4932		1770	1710		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	295	1137	95	200	968	11	95	200	242	21	158	168
RTOR Reduction (vph)	0	7	0	0	1	0	0	35	0	0	0	150
Lane Group Flow (vph)	295	1225	0	200	978	0	95	407	0	21	158	18
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	24.9	45.0		16.5	36.6		33.8	33.8		13.7	13.7	13.7
Effective Green, g (s)	24.9	45.0		16.5	36.6		33.8	33.8		13.7	13.7	13.7
Actuated g/C Ratio	0.19	0.35		0.13	0.28		0.26	0.26		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	336	1723		218	1389		460	445		187	196	167
v/s Ratio Prot	c0.17	c0.25		0.12	0.20		0.05	c0.24		0.01	c0.08	
v/s Ratio Perm												0.01
v/c Ratio	0.88	0.71		0.92	0.70		0.21	0.92		0.11	0.81	0.11
Uniform Delay, d1	51.1	36.9		56.1	41.9		37.6	46.7		52.6	56.9	52.6
Progression Factor	1.40	0.67		1.05	0.63		1.26	1.23		1.00	1.00	1.00
Incremental Delay, d2	20.1	2.4		35.0	2.7		0.0	14.1		0.1	19.9	0.1
Delay (s)	91.9	27.0		93.9	28.9		47.3	71.4		52.7	76.8	52.7
Level of Service	F	C		F	C		D	E		D	E	D
Approach Delay (s)		39.5			39.9			67.1			63.7	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	46.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	1080	90	190	920	10	90	190	230	20	150	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	295	1232	0	200	979	0	95	442	0	21	158	168
v/c Ratio	0.88	0.71		0.92	0.70		0.21	0.92		0.11	0.81	0.53
Control Delay	96.0	27.9		97.6	30.8		46.2	66.3		53.3	85.5	14.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	96.0	27.9		97.6	30.8		46.2	66.3		53.3	85.5	14.1
Queue Length 50th (ft)	246	179		149	300		58	247		16	131	0
Queue Length 95th (ft)	#357	242		#308	#389		m66	m287		43	#232	67
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1729		225	1390		517	533		204	215	331
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.78	0.71		0.89	0.70		0.18	0.83		0.10	0.73	0.51

Intersection Summary

Area Type: Other

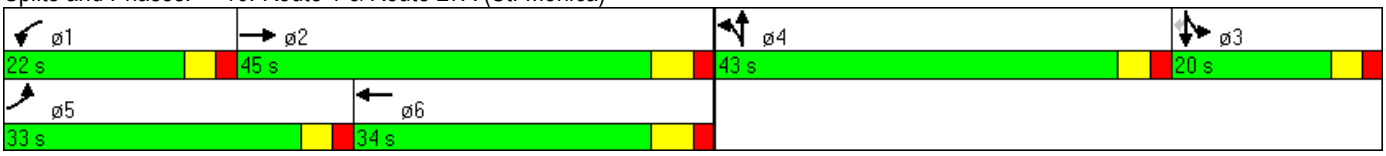
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	280	1080	190	920	90	190	20	150	160
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	80	80	220	40	70	10	20	330	30	20	400	350
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	104	104	286	52	91	13	26	429	39	26	519	455

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	104	390	156	26	468	545	455
Volume Left (vph)	104	0	52	26	0	26	0
Volume Right (vph)	0	286	13	0	39	0	455
Hadj (s)	0.53	-0.48	0.05	0.55	-0.01	0.06	-0.67
Departure Headway (s)	9.1	8.1	9.6	9.1	8.5	8.3	7.6
Degree Utilization, x	0.26	0.87	0.42	0.07	1.11	1.25	0.95
Capacity (veh/h)	391	442	350	383	425	441	471
Control Delay (s)	14.0	44.3	19.2	11.5	103.6	156.6	57.0
Approach Delay (s)	38.0		19.2	98.8		111.3	
Approach LOS	E		C	F		F	

Intersection Summary			
Delay	84.8		
HCM Level of Service	F		
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	1230	70	520	1030	30	130	280	860	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4991		1719	4919		1770	1863	2745		1836	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4991		1719	4919		1770	1863	2745		1836	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	138	1309	74	553	1096	32	138	298	915	53	128	43
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	750	0	0	20
Lane Group Flow (vph)	138	1379	0	553	1126	0	138	298	165	0	181	23
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	13.3	33.5		38.0	58.2		23.5	23.5	23.5		13.0	13.0
Effective Green, g (s)	13.3	33.5		38.0	58.2		23.5	23.5	23.5		13.0	13.0
Actuated g/C Ratio	0.10	0.26		0.29	0.45		0.18	0.18	0.18		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	179	1286		502	2202		320	337	496		184	158
v/s Ratio Prot	0.08	c0.28		c0.32	0.23		0.08	c0.16			c0.10	
v/s Ratio Perm									0.06			0.01
v/c Ratio	0.77	1.07		1.10	0.51		0.43	0.88	0.33		0.98	0.15
Uniform Delay, d1	56.9	48.2		46.0	25.7		47.3	51.9	46.4		58.4	53.4
Progression Factor	1.24	0.56		1.44	0.66		0.94	0.94	1.29		1.00	1.00
Incremental Delay, d2	12.9	43.8		68.5	0.7		0.0	2.7	0.0		61.0	0.2
Delay (s)	83.3	70.9		134.9	17.8		44.4	51.4	60.0		119.4	53.6
Level of Service	F	E		F	B		D	D	E		F	D
Approach Delay (s)		72.0			56.3			56.5			106.8	
Approach LOS		E			E			E			F	

Intersection Summary			
HCM Average Control Delay	63.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	1230	70	520	1030	30	130	280	860	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	5%	5%	5%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	1383	0	553	1128	0	138	298	915	0	181	43
v/c Ratio	0.78	1.07		1.10	0.51		0.43	0.88	0.73		0.98	0.24
Control Delay	91.0	72.2		127.1	18.2		44.7	52.2	4.2		120.4	35.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	91.0	72.2		127.1	18.2		44.7	52.2	4.2		120.4	35.4
Queue Length 50th (ft)	123	~488		~515	123		93	213	31		155	16
Queue Length 95th (ft)	m171	#565		m#706	m141		m86	m184	m5		#307	55
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1290		502	2206		340	358	1267		184	178
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.68	1.07		1.10	0.51		0.41	0.83	0.72		0.98	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	130	1230	520	1030	130	280	860	120	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1800	380	450	1420	310	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4904		1736	4988	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4904		1736	4988	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1915	404	479	1511	330	479
RTOR Reduction (vph)	0	26	0	0	0	0	429
Lane Group Flow (vph)	21	2293	0	479	1511	330	50
Heavy Vehicles (%)	0%	3%	3%	4%	4%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2112		574	3722	340	157
v/s Ratio Prot	0.01	c0.47		c0.28	0.30	c0.10	
v/s Ratio Perm							0.03
v/c Ratio	0.50	1.09		0.83	0.41	0.97	0.32
Uniform Delay, d1	62.8	37.0		40.2	6.0	58.3	54.4
Progression Factor	1.23	0.59		0.33	0.34	1.00	1.00
Incremental Delay, d2	1.4	42.6		3.3	0.1	40.6	0.4
Delay (s)	78.3	64.4		16.7	2.2	98.9	54.8
Level of Service	E	E		B	A	F	D
Approach Delay (s)		64.5			5.6	72.8	
Approach LOS		E			A	E	

Intersection Summary			
HCM Average Control Delay	43.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1800	380	450	1420	310	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	4%	4%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2319	0	479	1511	330	479
v/c Ratio	0.31	1.05		0.87	0.40	0.97	0.82
Control Delay	80.0	49.3		21.9	2.0	100.0	17.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	80.0	49.3		21.9	2.0	100.0	17.2
Queue Length 50th (ft)	19	~458		154	51	145	2
Queue Length 95th (ft)	m20	m#369		m193	m65	#241	#152
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2213		548	3799	340	586
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.05		0.87	0.40	0.97	0.82

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

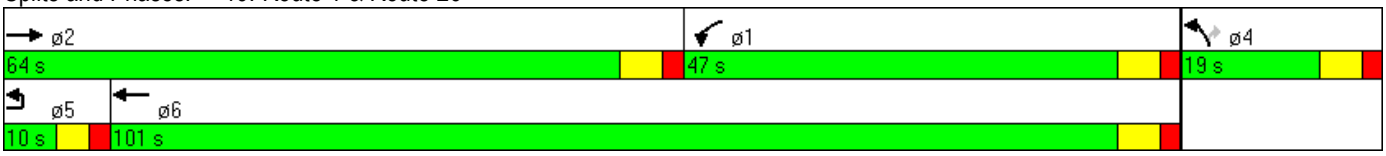
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1800	450	1420	310	450
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1690	0	20	1480	120	70	100	50	150	20	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1736	4988		1736	4931			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1736	4988		1736	4931			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	468	1798	0	21	1574	128	74	106	53	160	21	383
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	48	0	0	293
Lane Group Flow (vph)	468	1798	0	21	1695	0	0	180	5	0	181	90
Heavy Vehicles (%)	4%	4%	3%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	36.8	78.0		4.0	45.2			13.0	13.0		14.0	14.0
Effective Green, g (s)	36.8	78.0		4.0	45.2			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.28	0.60		0.03	0.35			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	491	2993		53	1714			183	158		192	170
v/s Ratio Prot	c0.27	0.36		0.01	c0.34			c0.10			c0.10	
v/s Ratio Perm									0.00			0.06
v/c Ratio	0.95	0.60		0.40	0.99			0.98	0.03		0.94	0.53
Uniform Delay, d1	45.8	16.3		61.8	42.1			58.4	52.8		57.6	54.9
Progression Factor	1.35	0.14		0.85	0.99			1.00	1.00		1.00	1.00
Incremental Delay, d2	4.9	0.1		1.5	17.7			61.2	0.0		48.0	1.6
Delay (s)	66.8	2.4		53.8	59.4			119.6	52.9		105.7	56.5
Level of Service	E	A		D	E			F	D		F	E
Approach Delay (s)		15.7			59.4			104.4			72.3	
Approach LOS		B			E			F			E	

Intersection Summary			
HCM Average Control Delay	42.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1690	0	20	1480	120	70	100	50	150	20	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	3%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	468	1798	0	21	1702	0	0	180	53	0	181	383
v/c Ratio	0.95	0.59		0.27	0.99			0.98	0.26		0.94	0.83
Control Delay	66.2	2.3		57.5	58.9			120.6	17.1		109.0	26.0
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	66.2	2.3		57.5	58.9			120.6	17.1		109.0	26.0
Queue Length 50th (ft)	336	51		18	~466			154	0		154	44
Queue Length 95th (ft)	m341	m49		m30	#642			#306	41		#299	#201
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	507	3070		93	1724			183	206		192	463
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.92	0.59		0.23	0.99			0.98	0.26		0.94	0.83

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	440	1690	20	1480	100	50	20	360
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	400	270	580	200	300	240	990	900	290	1010	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3325		3433	1863	1583	1752	3505	1568	1752	5007	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3325		3433	1863	1583	1752	3505	1568	1752	5007	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	421	284	611	211	316	253	1042	947	305	1063	42
RTOR Reduction (vph)	0	90	0	0	0	265	0	0	291	0	3	0
Lane Group Flow (vph)	147	615	0	611	211	51	253	1042	656	305	1102	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	20.3	36.0	36.0	14.0	29.7	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	20.3	36.0	36.0	14.0	29.7	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.23	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	946		555	301	256	274	971	434	189	1144	
v/s Ratio Prot	0.08	c0.18		c0.18	0.11		0.14	0.30		c0.17	0.22	
v/s Ratio Perm						0.03			c0.42			
v/c Ratio	0.29	0.65		1.10	0.70	0.20	0.92	1.07	1.51	1.61	0.96	
Uniform Delay, d1	36.3	40.8		54.5	51.5	47.2	54.1	47.0	47.0	58.0	49.6	
Progression Factor	1.02	1.01		0.95	0.94	2.82	1.00	1.00	1.00	0.91	1.00	
Incremental Delay, d2	1.2	2.8		62.9	4.1	0.1	34.1	50.6	241.4	297.3	17.9	
Delay (s)	38.1	44.2		114.8	52.8	133.1	88.2	97.6	288.4	350.2	67.5	
Level of Service	D	D		F	D	F	F	F	F	F	E	
Approach Delay (s)		43.2			108.4			177.1			128.7	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	130.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	400	270	580	200	300	240	990	900	290	1010	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		336			1269			820			2979	
Travel Time (s)		7.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	705	0	611	211	316	253	1042	947	305	1105	0
v/c Ratio	0.29	0.68		1.10	0.70	0.61	0.93	1.07	1.30	1.61	0.96	
Control Delay	38.7	37.2		110.7	58.4	18.5	92.4	95.2	169.9	331.8	67.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.7	37.2		110.7	58.4	18.5	92.4	95.2	169.9	331.8	67.3	
Queue Length 50th (ft)	92	219		~297	162	85	212	~513	~766	~373	337	
Queue Length 95th (ft)	m122	m268		m#311	m179	m96	#369	#648	#1024	m#532	#442	
Internal Link Dist (ft)		256			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1037		555	301	521	283	971	726	189	1148	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.29	0.68		1.10	0.70	0.61	0.89	1.07	1.30	1.61	0.96	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

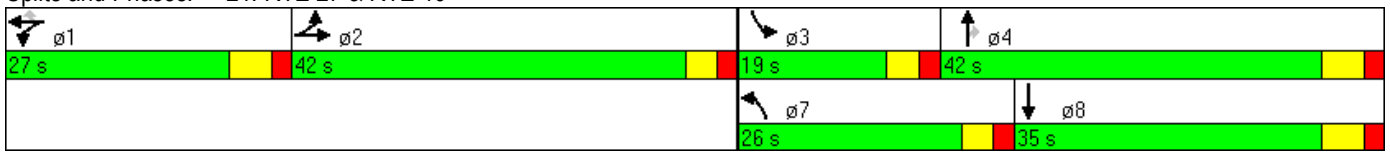
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	140	400	580	200	300	240	990	900	290	1010
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	10	450	20	5	20	223	437	40	30	650	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.88		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1605		1770	1635		1719	3395		1671	3190	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1605		1770	1635		1719	3395		1671	3190	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	11	489	22	5	22	242	475	43	33	707	308
RTOR Reduction (vph)	0	270	0	0	21	0	0	6	0	0	50	0
Lane Group Flow (vph)	272	230	0	22	6	0	242	512	0	33	965	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	8%	8%	8%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.6	17.3		1.4	4.1		13.7	41.0		2.0	29.3	
Effective Green, g (s)	14.6	17.3		1.4	4.1		13.7	41.0		2.0	29.3	
Actuated g/C Ratio	0.19	0.22		0.02	0.05		0.18	0.53		0.03	0.38	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	336	357		32	86		303	1791		43	1203	
v/s Ratio Prot	c0.15	c0.14		0.01	0.00		c0.14	0.15		0.02	c0.30	
v/s Ratio Perm												
v/c Ratio	0.81	0.64		0.69	0.07		0.80	0.29		0.77	0.80	
Uniform Delay, d1	30.2	27.4		37.9	35.0		30.7	10.2		37.6	21.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.7	3.0		39.1	0.1		12.8	0.0		51.8	3.7	
Delay (s)	42.9	30.4		77.0	35.1		43.5	10.2		89.4	25.3	
Level of Service	D	C		E	D		D	B		F	C	
Approach Delay (s)		34.8			53.9			20.8			27.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	10	450	20	5	20	223	437	40	30	650	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	272	500	0	22	27	0	242	518	0	33	1015	0
v/c Ratio	0.75	0.77		0.22	0.15		0.75	0.27		0.26	0.83	
Control Delay	45.6	17.8		43.6	18.0		47.2	11.2		41.7	28.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	45.6	17.8		43.6	18.0		47.2	11.2		41.7	28.3	
Queue Length 50th (ft)	108	57		9	2		96	36		14	173	
Queue Length 95th (ft)	#300	186		37	25		#275	143		48	#405	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	380	828		100	388		341	1945		142	1358	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.72	0.60		0.22	0.07		0.71	0.27		0.23	0.75	

Intersection Summary

Area Type: Other

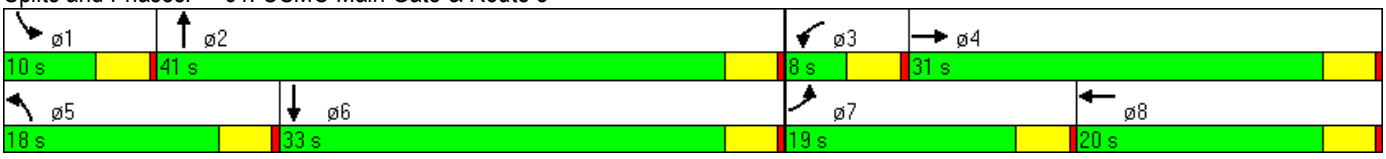
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	250	10	20	5	223	437	30	650
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	19.0	31.0	8.0	20.0	18.0	41.0	10.0	33.0
Total Split (%)	21.1%	34.4%	8.9%	22.2%	20.0%	45.6%	11.1%	36.7%
Maximum Green (s)	15.0	27.0	4.0	16.0	14.0	37.0	6.0	29.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 72.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	30	20	640	1050	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1719	3438	3369	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1719	3438	3369	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	33	22	696	1141	11
RTOR Reduction (vph)	0	31	0	0	1	0
Lane Group Flow (vph)	43	2	22	696	1151	0
Heavy Vehicles (%)	2%	2%	5%	5%	7%	7%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.4	3.4	1.0	36.2	31.2	
Effective Green, g (s)	3.4	3.4	1.0	36.2	31.2	
Actuated g/C Ratio	0.07	0.07	0.02	0.76	0.66	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	126	113	36	2615	2208	
v/s Ratio Prot	c0.02		0.01	c0.20	c0.34	
v/s Ratio Perm		0.00				
v/c Ratio	0.34	0.02	0.61	0.27	0.52	
Uniform Delay, d1	21.0	20.6	23.1	1.7	4.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.0	19.6	0.0	0.1	
Delay (s)	21.6	20.6	42.7	1.7	4.4	
Level of Service	C	C	D	A	A	
Approach Delay (s)	21.2			3.0	4.4	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	4.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	47.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	30	20	640	1050	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	5%	5%	7%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	33	22	696	1152	0
v/c Ratio	0.17	0.13	0.10	0.25	0.43	
Control Delay	21.8	10.7	22.2	2.3	4.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.8	10.7	22.2	2.3	4.8	
Queue Length 50th (ft)	10	0	5	25	50	
Queue Length 95th (ft)	38	20	25	45	186	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	761	699	304	3438	3321	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.06	0.05	0.07	0.20	0.35	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	40	30	20	640	1050
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	21.0	11.0	69.0	58.0
Total Split (%)	23.3%	23.3%	12.2%	76.7%	64.4%
Maximum Green (s)	17.0	17.0	7.0	65.0	54.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 42.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	660	440	5	5	110
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	717	478	5	5	120
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	484				1209	481
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	484				1209	481
tC, single (s)	4.2				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.3				3.5	3.3
p0 queue free %	99				97	80
cM capacity (veh/h)	1034				201	585

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	5	717	484	125
Volume Left	5	0	0	5
Volume Right	0	0	5	120
cSH	1034	1700	1700	612
Volume to Capacity	0.01	0.42	0.28	0.20
Queue Length 95th (ft)	0	0	0	19
Control Delay (s)	8.5	0.0	0.0	13.2
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	13.2
Approach LOS				B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	446	355	40	5	593	392	240	50	30	85	20	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	0.94		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1641	3256		1770	3160		1770	1747		1087	1202	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1641	3256		1770	3160		1770	1747		1087	1202	
Peak-hour factor, PHF	0.92	0.80	0.80	0.80	0.80	0.92	0.80	0.92	0.80	0.92	0.92	0.92
Adj. Flow (vph)	485	444	50	6	741	426	300	54	38	92	22	39
RTOR Reduction (vph)	0	6	0	0	63	0	0	23	0	0	37	0
Lane Group Flow (vph)	485	488	0	6	1104	0	300	69	0	92	24	0
Heavy Vehicles (%)	10%	10%	2%	2%	8%	8%	2%	2%	2%	66%	2%	66%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	32.0	70.5		0.8	39.3		18.0	12.7		12.5	7.2	
Effective Green, g (s)	32.0	70.5		0.8	39.3		18.0	12.7		12.5	7.2	
Actuated g/C Ratio	0.28	0.63		0.01	0.35		0.16	0.11		0.11	0.06	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	467	2040		13	1104		283	197		121	77	
v/s Ratio Prot	c0.30	0.15		0.00	c0.35		c0.17	c0.04		0.08	0.02	
v/s Ratio Perm												
v/c Ratio	1.04	0.24		0.46	1.00		1.06	0.35		0.76	0.32	
Uniform Delay, d1	40.2	9.2		55.6	36.6		47.2	46.1		48.5	50.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	52.0	0.0		9.1	26.8		70.2	0.4		22.0	0.9	
Delay (s)	92.2	9.2		64.8	63.4		117.5	46.5		70.5	51.2	
Level of Service	F	A		E	E		F	D		E	D	
Approach Delay (s)		50.4			63.4			100.8			62.8	
Approach LOS		D			E			F			E	

Intersection Summary			
HCM Average Control Delay	64.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	112.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	446	355	40	5	593	392	240	50	30	85	20	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		981			494			425			352	
Travel Time (s)		19.1			9.6			8.3			6.9	
Peak Hour Factor	0.92	0.80	0.80	0.80	0.80	0.92	0.80	0.92	0.80	0.92	0.92	0.92
Heavy Vehicles (%)	10%	10%	2%	2%	8%	8%	2%	2%	2%	66%	2%	66%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	485	494	0	6	1167	0	300	92	0	92	61	0
v/c Ratio	1.01	0.23		0.09	1.05		1.03	0.41		0.74	0.53	
Control Delay	82.6	8.8		55.6	75.9		105.8	39.0		79.9	39.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	82.6	8.8		55.6	75.9		105.8	39.0		79.9	39.9	
Queue Length 50th (ft)	~338	62		4	~441		~218	44		62	15	
Queue Length 95th (ft)	#595	105		17	#499		#348	96		#140	58	
Internal Link Dist (ft)		901			414			345			272	
Turn Bay Length (ft)	200			200			200			200		
Base Capacity (vph)	481	2109		65	1107		292	357		149	231	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.01	0.23		0.09	1.05		1.03	0.26		0.62	0.26	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

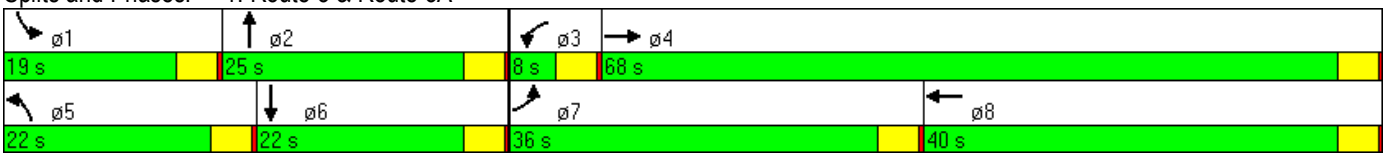
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	446	355	5	593	240	50	85	20
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0
Total Split (s)	36.0	68.0	8.0	40.0	22.0	25.0	19.0	22.0
Total Split (%)	30.0%	56.7%	6.7%	33.3%	18.3%	20.8%	15.8%	18.3%
Maximum Green (s)	32.0	64.0	4.0	36.0	18.0	21.0	15.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	None	Min
Walk Time (s)		5.0		5.0	5.0	5.0		5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)		0		0	0	0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 109.2
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Route 3 & Route 3A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	205	5	124	40	20	30	434	686	10	10	506	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.91		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1609		1770	1695		1671	3335		1719	3251	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1609		1770	1695		1671	3335		1719	3251	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	223	5	135	43	22	33	472	746	11	11	550	313
RTOR Reduction (vph)	0	116	0	0	31	0	0	1	0	0	82	0
Lane Group Flow (vph)	223	24	0	43	24	0	472	756	0	11	781	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	8%	8%	8%	5%	5%	5%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.1	11.6		3.4	3.9		25.2	49.3		0.7	24.8	
Effective Green, g (s)	11.1	11.6		3.4	3.9		25.2	49.3		0.7	24.8	
Actuated g/C Ratio	0.14	0.14		0.04	0.05		0.31	0.61		0.01	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	245	230		74	82		520	2030		15	995	
v/s Ratio Prot	c0.12	0.02		0.02	c0.01		c0.28	0.23		0.01	c0.24	
v/s Ratio Perm												
v/c Ratio	0.91	0.11		0.58	0.29		0.91	0.37		0.73	0.79	
Uniform Delay, d1	34.5	30.2		38.1	37.2		26.8	8.0		40.1	25.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	33.9	0.1		7.3	0.7		19.1	0.0		93.0	3.8	
Delay (s)	68.4	30.3		45.4	37.9		45.9	8.1		133.0	29.5	
Level of Service	E	C		D	D		D	A		F	C	
Approach Delay (s)		53.7			41.2			22.6			30.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	205	5	124	40	20	30	434	686	10	10	506	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	8%	8%	8%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	140	0	43	55	0	472	757	0	11	863	0
v/c Ratio	0.86	0.39		0.33	0.34		0.85	0.35		0.12	0.86	
Control Delay	64.7	10.2		42.7	25.0		42.6	7.9		40.2	33.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	64.7	10.2		42.7	25.0		42.6	7.9		40.2	33.2	
Queue Length 50th (ft)	111	2		21	11		222	80		5	187	
Queue Length 95th (ft)	#248	50		53	44		#418	162		22	#312	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	260	544		141	385		553	2164		91	1031	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.86	0.26		0.30	0.14		0.85	0.35		0.12	0.84	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	205	5	40	20	434	686	10	506
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	15.0	25.0	10.0	20.0	29.0	47.0	8.0	26.0
Total Split (%)	16.7%	27.8%	11.1%	22.2%	32.2%	52.2%	8.9%	28.9%
Maximum Green (s)	11.0	21.0	6.0	16.0	25.0	43.0	4.0	22.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 76
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	10	40	60	1090	940	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1687	3374	3430	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1687	3374	3430	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	43	65	1185	1022	87
RTOR Reduction (vph)	0	40	0	0	6	0
Lane Group Flow (vph)	11	3	65	1185	1103	0
Heavy Vehicles (%)	2%	2%	7%	7%	4%	4%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	2.8	2.8	3.9	36.5	28.6	
Effective Green, g (s)	2.8	2.8	3.9	36.5	28.6	
Actuated g/C Ratio	0.06	0.06	0.08	0.77	0.60	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	105	94	139	2604	2074	
v/s Ratio Prot	c0.01		0.04	c0.35	c0.32	
v/s Ratio Perm		0.00				
v/c Ratio	0.10	0.03	0.47	0.46	0.53	
Uniform Delay, d1	21.1	21.0	20.7	1.9	5.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.9	0.0	0.1	
Delay (s)	21.2	21.0	21.6	1.9	5.6	
Level of Service	C	C	C	A	A	
Approach Delay (s)	21.1			3.0	5.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	47.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	10	40	60	1090	940	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	7%	7%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	43	65	1185	1109	0
v/c Ratio	0.05	0.18	0.25	0.42	0.45	
Control Delay	22.2	10.9	22.2	2.5	7.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	22.2	10.9	22.2	2.5	7.5	
Queue Length 50th (ft)	3	0	18	45	102	
Queue Length 95th (ft)	16	24	50	83	184	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	747	693	460	3374	3319	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.01	0.06	0.14	0.35	0.33	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	10	40	60	1090	940
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	21.0	15.0	69.0	54.0
Total Split (%)	23.3%	23.3%	16.7%	76.7%	60.0%
Maximum Green (s)	17.0	17.0	11.0	65.0	50.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 43.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	37	480	140	20	423	97	70	20	10	390	30	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.95		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1703	3318		1770	3001		1770	1770		1530	1419	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1703	3318		1770	3001		1770	1770		1530	1419	
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	40	533	156	22	470	105	78	22	11	424	33	478
RTOR Reduction (vph)	0	22	0	0	15	0	0	10	0	0	166	0
Lane Group Flow (vph)	40	667	0	22	560	0	78	23	0	424	345	0
Heavy Vehicles (%)	6%	6%	2%	2%	17%	17%	2%	2%	2%	18%	2%	16%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.4	22.8		1.5	20.9		6.6	7.8		26.7	27.9	
Effective Green, g (s)	3.4	22.8		1.5	20.9		6.6	7.8		26.7	27.9	
Actuated g/C Ratio	0.05	0.30		0.02	0.28		0.09	0.10		0.36	0.37	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	77	1011		35	839		156	185		546	529	
v/s Ratio Prot	c0.02	c0.20		0.01	0.19		0.04	0.01		c0.28	c0.24	
v/s Ratio Perm												
v/c Ratio	0.52	0.66		0.63	0.67		0.50	0.13		0.78	0.65	
Uniform Delay, d1	34.9	22.6		36.4	23.9		32.5	30.4		21.4	19.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	1.3		22.7	1.6		0.9	0.1		6.3	2.2	
Delay (s)	37.4	23.9		59.1	25.4		33.4	30.5		27.7	21.6	
Level of Service	D	C		E	C		C	C		C	C	
Approach Delay (s)		24.6			26.7			32.6			24.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	74.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	37	480	140	20	423	97	70	20	10	390	30	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1043			713			461			569	
Travel Time (s)		20.3			13.9			9.0			11.1	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	2%	2%	17%	17%	2%	2%	2%	18%	2%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	689	0	22	575	0	78	33	0	424	511	0
v/c Ratio	0.26	0.64		0.17	0.67		0.38	0.20		0.75	0.72	
Control Delay	44.6	25.2		45.6	29.1		42.7	33.5		31.2	17.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	44.6	25.2		45.6	29.1		42.7	33.5		31.2	17.8	
Queue Length 50th (ft)	17	114		10	120		34	10		167	100	
Queue Length 95th (ft)	62	270		41	236		99	45		356	275	
Internal Link Dist (ft)		963			633			381			489	
Turn Bay Length (ft)	200			200			200			200		
Base Capacity (vph)	186	1723		138	1462		304	505		1091	1165	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.22	0.40		0.16	0.39		0.26	0.07		0.39	0.44	

Intersection Summary

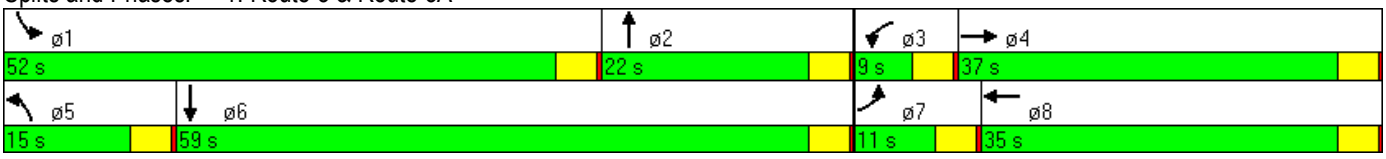
Area Type: Other

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	37	480	20	423	70	20	390	30
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	11.0	37.0	9.0	35.0	15.0	22.0	52.0	59.0
Total Split (%)	9.2%	30.8%	7.5%	29.2%	12.5%	18.3%	43.3%	49.2%
Maximum Green (s)	7.0	33.0	5.0	31.0	11.0	18.0	48.0	55.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 72.1
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Route 3 & Route 3A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	10	450	20	5	20	223	437	40	30	650	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.88		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1605		1770	1635		1719	3395		1671	3190	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1605		1770	1635		1719	3395		1671	3190	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	11	489	22	5	22	242	475	43	33	707	308
RTOR Reduction (vph)	0	270	0	0	21	0	0	6	0	0	50	0
Lane Group Flow (vph)	272	230	0	22	6	0	242	512	0	33	965	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	8%	8%	8%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.6	17.3		1.4	4.1		13.7	41.0		2.0	29.3	
Effective Green, g (s)	14.6	17.3		1.4	4.1		13.7	41.0		2.0	29.3	
Actuated g/C Ratio	0.19	0.22		0.02	0.05		0.18	0.53		0.03	0.38	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	336	357		32	86		303	1791		43	1203	
v/s Ratio Prot	c0.15	c0.14		0.01	0.00		c0.14	0.15		0.02	c0.30	
v/s Ratio Perm												
v/c Ratio	0.81	0.64		0.69	0.07		0.80	0.29		0.77	0.80	
Uniform Delay, d1	30.2	27.4		37.9	35.0		30.7	10.2		37.6	21.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.7	3.0		39.1	0.1		12.8	0.0		51.8	3.7	
Delay (s)	42.9	30.4		77.0	35.1		43.5	10.2		89.4	25.3	
Level of Service	D	C		E	D		D	B		F	C	
Approach Delay (s)		34.8			53.9			20.8			27.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	10	450	20	5	20	223	437	40	30	650	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		100
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	5%	5%	5%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	272	500	0	22	27	0	242	518	0	33	1015	0
v/c Ratio	0.75	0.77		0.22	0.15		0.75	0.27		0.26	0.83	
Control Delay	45.6	17.8		43.6	18.0		47.2	11.2		41.7	28.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	45.6	17.8		43.6	18.0		47.2	11.2		41.7	28.3	
Queue Length 50th (ft)	108	57		9	2		96	36		14	173	
Queue Length 95th (ft)	#300	186		37	25		#275	143		48	#405	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	380	828		100	388		341	1945		142	1358	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.72	0.60		0.22	0.07		0.71	0.27		0.23	0.75	

Intersection Summary

Area Type: Other

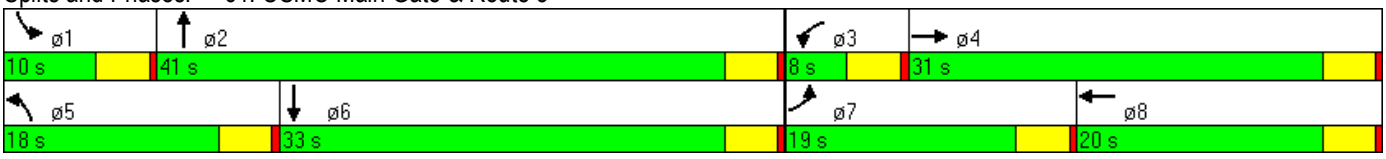
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	250	10	20	5	223	437	30	650
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	19.0	31.0	8.0	20.0	18.0	41.0	10.0	33.0
Total Split (%)	21.1%	34.4%	8.9%	22.2%	20.0%	45.6%	11.1%	36.7%
Maximum Green (s)	15.0	27.0	4.0	16.0	14.0	37.0	6.0	29.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 72.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	30	20	640	1050	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1719	3438	3369	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1719	3438	3369	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	33	22	696	1141	11
RTOR Reduction (vph)	0	31	0	0	1	0
Lane Group Flow (vph)	43	2	22	696	1151	0
Heavy Vehicles (%)	2%	2%	5%	5%	7%	7%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.4	3.4	1.0	36.2	31.2	
Effective Green, g (s)	3.4	3.4	1.0	36.2	31.2	
Actuated g/C Ratio	0.07	0.07	0.02	0.76	0.66	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	126	113	36	2615	2208	
v/s Ratio Prot	c0.02		0.01	c0.20	c0.34	
v/s Ratio Perm		0.00				
v/c Ratio	0.34	0.02	0.61	0.27	0.52	
Uniform Delay, d1	21.0	20.6	23.1	1.7	4.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.0	19.6	0.0	0.1	
Delay (s)	21.6	20.6	42.7	1.7	4.4	
Level of Service	C	C	D	A	A	
Approach Delay (s)	21.2			3.0	4.4	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	4.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	47.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	30	20	640	1050	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	5%	5%	7%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	33	22	696	1152	0
v/c Ratio	0.17	0.13	0.10	0.25	0.43	
Control Delay	21.8	10.7	22.2	2.3	4.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.8	10.7	22.2	2.3	4.8	
Queue Length 50th (ft)	10	0	5	25	50	
Queue Length 95th (ft)	38	20	25	45	186	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	761	699	304	3438	3321	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.06	0.05	0.07	0.20	0.35	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	40	30	20	640	1050
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	21.0	11.0	69.0	58.0
Total Split (%)	23.3%	23.3%	12.2%	76.7%	64.4%
Maximum Green (s)	17.0	17.0	7.0	65.0	54.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 42.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	45	471	928	10	10	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	56	589	1160	12	12	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1290				
pX, platoon unblocked					0.98	
vC, conflicting volume	1172				1868	1166
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1172				1876	1166
tC, single (s)	4.1				6.8	6.6
tC, 2 stage (s)						
tF (s)	2.2				3.9	3.7
p0 queue free %	91				78	89
cM capacity (veh/h)	599				56	199

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	56	589	1172	35
Volume Left	56	0	0	12
Volume Right	0	0	12	22
cSH	599	1700	1700	104
Volume to Capacity	0.09	0.35	0.69	0.34
Queue Length 95th (ft)	8	0	0	33
Control Delay (s)	11.6	0.0	0.0	56.4
Lane LOS	B			F
Approach Delay (s)	1.0		0.0	56.4
Approach LOS				F

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	451	40	20	698	220	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	564	50	25	872	275	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			614		1511	589
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			614		1511	589
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		0	88
cM capacity (veh/h)			971		129	508

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	614	898	338
Volume Left	0	25	275
Volume Right	50	0	62
cSH	1700	971	150
Volume to Capacity	0.36	0.03	2.26
Queue Length 95th (ft)	0	2	700
Control Delay (s)	0.0	0.7	635.0
Lane LOS		A	F
Approach Delay (s)	0.0	0.7	635.0
Approach LOS			F

Intersection Summary			
Average Delay	116.3		
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	501	708	72	19	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	12	626	885	90	24	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	975				1581	930
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	975				1581	930
tC, single (s)	4.1				6.9	6.7
tC, 2 stage (s)						
tF (s)	2.2				3.9	3.7
p0 queue free %	98				74	95
cM capacity (veh/h)	711				93	269

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	639	975	36
Volume Left	12	0	24
Volume Right	0	90	12
cSH	711	1700	120
Volume to Capacity	0.02	0.57	0.30
Queue Length 95th (ft)	1	0	29
Control Delay (s)	0.5	0.0	47.7
Lane LOS	A		E
Approach Delay (s)	0.5	0.0	47.7
Approach LOS			E

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	940	160	550	290	110	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3390		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3390		1863	1583	1770	3539
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1080	184	632	333	126	1115
RTOR Reduction (vph)	12	0	0	173	0	0
Lane Group Flow (vph)	1252	0	632	160	126	1115
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	45.5		46.3	46.3	11.2	63.0
Effective Green, g (s)	45.5		46.3	46.3	11.2	63.0
Actuated g/C Ratio	0.38		0.39	0.39	0.09	0.52
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1285		719	611	165	1858
v/s Ratio Prot	c0.37		c0.34		c0.07	0.32
v/s Ratio Perm				0.10		
v/c Ratio	0.97		0.88	0.26	0.76	0.60
Uniform Delay, d1	36.7		34.2	25.2	53.1	19.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	19.2		14.4	1.0	19.2	1.4
Delay (s)	55.9		48.6	26.2	72.3	21.2
Level of Service	E		D	C	E	C
Approach Delay (s)	55.9		40.9			26.4
Approach LOS	E		D			C

Intersection Summary			
HCM Average Control Delay	41.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	940	160	550	290	110	970
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1264	0	632	333	126	1115
v/c Ratio	0.97		0.88	0.42	0.76	0.60
Control Delay	56.1		49.6	6.8	81.2	21.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	56.1		49.6	6.8	81.2	21.5
Queue Length 50th (ft)	486		451	25	97	303
Queue Length 95th (ft)	#602		#628	81	#181	352
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1297		719	784	170	1858
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.97		0.88	0.42	0.74	0.60

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	940	550	290	110	970
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	51.0	52.0	52.0	17.0	69.0
Total Split (%)	42.5%	43.3%	43.3%	14.2%	57.5%
Maximum Green (s)	45.5	46.0	46.0	11.5	63.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	20	10	770	1990	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	12	23	12	895	2314	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2797	1169	2337			
vC1, stage 1 conf vol	2326					
vC2, stage 2 conf vol	471					
vCu, unblocked vol	2797	1169	2337			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	88	94			
cM capacity (veh/h)	58	186	208			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	35	12	448	448	1543	795
Volume Left	12	12	0	0	0	0
Volume Right	23	0	0	0	0	23
cSH	107	208	1700	1700	1700	1700
Volume to Capacity	0.33	0.06	0.26	0.26	0.91	0.47
Queue Length 95th (ft)	32	4	0	0	0	0
Control Delay (s)	54.1	23.3	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	54.1	0.3			0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	210	310	290	540	210	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3400	1568	1845	1568	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3400	1568	1845	1568	1770	1863
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	233	344	322	600	233	244
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	233	344	322	600	233	244
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	10.2	87.2	45.7	87.2	15.8	67.0
Effective Green, g (s)	10.2	87.2	45.7	87.2	15.8	67.0
Actuated g/C Ratio	0.12	1.00	0.52	1.00	0.18	0.77
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	398	1568	967	1568	321	1431
v/s Ratio Prot	c0.07		0.17		c0.13	0.13
v/s Ratio Perm		0.22		c0.38		
v/c Ratio	0.59	0.22	0.33	0.38	0.73	0.17
Uniform Delay, d1	36.5	0.0	12.0	0.0	33.7	2.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.3	0.9	0.7	6.8	0.3
Delay (s)	37.9	0.3	12.9	0.7	40.4	3.0
Level of Service	D	A	B	A	D	A
Approach Delay (s)	15.5		5.0			21.3
Approach LOS	B		A			C

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	87.2	Sum of lost time (s)	9.5
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	210	310	290	540	210	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	233	344	322	600	233	244
v/c Ratio	0.59	0.22	0.33	0.38	0.73	0.17
Control Delay	42.8	0.3	14.8	0.7	46.5	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	0.3	14.8	0.7	46.5	3.2
Queue Length 50th (ft)	63	0	96	0	122	28
Queue Length 95th (ft)	100	0	190	0	189	54
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	507	1568	967	1568	518	1432
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.22	0.33	0.38	0.45	0.17

Intersection Summary	
Area Type:	Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	210	310	290	540	210	220
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	17.0	0.0	42.0	0.0	31.0	73.0
Total Split (%)	18.9%	0.0%	46.7%	0.0%	34.4%	81.1%
Maximum Green (s)	13.0		36.0		25.5	67.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 87.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	80	70	710	280	150	890	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.96		1.00	0.96		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1650		1752	3356		1752	3471	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1650		1752	3356		1752	3471	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	86	75	763	301	161	957	65
RTOR Reduction (vph)	0	51	0	0	10	0	0	32	0	0	4	0
Lane Group Flow (vph)	0	36	0	361	338	0	75	1032	0	161	1018	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		29.0	29.0		7.9	49.0		13.9	55.0	
Effective Green, g (s)		7.1		29.0	29.0		7.9	49.0		13.9	55.0	
Actuated g/C Ratio		0.06		0.24	0.24		0.07	0.41		0.12	0.46	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		406	399		115	1370		203	1591	
v/s Ratio Prot		c0.02		c0.21	0.20		0.04	c0.31		c0.09	0.29	
v/s Ratio Perm												
v/c Ratio		0.36		0.89	0.85		0.65	0.75		0.79	0.64	
Uniform Delay, d1		54.3		43.9	43.4		54.7	30.3		51.7	24.9	
Progression Factor		1.00		1.00	1.00		1.45	0.43		1.00	1.00	
Incremental Delay, d2		0.8		19.9	14.7		7.5	3.0		17.7	2.0	
Delay (s)		55.1		63.9	58.1		86.6	16.0		69.4	26.9	
Level of Service		E		E	E		F	B		E	C	
Approach Delay (s)		55.1			61.0			20.6			32.7	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM Average Control Delay	35.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	80	70	710	280	150	890	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				39%								
Lane Group Flow (vph)	0	87	0	361	348	0	75	1064	0	161	1022	0
v/c Ratio		0.58		0.89	0.85		0.57	0.76		0.79	0.63	
Control Delay		39.4		67.7	61.2		90.0	16.5		78.6	28.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		67.7	61.2		90.0	16.5		78.6	28.5	
Queue Length 50th (ft)		25		277	255		62	288		120	329	
Queue Length 95th (ft)		77		#430	#395		m93	267		#235	442	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	452		162	1402		214	1622	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.80	0.77		0.46	0.76		0.75	0.63	

Intersection Summary

Area Type: Other

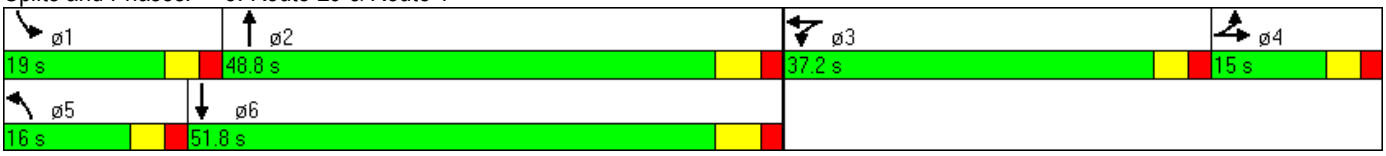
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	710	150	890
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	20	40	50	40	10	40	330	20	10	310	200
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	176	22	44	55	44	11	44	363	22	11	341	220
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	967	945	451	989	1044	374	560			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	967	945	451	989	1044	374	560			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	6	91	93	71	80	98	96			99		
cM capacity (veh/h)	186	248	609	187	217	673	1006			1168		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	110	429	571
Volume Left	176	55	44	11
Volume Right	44	11	22	220
cSH	219	215	1006	1168
Volume to Capacity	1.10	0.51	0.04	0.01
Queue Length 95th (ft)	276	66	3	1
Control Delay (s)	138.1	38.1	1.3	0.3
Lane LOS	F	E	A	A
Approach Delay (s)	138.1	38.1	1.3	0.3
Approach LOS	F	E		

Intersection Summary				
Average Delay	28.3			
Intersection Capacity Utilization	65.6%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	120	990	150	160	1560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3436		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3436		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	130	1076	163	174	1696
RTOR Reduction (vph)	0	61	9	0	0	0
Lane Group Flow (vph)	337	69	1230	0	174	1696
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	26.6	26.6	62.5		14.9	82.4
Effective Green, g (s)	26.6	26.6	62.5		14.9	82.4
Actuated g/C Ratio	0.22	0.22	0.52		0.12	0.69
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	388	348	1790		218	2407
v/s Ratio Prot	c0.19		0.36		0.10	c0.48
v/s Ratio Perm		0.04				
v/c Ratio	0.87	0.20	0.69		0.80	0.70
Uniform Delay, d1	45.0	38.0	21.5		51.1	11.4
Progression Factor	1.00	1.00	0.43		1.07	0.93
Incremental Delay, d2	17.7	0.1	2.0		14.3	1.4
Delay (s)	62.7	38.1	11.2		68.8	12.0
Level of Service	E	D	B		E	B
Approach Delay (s)	55.8		11.2			17.3
Approach LOS	E		B			B

Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	310	120	990	150	160	1560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	337	130	1239	0	174	1696
v/c Ratio	0.87	0.32	0.69		0.80	0.70
Control Delay	66.9	17.7	11.8		76.0	13.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	66.9	17.7	11.8		76.0	13.0
Queue Length 50th (ft)	251	32	135		141	305
Queue Length 95th (ft)	347	82	m409		m#224	347
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	467	476	1799		239	2408
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.72	0.27	0.69		0.73	0.70

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	310	120	990	160	1560
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	170	90	150	300	190
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	137	233	123	205	411	260
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	993	541	671			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	993	541	671			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	41	57	87			
cM capacity (veh/h)	233	537	915			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	370	329	671
Volume Left	137	123	0
Volume Right	233	0	260
cSH	362	915	1700
Volume to Capacity	1.02	0.13	0.39
Queue Length 95th (ft)	306	12	0
Control Delay (s)	87.2	4.5	0.0
Lane LOS	F	A	
Approach Delay (s)	87.2	4.5	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	24.6		
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	650	370	0	1740	330	280	1880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4915		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4915		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	707	402	0	1891	359	304	2043
RTOR Reduction (vph)	0	0	0	23	0	0	456
Lane Group Flow (vph)	707	402	0	2227	0	304	1587
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	380	3022		1679		531	825
v/s Ratio Prot	c0.40	0.08		c0.45		0.17	
v/s Ratio Perm							c0.58
v/c Ratio	1.86	0.13		1.33		0.57	1.92
Uniform Delay, d1	47.0	10.4		39.5		35.5	42.0
Progression Factor	0.50	1.00		0.69		1.00	1.00
Incremental Delay, d2	394.1	0.1		150.5		0.9	420.3
Delay (s)	417.6	10.5		177.9		36.4	462.3
Level of Service	F	B		F		D	F
Approach Delay (s)		270.0		177.9		407.1	
Approach LOS		F		F		F	

Intersection Summary			
HCM Average Control Delay	290.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	116.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	650	370	0	1740	330	280	1880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	707	402	0	2250	0	304	2043
v/c Ratio	1.86	0.13		1.32		0.57	1.60
Control Delay	415.8	10.5		174.9		40.6	294.1
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	415.8	10.5		174.9		40.6	294.1
Queue Length 50th (ft)	~858	71		~823		199	~1080
Queue Length 95th (ft)	#1097	m57		#890		294	#1231
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	380	3022		1702		531	1280
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.86	0.13		1.32		0.57	1.60

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	650	370	1740	280	1880	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	780	250	730	2470	410	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4853		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4853		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	830	266	777	2628	436	340
RTOR Reduction (vph)	0	47	0	0	0	0	282
Lane Group Flow (vph)	11	1049	0	777	2628	436	58
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	29.6		53.0	81.6	20.4	20.4
Effective Green, g (s)	1.0	29.6		53.0	81.6	20.4	20.4
Actuated g/C Ratio	0.01	0.25		0.44	0.68	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1197		774	3424	578	267
v/s Ratio Prot	0.01	c0.22		c0.44	0.52	c0.13	
v/s Ratio Perm							0.04
v/c Ratio	0.73	0.88		1.00	0.77	0.75	0.22
Uniform Delay, d1	59.4	43.4		33.5	12.9	47.4	42.9
Progression Factor	1.00	0.88		0.80	0.79	0.63	0.42
Incremental Delay, d2	88.3	8.6		10.6	0.2	4.1	0.1
Delay (s)	147.5	46.8		37.5	10.3	34.2	18.0
Level of Service	F	D		D	B	C	B
Approach Delay (s)		47.8			16.5	27.1	
Approach LOS		D			B	C	

Intersection Summary			
HCM Average Control Delay	24.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	780	250	730	2470	410	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1096	0	777	2628	436	340
v/c Ratio	0.15	0.78		1.09	0.73	0.75	0.62
Control Delay	59.5	38.0		70.8	9.5	37.2	6.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	59.5	38.0		70.8	9.5	37.2	6.2
Queue Length 50th (ft)	8	228		~690	295	77	2
Queue Length 95th (ft)	m25	m#239		m254	m215	108	19
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1405		715	3593	765	616
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	0.78		1.09	0.73	0.57	0.55

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	780	730	2470	410	320
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	230	790	10	1990	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4823	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4823	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	322	133	256	878	11	2211	867
RTOR Reduction (vph)	0	120	0	0	0	58	0
Lane Group Flow (vph)	322	13	256	878	11	3020	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	18.7	91.2	0.8	73.3	
Effective Green, g (s)	12.0	12.0	18.7	91.2	0.8	73.3	
Actuated g/C Ratio	0.10	0.10	0.16	0.76	0.01	0.61	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	273	3827	12	2946	
v/s Ratio Prot	c0.09		c0.15	0.17	0.01	c0.63	
v/s Ratio Perm		0.01					
v/c Ratio	0.94	0.08	0.94	0.23	0.92	1.02	
Uniform Delay, d1	53.6	49.0	50.1	4.2	59.6	23.4	
Progression Factor	1.00	1.00	1.08	0.99	0.98	0.59	
Incremental Delay, d2	32.3	0.1	33.6	0.1	172.4	20.7	
Delay (s)	86.0	49.1	87.6	4.3	230.6	34.5	
Level of Service	F	D	F	A	F	C	
Approach Delay (s)	75.2			23.1		35.2	
Approach LOS	E			C		D	

Intersection Summary			
HCM Average Control Delay	36.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	230	790	10	1990	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	322	133	256	878	11	3078	0
v/c Ratio	0.94	0.48	0.94	0.22	0.18	1.02	
Control Delay	89.2	14.5	91.1	3.4	60.2	35.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.2	14.5	91.1	3.4	60.2	35.0	
Queue Length 50th (ft)	129	0	208	43	9	~465	
Queue Length 95th (ft)	#219	60	#360	82	m13	#219	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	278	277	3995	60	3006	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.94	0.48	0.92	0.22	0.18	1.02	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	290	120	230	790	10	1990
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	260	600	200	80	1100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4847		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4847		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	774	310	714	238	95	1310
RTOR Reduction (vph)	0	145	48	0	0	0
Lane Group Flow (vph)	774	165	904	0	95	1310
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	59.4	59.4	33.6		11.0	49.6
Effective Green, g (s)	59.4	59.4	33.6		11.0	49.6
Actuated g/C Ratio	0.49	0.49	0.28		0.09	0.41
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	876	784	1357		161	2082
v/s Ratio Prot	c0.44	0.10	0.19		0.05	c0.26
v/s Ratio Perm						
v/c Ratio	0.88	0.21	0.67		0.59	0.63
Uniform Delay, d1	27.2	17.1	38.2		52.3	27.9
Progression Factor	0.88	0.40	0.75		0.71	0.56
Incremental Delay, d2	10.1	0.0	2.2		2.5	0.9
Delay (s)	33.9	6.8	30.8		39.4	16.5
Level of Service	C	A	C		D	B
Approach Delay (s)	26.2		30.8			18.0
Approach LOS	C		C			B

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	260	600	200	80	1100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	774	310	952	0	95	1310
v/c Ratio	0.88	0.33	0.68		0.59	0.63
Control Delay	36.1	1.8	29.8		47.4	17.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.1	1.8	29.8		47.4	17.2
Queue Length 50th (ft)	567	12	235		67	193
Queue Length 95th (ft)	610	6	m270		m80	m215
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	989	1405		161	2082
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.81	0.31	0.68		0.59	0.63

Intersection Summary

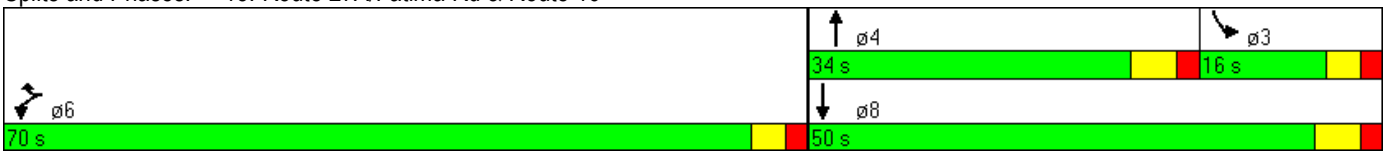
Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	650	260	600	80	1100
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1110	10	120	120	100	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4916		1752	5029		1770	1736		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4916		1752	5029		1770	1736		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	154	527	99	165	1220	11	132	132	110	33	253	505
RTOR Reduction (vph)	0	19	0	0	1	0	0	26	0	0	0	328
Lane Group Flow (vph)	154	607	0	165	1230	0	132	217	0	33	253	177
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	44.6		15.5	46.4		18.0	18.0		20.9	20.9	20.9
Effective Green, g (s)	13.7	44.6		15.5	46.4		18.0	18.0		20.9	20.9	20.9
Actuated g/C Ratio	0.11	0.37		0.13	0.39		0.15	0.15		0.17	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	200	1827		226	1945		266	260		308	324	276
v/s Ratio Prot	0.09	0.12		c0.09	c0.24		0.07	c0.12		0.02	c0.14	
v/s Ratio Perm												0.11
v/c Ratio	0.77	0.33		0.73	0.63		0.50	0.83		0.11	0.78	0.64
Uniform Delay, d1	51.6	27.0		50.2	29.9		46.8	49.5		41.7	47.4	46.1
Progression Factor	1.19	0.30		1.40	0.67		1.36	1.40		1.00	1.00	1.00
Incremental Delay, d2	14.8	0.5		8.3	1.3		0.4	16.1		0.1	10.7	3.8
Delay (s)	76.1	8.7		78.4	21.2		64.0	85.3		41.8	58.1	49.9
Level of Service	E	A		E	C		E	F		D	E	D
Approach Delay (s)		22.0			28.0			77.8			52.1	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM Average Control Delay	37.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1110	10	120	120	100	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	626	0	165	1231	0	132	242	0	33	253	505
v/c Ratio	0.77	0.34		0.73	0.63		0.50	0.85		0.11	0.78	0.84
Control Delay	84.4	9.1		84.9	22.9		68.2	81.6		39.8	63.5	23.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	84.4	9.1		84.9	22.9		68.2	81.6		39.8	63.5	23.6
Queue Length 50th (ft)	99	75		131	139		107	179		22	190	79
Queue Length 95th (ft)	#185	113		m206	m261		m165	#278		48	263	211
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	234	1850		307	1947		310	329		413	435	674
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.34		0.54	0.63		0.43	0.74		0.08	0.58	0.75

Intersection Summary

Area Type: Other

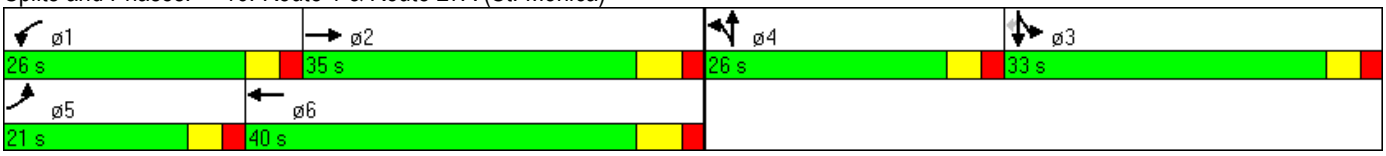
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	140	480	150	1110	120	120	30	230	460
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	40	150	20	30	10	60	200	20	20	240	130
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	45	170	23	34	11	68	227	23	23	273	148

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	80	216	68	68	250	295	148
Volume Left (vph)	80	0	23	68	0	23	0
Volume Right (vph)	0	170	11	0	23	0	148
Hadj (s)	0.53	-0.52	0.00	0.53	-0.03	0.07	-0.67
Departure Headway (s)	7.1	6.1	7.0	6.8	6.2	6.2	5.5
Degree Utilization, x	0.16	0.37	0.13	0.13	0.43	0.51	0.22
Capacity (veh/h)	470	552	462	501	551	559	628
Control Delay (s)	10.3	11.4	11.0	9.6	12.7	14.2	8.8
Approach Delay (s)	11.1		11.0	12.1		12.4	
Approach LOS	B		B	B		B	

Intersection Summary			
Delay	11.9		
HCM Level of Service	B		
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	580	80	890	1340	30	110	150	690	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4935		1752	5019		1770	1863	2745		1852	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4935		1752	5019		1770	1863	2745		1852	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	630	87	967	1457	33	120	163	750	43	326	43
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	700	0	0	10
Lane Group Flow (vph)	76	702	0	967	1488	0	120	163	50	0	369	33
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.07	0.22		0.38	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	118	1069		657	2631		118	124	183		293	247
v/s Ratio Prot	0.04	c0.14		c0.55	0.30		0.07	c0.09			c0.20	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.64	0.66		1.47	0.57		1.02	1.31	0.27		1.26	0.13
Uniform Delay, d1	54.5	42.9		37.5	19.3		56.0	56.0	53.2		50.5	43.4
Progression Factor	1.37	0.71		1.00	0.64		0.93	0.93	3.97		1.00	1.00
Incremental Delay, d2	8.4	3.0		218.6	0.7		29.2	146.8	0.0		141.4	0.1
Delay (s)	82.8	33.5		256.1	13.0		81.3	199.0	211.5		191.9	43.5
Level of Service	F	C		F	B		F	F	F		F	D
Approach Delay (s)		38.2			108.7			194.4			176.4	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	121.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	115.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	580	80	890	1340	30	110	150	690	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	717	0	967	1490	0	120	163	750	0	369	43
v/c Ratio	0.57	0.66		1.47	0.56		1.02	1.31	0.85		1.26	0.17
Control Delay	87.8	32.8		249.0	13.1		81.6	188.2	14.4		183.0	35.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.8	32.8		249.0	13.1		81.6	188.2	14.4		183.0	35.8
Queue Length 50th (ft)	62	180		~1028	191		~101	~164	102		~358	21
Queue Length 95th (ft)	m111	232		m#1219	m241		m#141	m#203	m81		#550	56
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	172	1084		657	2675		118	124	883		293	257
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.44	0.66		1.47	0.56		1.02	1.31	0.85		1.26	0.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

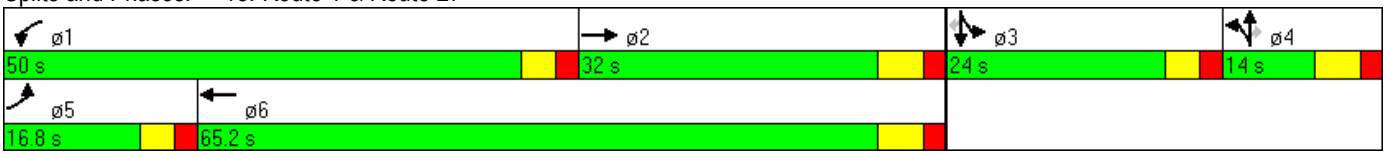
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	70	580	890	1340	110	150	690	300	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	890	370	640	1800	570	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4814		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4814		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	947	394	681	1915	606	394
RTOR Reduction (vph)	0	65	0	0	0	0	325
Lane Group Flow (vph)	11	1276	0	681	1915	606	69
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	30.0		51.0	81.2	21.0	21.0
Effective Green, g (s)	0.8	30.0		51.0	81.2	21.0	21.0
Actuated g/C Ratio	0.01	0.25		0.42	0.68	0.18	0.18
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1204		745	3408	601	277
v/s Ratio Prot	0.01	c0.27		c0.39	0.38	c0.18	
v/s Ratio Perm							0.04
v/c Ratio	0.92	1.06		0.91	0.56	1.01	0.25
Uniform Delay, d1	59.6	45.0		32.4	10.1	49.5	42.7
Progression Factor	1.31	0.61		0.61	0.26	1.00	1.00
Incremental Delay, d2	159.1	38.1		1.9	0.1	38.8	0.2
Delay (s)	237.0	65.5		21.6	2.7	88.3	42.9
Level of Service	F	E		C	A	F	D
Approach Delay (s)		66.9			7.6	70.4	
Approach LOS		E			A	E	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	890	370	640	1800	570	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1341	0	681	1915	606	394
v/c Ratio	0.18	0.94		0.99	0.54	1.01	0.65
Control Delay	78.4	33.7		32.9	2.3	88.2	10.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	78.4	33.7		32.9	2.3	88.2	10.0
Queue Length 50th (ft)	9	176		551	54	~247	0
Queue Length 95th (ft)	m11	m#229		m539	m57	#369	93
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1426		686	3575	601	602
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.18	0.94		0.99	0.54	1.01	0.65

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	890	640	1800	570	370
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	940	0	20	2010	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4497			1636	1425		1608	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4497			1636	1425		1608	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	989	0	21	2116	116	53	53	11	179	32	400
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	176
Lane Group Flow (vph)	211	989	0	21	2227	0	0	106	1	0	211	224
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	197	2666		37	2189			131	114		214	190
v/s Ratio Prot	c0.13	0.22		0.01	c0.50			c0.06			0.13	
v/s Ratio Perm									0.00			c0.16
v/c Ratio	1.07	0.37		0.57	1.02			0.81	0.01		0.99	1.18
Uniform Delay, d1	52.5	13.0		58.0	30.8			54.3	50.8		51.9	52.0
Progression Factor	1.19	0.35		1.11	0.79			1.00	1.00		1.00	1.00
Incremental Delay, d2	65.0	0.2		8.8	21.3			28.1	0.0		56.9	121.9
Delay (s)	127.5	4.7		73.4	45.6			82.4	50.8		108.8	173.9
Level of Service	F	A		E	D			F	D		F	F
Approach Delay (s)		26.3			45.8			79.4			151.4	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM Average Control Delay	56.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	940	0	20	2010	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	989	0	21	2232	0	0	106	11	0	211	400
v/c Ratio	1.07	0.36		0.24	1.02			0.81	0.09		0.99	1.09
Control Delay	122.3	4.4		65.7	46.4			95.0	26.6		110.4	98.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	122.3	4.4		65.7	46.4			95.0	26.6		110.4	98.7
Queue Length 50th (ft)	~186	36		17	~682			82	0		165	~204
Queue Length 95th (ft)	m#248	m48		m24	#762			#179	19		#324	#404
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2780		92	2193			136	129		214	366
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.07	0.36		0.23	1.02			0.78	0.09		0.99	1.09

Intersection Summary

Area Type: CBD

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	200	940	20	2010	50	10	30	380
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	720	760	210	590	550	480	160	1260	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4956	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4956	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	115	356	368	828	874	241	678	632	552	184	1448	172
RTOR Reduction (vph)	0	155	0	0	0	91	0	0	349	0	12	0
Lane Group Flow (vph)	115	569	0	828	874	150	678	632	203	184	1608	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	44.2	44.2	14.8	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	44.2	44.2	14.8	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.37	0.37	0.12	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	191		915	497	422	219	1291	578	216	1817	
v/s Ratio Prot	0.06	c0.17		0.24	c0.47		c0.39	0.18		0.10	c0.32	
v/s Ratio Perm						0.09			0.13			
v/c Ratio	1.12	2.98		0.90	1.76	0.36	3.10	0.49	0.35	0.85	0.88	
Uniform Delay, d1	56.5	56.5		42.5	44.0	35.6	52.5	29.2	27.5	51.5	35.6	
Progression Factor	0.81	0.68		0.85	0.86	0.70	1.00	1.00	1.00	1.05	0.89	
Incremental Delay, d2	121.0	902.9		3.9	343.7	0.1	955.1	1.3	1.7	19.2	4.9	
Delay (s)	166.8	941.1		40.0	381.4	25.1	1007.6	30.5	29.2	73.2	36.5	
Level of Service	F	F		D	F	C	F	C	C	E	D	
Approach Delay (s)		835.0			191.7			385.9			40.2	
Approach LOS		F			F			F			D	

Intersection Summary			
HCM Average Control Delay	289.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	124.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	720	760	210	590	550	480	160	1260	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		3085			2934			862			2992	
Travel Time (s)		70.1			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	724	0	828	874	241	678	632	552	184	1620	0
v/c Ratio	1.12	2.09		0.90	1.76	0.47	3.10	0.49	0.60	0.85	0.89	
Control Delay	164.9	520.4		41.3	370.6	13.3	973.7	31.1	5.2	78.2	36.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	164.9	520.4		41.3	370.6	13.3	973.7	31.1	5.2	78.2	36.5	
Queue Length 50th (ft)	~102	~401		338	~1028	72	~916	200	0	142	289	
Queue Length 95th (ft)	#212	#500		m286	m#812	m61	#1103	246	60	m#221	365	
Internal Link Dist (ft)		3005			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	346		915	497	513	219	1290	926	234	1829	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.12	2.09		0.90	1.76	0.47	3.10	0.49	0.60	0.79	0.89	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

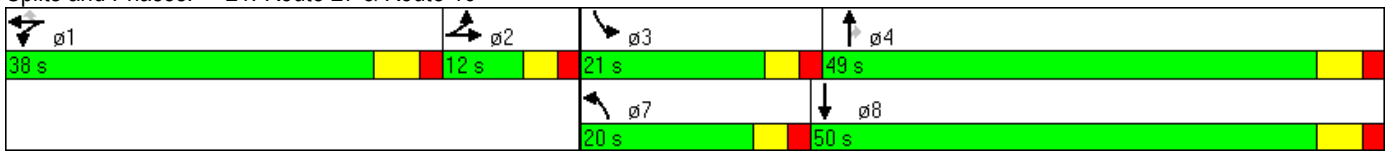
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	310	720	760	210	590	550	480	160	1260
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	221	5	112	50	10	20	295	345	20	10	468	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.90		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1610		1770	1676		1770	3510		1770	3292	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1610		1770	1676		1770	3510		1770	3292	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	5	122	54	11	22	321	375	22	11	509	443
RTOR Reduction (vph)	0	101	0	0	21	0	0	4	0	0	159	0
Lane Group Flow (vph)	240	26	0	54	12	0	321	393	0	11	793	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.3	12.8		3.6	3.1		16.9	40.9		0.7	24.7	
Effective Green, g (s)	13.3	12.8		3.6	3.1		16.9	40.9		0.7	24.7	
Actuated g/C Ratio	0.18	0.17		0.05	0.04		0.23	0.55		0.01	0.33	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	321	278		86	70		404	1940		17	1099	
v/s Ratio Prot	c0.13	0.02		0.03	c0.01		c0.18	0.11		0.01	c0.24	
v/s Ratio Perm												
v/c Ratio	0.75	0.09		0.63	0.17		0.79	0.20		0.65	0.72	
Uniform Delay, d1	28.8	25.7		34.5	34.2		26.9	8.3		36.5	21.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.1	0.1		9.9	0.4		9.7	0.0		49.2	2.0	
Delay (s)	36.8	25.8		44.4	34.6		36.6	8.4		85.7	23.6	
Level of Service	D	C		D	C		D	A		F	C	
Approach Delay (s)		33.0			40.7			21.0			24.3	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	74.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	221	5	112	50	10	20	295	345	20	10	468	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	100		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	127	0	54	33	0	321	397	0	11	952	0
v/c Ratio	0.70	0.32		0.34	0.21		0.74	0.19		0.10	0.81	
Control Delay	41.4	9.3		40.0	23.2		39.0	8.2		38.8	24.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.4	9.3		40.0	23.2		39.0	8.2		38.8	24.2	
Queue Length 50th (ft)	112	2		26	5		147	41		5	172	
Queue Length 95th (ft)	#219	46		62	31		#277	85		21	#267	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	200			100			200			200		
Base Capacity (vph)	407	664		188	424		510	2224		108	1351	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.59	0.19		0.29	0.08		0.63	0.18		0.10	0.70	

Intersection Summary

Area Type: Other

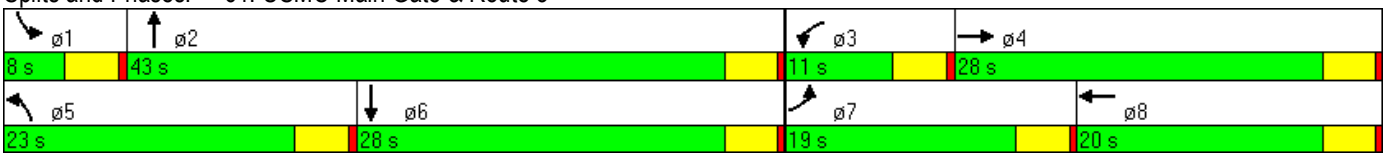
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	221	5	50	10	295	345	10	468
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	19.0	28.0	11.0	20.0	23.0	43.0	8.0	28.0
Total Split (%)	21.1%	31.1%	12.2%	22.2%	25.6%	47.8%	8.9%	31.1%
Maximum Green (s)	15.0	24.0	7.0	16.0	19.0	39.0	4.0	24.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 69.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	60	650	920	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3507	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	3539	3507	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	43	65	707	1000	65
RTOR Reduction (vph)	0	40	0	0	6	0
Lane Group Flow (vph)	33	3	65	707	1059	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.0	3.0	3.0	31.7	24.7	
Effective Green, g (s)	3.0	3.0	3.0	31.7	24.7	
Actuated g/C Ratio	0.07	0.07	0.07	0.74	0.58	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	124	111	124	2627	2029	
v/s Ratio Prot	c0.02		c0.04	0.20	c0.30	
v/s Ratio Perm		0.00				
v/c Ratio	0.27	0.03	0.52	0.27	0.52	
Uniform Delay, d1	18.8	18.5	19.2	1.8	5.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.0	1.8	0.0	0.1	
Delay (s)	19.2	18.5	21.0	1.8	5.5	
Level of Service	B	B	C	A	A	
Approach Delay (s)	18.8			3.4	5.5	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	5.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	42.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	60	650	920	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	43	65	707	1065	0
v/c Ratio	0.13	0.16	0.25	0.24	0.44	
Control Delay	19.7	9.4	21.1	2.2	7.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	19.7	9.4	21.1	2.2	7.2	
Queue Length 50th (ft)	8	0	15	23	95	
Queue Length 95th (ft)	28	22	47	43	152	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	200		200			
Base Capacity (vph)	780	722	293	3052	2515	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.06	0.22	0.23	0.42	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	40	60	650	920
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	10.0	40.0	30.0
Total Split (%)	33.3%	33.3%	16.7%	66.7%	50.0%
Maximum Green (s)	16.0	16.0	6.0	36.0	26.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 39
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	160	360	640	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	174	391	696	5	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	701				1438	698
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	701				1438	698
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				95	99
cM capacity (veh/h)	896				118	440

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	174	391	701	11
Volume Left	174	0	0	5
Volume Right	0	0	5	5
cSH	896	1700	1700	237
Volume to Capacity	0.19	0.23	0.41	0.05
Queue Length 95th (ft)	18	0	0	4
Control Delay (s)	10.0	0.0	0.0	25.1
Lane LOS	A			D
Approach Delay (s)	3.1		0.0	25.1
Approach LOS				D

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	18	709	610	10	10	45
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	20	788	678	11	11	50
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	689				1511	683
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	689				1511	683
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	98				91	88
cM capacity (veh/h)	905				123	432

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	20	788	689	61
Volume Left	20	0	0	11
Volume Right	0	0	11	50
cSH	905	1700	1700	296
Volume to Capacity	0.02	0.46	0.41	0.21
Queue Length 95th (ft)	2	0	0	19
Control Delay (s)	9.1	0.0	0.0	20.3
Lane LOS	A			C
Approach Delay (s)	0.2		0.0	20.3
Approach LOS				C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	549	120	40	500	80	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	610	133	44	556	89	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			743		1321	677
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			743		1321	677
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		46	95
cM capacity (veh/h)			869		164	453

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	743	600	111
Volume Left	0	44	89
Volume Right	133	0	22
cSH	1700	869	188
Volume to Capacity	0.44	0.05	0.59
Queue Length 95th (ft)	0	4	81
Control Delay (s)	0.0	1.4	48.6
Lane LOS		A	E
Approach Delay (s)	0.0	1.4	48.6
Approach LOS			E

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	569	520	50	71	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	632	578	56	79	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	633				1260	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	633				1260	606
tC, single (s)	4.1				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.2				3.7	3.5
p0 queue free %	99				54	98
cM capacity (veh/h)	954				173	471

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	643	633	90
Volume Left	11	0	79
Volume Right	0	56	11
cSH	954	1700	188
Volume to Capacity	0.01	0.37	0.48
Queue Length 95th (ft)	1	0	58
Control Delay (s)	0.3	0.0	40.7
Lane LOS	A		E
Approach Delay (s)	0.3	0.0	40.7
Approach LOS			E

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	120	690	560	170	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.97		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3340		1863	1583	1770	3539
Flt Permitted	0.97		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3340		1863	1583	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	130	750	609	185	652
RTOR Reduction (vph)	38	0	0	251	0	0
Lane Group Flow (vph)	418	0	750	358	185	652
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	19.3		64.7	64.7	16.4	86.6
Effective Green, g (s)	19.3		64.7	64.7	16.4	86.6
Actuated g/C Ratio	0.16		0.55	0.55	0.14	0.74
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	549		1027	872	247	2611
v/s Ratio Prot	c0.13		c0.40		c0.10	0.18
v/s Ratio Perm				0.23		
v/c Ratio	0.76		0.73	0.41	0.75	0.25
Uniform Delay, d1	46.9		19.8	15.3	48.5	5.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	6.4		4.6	1.4	12.1	0.2
Delay (s)	53.2		24.4	16.7	60.6	5.2
Level of Service	D		C	B	E	A
Approach Delay (s)	53.2		20.9			17.4
Approach LOS	D		C			B

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	117.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	120	690	560	170	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	456	0	750	609	185	652
v/c Ratio	0.78		0.73	0.54	0.75	0.25
Control Delay	52.0		26.2	4.0	67.7	5.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	52.0		26.2	4.0	67.7	5.4
Queue Length 50th (ft)	155		431	18	135	75
Queue Length 95th (ft)	213		619	85	#222	102
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	663		1027	1123	279	2610
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.69		0.73	0.54	0.66	0.25

Intersection Summary	
Area Type:	Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	300	690	560	170	600
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	27.5	68.5	68.5	24.0	92.5
Total Split (%)	22.9%	57.1%	57.1%	20.0%	77.1%
Maximum Green (s)	22.0	62.5	62.5	18.5	86.5
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 117.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	10	10	10	1330	950	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	10	10	10	1385	990	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1708	500	1000			
vC1, stage 1 conf vol	995					
vC2, stage 2 conf vol	714					
vCu, unblocked vol	1708	500	1000			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	98	98			
cM capacity (veh/h)	262	516	688			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	21	10	693	693	660	340
Volume Left	10	10	0	0	0	0
Volume Right	10	0	0	0	0	10
cSH	348	688	1700	1700	1700	1700
Volume to Capacity	0.06	0.02	0.41	0.41	0.39	0.20
Queue Length 95th (ft)	5	1	0	0	0	0
Control Delay (s)	16.0	10.3	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	16.0	0.1			0.0	
Approach LOS	C					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	630	240	230	300	300	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1727	1468	1752	1845
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1727	1468	1752	1845
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	741	282	271	353	353	259
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	741	282	271	353	353	259
Heavy Vehicles (%)	2%	2%	10%	10%	3%	3%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	18.3	64.4	15.3	64.4	13.8	34.6
Effective Green, g (s)	18.3	64.4	15.3	64.4	13.8	34.6
Actuated g/C Ratio	0.28	1.00	0.24	1.00	0.21	0.54
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	976	1583	410	1468	375	991
v/s Ratio Prot	c0.22		c0.16		c0.20	0.14
v/s Ratio Perm		0.18		0.24		
v/c Ratio	0.76	0.18	0.66	0.24	0.94	0.26
Uniform Delay, d1	21.0	0.0	22.2	0.0	24.9	8.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.2	3.1	0.4	31.4	0.1
Delay (s)	24.1	0.2	25.3	0.4	56.3	8.1
Level of Service	C	A	C	A	E	A
Approach Delay (s)	17.5		11.2			35.9
Approach LOS	B		B			D

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	64.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	630	240	230	300	300	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	10%	10%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	741	282	271	353	353	259
v/c Ratio	0.76	0.18	0.67	0.24	0.94	0.26
Control Delay	27.2	0.2	31.9	0.4	65.8	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	0.2	31.9	0.4	65.8	9.7
Queue Length 50th (ft)	132	0	95	0	134	49
Queue Length 95th (ft)	204	0	175	0	#349	103
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	1655	1583	792	1468	374	1400
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.18	0.34	0.24	0.94	0.18

Intersection Summary

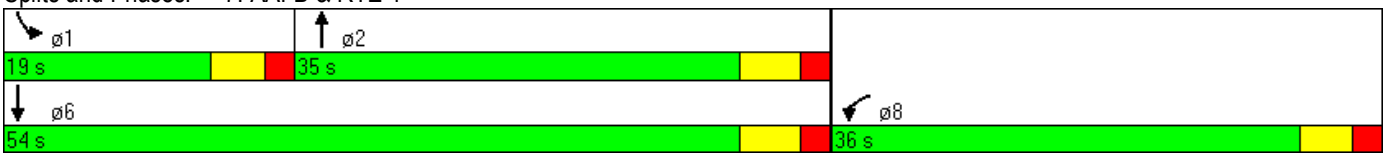
Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	630	240	230	300	300	220
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	36.0	0.0	35.0	0.0	19.0	54.0
Total Split (%)	40.0%	0.0%	38.9%	0.0%	21.1%	60.0%
Maximum Green (s)	30.5		29.0		13.5	48.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 64.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	1020	330	60	1060	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.93		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1610		1703	3281		1752	3500	
Flt Permitted		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1610		1703	3281		1752	3500	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	341	11	99	11	1121	363	66	1165	11
RTOR Reduction (vph)	0	29	0	0	24	0	0	20	0	0	0	0
Lane Group Flow (vph)	0	37	0	232	195	0	11	1464	0	66	1176	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Effective Green, g (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.57		0.06	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		277	265		34	1865		102	2124	
v/s Ratio Prot		c0.02		c0.14	0.12		0.01	c0.45		c0.04	c0.34	
v/s Ratio Perm												
v/c Ratio		0.46		0.84	0.73		0.32	0.78		0.65	0.55	
Uniform Delay, d1		60.4		52.6	51.6		62.8	21.9		59.9	15.1	
Progression Factor		1.00		1.00	1.00		1.12	0.57		1.00	1.00	
Incremental Delay, d2		1.5		18.5	8.8		1.6	2.6		10.1	1.0	
Delay (s)		61.9		71.2	60.4		72.0	15.2		70.0	16.2	
Level of Service		E		E	E		E	B		E	B	
Approach Delay (s)		61.9			65.9			15.6			19.0	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	1020	330	60	1060	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Shared Lane Traffic (%)				32%								
Lane Group Flow (vph)	0	66	0	232	219	0	11	1484	0	66	1176	0
v/c Ratio		0.54		0.84	0.76		0.15	0.77		0.57	0.53	
Control Delay		51.6		77.4	61.2		70.2	16.1		77.1	16.4	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		77.4	61.2		70.2	16.1		77.1	16.4	
Queue Length 50th (ft)		30		200	162		9	158		55	254	
Queue Length 95th (ft)		78		292	249		m16	224		104	444	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	345		92	1936		137	2234	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.69	0.63		0.12	0.77		0.48	0.53	

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	310	10	10	1020	60	1060
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	140	50	40	20	20	10	60	150	30	10	270	140
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	53	42	21	21	11	63	158	32	11	284	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	700	695	358	747	753	174	432			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	700	695	358	747	753	174	432			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	53	85	94	92	93	99	94			99		
cM capacity (veh/h)	316	343	686	259	317	870	1123			1378		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	53	253	442
Volume Left	147	21	63	11
Volume Right	42	11	32	147
cSH	355	330	1123	1378
Volume to Capacity	0.68	0.16	0.06	0.01
Queue Length 95th (ft)	120	14	4	1
Control Delay (s)	34.2	18.0	2.5	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	34.2	18.0	2.5	0.3
Approach LOS	D	C		

Intersection Summary			
Average Delay	10.1		
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	160	1230	170	120	1160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1736	1553	3344		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1736	1553	3344		1752	3505
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	167	1281	177	125	1208
RTOR Reduction (vph)	0	131	7	0	0	0
Lane Group Flow (vph)	188	36	1451	0	125	1208
Heavy Vehicles (%)	4%	4%	6%	6%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	18.3	18.3	82.3		13.4	100.7
Effective Green, g (s)	18.3	18.3	82.3		13.4	100.7
Actuated g/C Ratio	0.14	0.14	0.63		0.10	0.77
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	244	219	2117		181	2715
v/s Ratio Prot	c0.11		c0.43		c0.07	0.34
v/s Ratio Perm		0.02				
v/c Ratio	0.77	0.17	0.69		0.69	0.44
Uniform Delay, d1	53.8	49.1	15.5		56.3	5.0
Progression Factor	1.00	1.00	0.30		1.20	0.72
Incremental Delay, d2	12.8	0.1	1.4		7.5	0.4
Delay (s)	66.6	49.3	6.0		75.1	4.0
Level of Service	E	D	A		E	A
Approach Delay (s)	58.5		6.0			10.7
Approach LOS	E		A			B

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	160	1230	170	120	1160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	6%	6%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	167	1458	0	125	1208
v/c Ratio	0.77	0.48	0.69		0.69	0.45
Control Delay	73.3	14.0	6.5		83.8	4.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.3	14.0	6.5		83.8	4.4
Queue Length 50th (ft)	155	11	55		90	73
Queue Length 95th (ft)	226	74	m306		m163	106
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	334	421	2123		243	2714
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.56	0.40	0.69		0.51	0.45

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	180	160	1230	120	1160
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	140	110	210	270	270	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	120	228	293	293	109
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1098	348	402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1098	348	402			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	19	83	80			
cM capacity (veh/h)	188	693	1146			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	272	522	402
Volume Left	152	228	0
Volume Right	120	0	109
cSH	276	1146	1700
Volume to Capacity	0.98	0.20	0.24
Queue Length 95th (ft)	245	19	0
Control Delay (s)	90.2	5.1	0.0
Lane LOS	F	A	
Approach Delay (s)	90.2	5.1	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	22.7		
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1210	1230	0	850	170	160	840
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.97		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4910		1770	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4910		1770	2787
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1274	1295	0	895	179	168	884
RTOR Reduction (vph)	0	0	0	22	0	0	763
Lane Group Flow (vph)	1274	1295	0	1052	0	168	121
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	100.2		31.2		17.8	17.8
Effective Green, g (s)	64.0	100.2		31.2		17.8	17.8
Actuated g/C Ratio	0.49	0.77		0.24		0.14	0.14
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	863	3882		1178		242	382
v/s Ratio Prot	c0.73	0.26		c0.21		c0.09	
v/s Ratio Perm							0.04
v/c Ratio	1.48	0.33		0.89		0.69	0.32
Uniform Delay, d1	33.0	4.6		47.8		53.5	50.6
Progression Factor	0.48	0.75		0.48		1.00	1.00
Incremental Delay, d2	215.8	0.1		9.7		6.8	0.2
Delay (s)	231.8	3.5		32.5		60.3	50.8
Level of Service	F	A		C		E	D
Approach Delay (s)		116.7		32.5		52.3	
Approach LOS		F		C		D	

Intersection Summary			
HCM Average Control Delay	83.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	110.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1210	1230	0	850	170	160	840
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1274	1295	0	1074	0	168	884
v/c Ratio	1.48	0.33		0.89		0.69	0.77
Control Delay	236.2	3.7		34.1		68.1	8.2
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	236.2	3.7		34.1		68.1	8.2
Queue Length 50th (ft)	~1515	79		97		136	0
Queue Length 95th (ft)	m#1436	m111		#420		206	60
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	863	3883		1202		313	1221
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.48	0.33		0.89		0.54	0.72

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

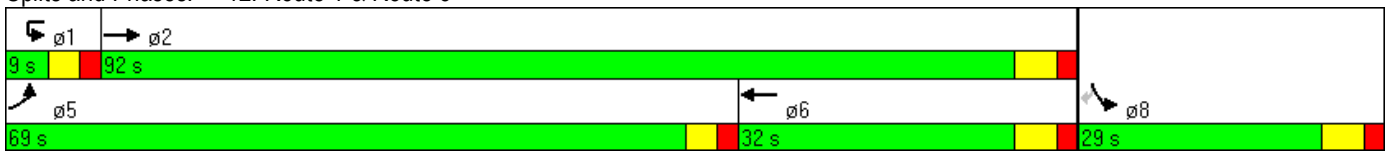
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1210	1230	850	160	840	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1820	680	320	1440	560	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4813		1752	5036	3400	1544
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4813		1752	5036	3400	1544
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1896	708	333	1500	583	552
RTOR Reduction (vph)	0	55	0	0	0	0	219
Lane Group Flow (vph)	10	2549	0	333	1500	583	333
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	62.0		25.0	86.0	26.0	26.0
Effective Green, g (s)	1.0	62.0		25.0	86.0	26.0	26.0
Actuated g/C Ratio	0.01	0.48		0.19	0.66	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2295		337	3332	680	309
v/s Ratio Prot	0.01	c0.53		c0.19	0.30	0.17	
v/s Ratio Perm							c0.22
v/c Ratio	0.71	1.11		0.99	0.45	0.86	1.08
Uniform Delay, d1	64.4	34.0		52.4	10.6	50.2	52.0
Progression Factor	0.90	1.00		0.63	0.54	0.54	0.47
Incremental Delay, d2	57.5	53.9		34.3	0.3	5.4	59.0
Delay (s)	115.3	87.9		67.1	6.0	32.6	83.2
Level of Service	F	F		E	A	C	F
Approach Delay (s)		88.0			17.1	57.2	
Approach LOS		F			B	E	

Intersection Summary			
HCM Average Control Delay	58.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1820	680	320	1440	560	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2604	0	333	1500	583	552
v/c Ratio	0.14	1.04		1.18	0.43	0.86	1.05
Control Delay	57.1	57.3		132.7	5.2	35.2	55.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	57.1	57.3		132.7	5.2	35.2	55.7
Queue Length 50th (ft)	8	~850		~340	75	204	~164
Queue Length 95th (ft)	m11	m#893		m#460	146	m238	m#390
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2495		283	3487	680	528
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.04		1.18	0.43	0.86	1.05

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

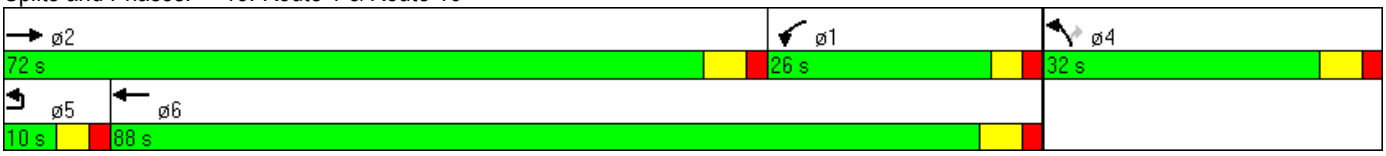
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1820	320	1440	560	530
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	820	190	260	1990	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4768	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4768	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	911	211	289	2211	33	1478	811
RTOR Reduction (vph)	0	112	0	0	0	76	0
Lane Group Flow (vph)	911	99	289	2211	33	2213	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Effective Green, g (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Actuated g/C Ratio	0.25	0.25	0.16	0.60	0.02	0.46	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	283	3022	42	2201	
v/s Ratio Prot	c0.27		c0.16	0.44	0.02	c0.46	
v/s Ratio Perm		0.06					
v/c Ratio	1.05	0.25	1.02	0.73	0.79	1.01	
Uniform Delay, d1	48.5	38.6	54.5	18.5	63.2	35.0	
Progression Factor	1.00	1.00	1.06	1.00	1.18	0.85	
Incremental Delay, d2	43.2	0.1	31.3	0.4	53.5	19.4	
Delay (s)	91.7	38.7	89.2	18.9	128.4	49.1	
Level of Service	F	D	F	B	F	D	
Approach Delay (s)	81.7			27.1		50.2	
Approach LOS	F			C		D	

Intersection Summary			
HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	820	190	260	1990	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	911	211	289	2211	33	2289	0
v/c Ratio	1.05	0.41	1.02	0.71	0.49	1.01	
Control Delay	89.9	15.2	87.5	18.4	93.6	47.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.9	15.2	87.5	18.4	93.6	47.3	
Queue Length 50th (ft)	~428	40	~266	356	26	~719	
Queue Length 95th (ft)	#558	112	m#269	m359	m56	#783	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	514	283	3099	69	2277	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.05	0.41	1.02	0.71	0.48	1.01	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	820	190	260	1990	30	1330
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1090	650	300	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.94		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4754		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4754		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	409	194	1172	699	323	946
RTOR Reduction (vph)	0	143	83	0	0	0
Lane Group Flow (vph)	409	51	1788	0	323	946
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1938		364	3293
v/s Ratio Prot	c0.23	0.03	c0.38		c0.18	0.19
v/s Ratio Perm						
v/c Ratio	0.88	0.12	0.95dr		0.89	0.29
Uniform Delay, d1	46.1	36.6	36.6		50.0	9.6
Progression Factor	0.61	0.27	0.35		0.76	0.29
Incremental Delay, d2	17.6	0.5	3.6		10.8	0.1
Delay (s)	45.9	10.5	16.3		48.9	2.9
Level of Service	D	B	B		D	A
Approach Delay (s)	34.5		16.3			14.6
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1090	650	300	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	194	1871	0	323	946
v/c Ratio	0.88	0.35	0.95dr		0.89	0.29
Control Delay	47.2	2.8	16.0		52.5	2.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	47.2	2.8	16.0		52.5	2.9
Queue Length 50th (ft)	327	16	170		269	48
Queue Length 95th (ft)	m#477	m3	m168		m267	m46
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	557	2021		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.88	0.35	0.93		0.89	0.29

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	380	180	1090	300	880
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	940	90	180	680	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4970		1752	5024		1770	1727		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4970		1752	5024		1770	1727		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	989	95	189	716	11	105	211	200	21	179	158
RTOR Reduction (vph)	0	8	0	0	1	0	0	28	0	0	0	140
Lane Group Flow (vph)	316	1076	0	189	726	0	105	383	0	21	179	18
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Effective Green, g (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Actuated g/C Ratio	0.20	0.36		0.12	0.28		0.25	0.25		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	349	1766		217	1407		440	429		196	206	175
v/s Ratio Prot	c0.18	c0.22		0.11	0.14		0.06	c0.22		0.01	c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.91	0.61		0.87	0.52		0.24	0.89		0.11	0.87	0.10
Uniform Delay, d1	50.9	34.5		55.9	39.4		39.0	47.2		52.0	56.9	52.0
Progression Factor	1.36	0.67		1.03	0.70		1.18	1.15		1.00	1.00	1.00
Incremental Delay, d2	24.5	1.5		27.4	1.3		0.0	9.2		0.1	29.0	0.1
Delay (s)	93.8	24.5		85.1	28.8		45.9	63.3		52.1	85.9	52.1
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		40.2			40.4			59.8			69.0	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	46.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	940	90	180	680	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	316	1084	0	189	727	0	105	411	0	21	179	158
v/c Ratio	0.91	0.61		0.87	0.51		0.24	0.90		0.11	0.87	0.50
Control Delay	96.8	25.3		91.1	30.1		44.8	59.8		53.0	92.7	13.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	96.8	25.3		91.1	30.1		44.8	59.8		53.0	92.7	13.7
Queue Length 50th (ft)	258	140		157	202		62	223		16	150	0
Queue Length 95th (ft)	#394	180		#282	268		m61	m220		43	#278	65
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1775		229	1412		517	531		204	215	322
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.84	0.61		0.83	0.51		0.20	0.77		0.10	0.83	0.49

Intersection Summary

Area Type: Other

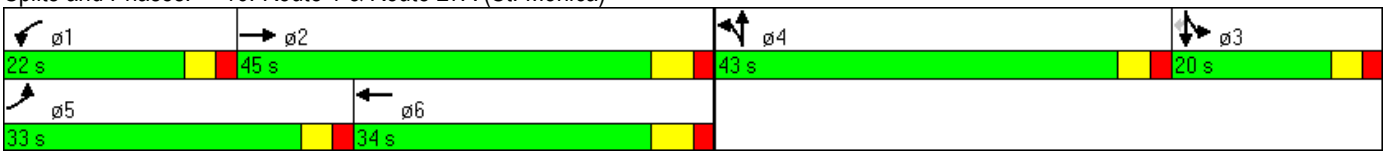
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	300	940	180	680	100	200	20	170	150
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	80	220	40	70	20	20	340	30	20	310	330
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	117	104	286	52	91	26	26	442	39	26	403	429

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	117	390	169	26	481	429	429
Volume Left (vph)	117	0	52	26	0	26	0
Volume Right (vph)	0	286	26	0	39	0	429
Hadj (s)	0.53	-0.48	0.00	0.53	-0.02	0.06	-0.67
Departure Headway (s)	9.1	8.1	9.4	9.3	8.7	8.4	7.6
Degree Utilization, x	0.29	0.87	0.44	0.07	1.16	0.99	0.91
Capacity (veh/h)	390	439	352	382	429	429	460
Control Delay (s)	14.6	44.4	19.6	11.7	123.2	70.0	48.2
Approach Delay (s)	37.6		19.6	117.4		59.1	
Approach LOS	E		C	F		F	

Intersection Summary			
Delay	65.0		
HCM Level of Service	F		
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1090	70	490	770	30	140	350	1110	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4986		1752	5008		1770	1863	2745		1836	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4986		1752	5008		1770	1863	2745		1836	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1160	74	521	819	32	149	372	1181	53	128	43
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	788	0	0	20
Lane Group Flow (vph)	106	1229	0	521	848	0	149	372	393	0	181	23
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Effective Green, g (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Actuated g/C Ratio	0.09	0.25		0.29	0.45		0.19	0.19	0.19		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	159	1227		512	2242		340	358	528		184	158
v/s Ratio Prot	0.06	c0.25		c0.30	0.17		0.08	c0.20			c0.10	
v/s Ratio Perm									0.14			0.01
v/c Ratio	0.67	1.00		1.02	0.38		0.44	1.04	0.74		0.98	0.15
Uniform Delay, d1	57.2	49.0		46.0	23.9		46.3	52.5	49.5		58.4	53.4
Progression Factor	1.25	0.58		1.45	0.82		0.84	0.85	0.95		1.00	1.00
Incremental Delay, d2	6.6	23.7		42.3	0.4		0.0	25.8	0.5		61.0	0.2
Delay (s)	78.4	52.2		108.8	20.0		38.8	70.4	47.6		119.4	53.6
Level of Service	E	D		F	B		D	E	D		F	D
Approach Delay (s)		54.3			53.7			51.8			106.8	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM Average Control Delay	55.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1090	70	490	770	30	140	350	1110	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	1234	0	521	851	0	149	372	1181	0	181	43
v/c Ratio	0.67	1.00		1.02	0.38		0.44	1.04	0.90		0.98	0.24
Control Delay	88.3	53.1		105.6	20.3		39.7	69.9	9.8		120.4	35.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	88.3	53.1		105.6	20.3		39.7	69.9	9.8		120.4	35.4
Queue Length 50th (ft)	94	~377		~424	100		109	~338	158		155	16
Queue Length 95th (ft)	m150	#490		m#624	m119		m77	m211	m55		#307	55
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1233		512	2246		340	358	1316		184	178
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.52	1.00		1.02	0.38		0.44	1.04	0.90		0.98	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	100	1090	490	770	140	350	1110	120	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1780	540	580	1080	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4860		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4860		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1894	574	617	1149	340	649
RTOR Reduction (vph)	0	43	0	0	0	0	429
Lane Group Flow (vph)	21	2425	0	617	1149	340	220
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2094		580	3758	343	158
v/s Ratio Prot	0.01	c0.50		c0.35	0.23	0.10	
v/s Ratio Perm							c0.14
v/c Ratio	0.50	1.16		1.06	0.31	0.99	1.39
Uniform Delay, d1	62.8	37.0		43.5	5.4	58.4	58.5
Progression Factor	1.16	0.56		0.34	0.34	1.00	1.00
Incremental Delay, d2	1.3	73.5		43.7	0.1	46.0	209.7
Delay (s)	74.4	94.2		58.6	1.9	104.5	268.2
Level of Service	E	F		E	A	F	F
Approach Delay (s)		94.0			21.7	211.9	
Approach LOS		F			C	F	

Intersection Summary			
HCM Average Control Delay	91.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1780	540	580	1080	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2468	0	617	1149	340	649
v/c Ratio	0.31	1.12		1.12	0.30	0.99	1.10
Control Delay	76.0	76.8		82.5	1.8	104.6	83.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	76.0	76.8		82.5	1.8	104.6	83.0
Queue Length 50th (ft)	19	~829		~588	33	150	~236
Queue Length 95th (ft)	m20	m#876		m#701	m53	#251	#474
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2210		553	3835	343	588
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.12		1.12	0.30	0.99	1.10

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

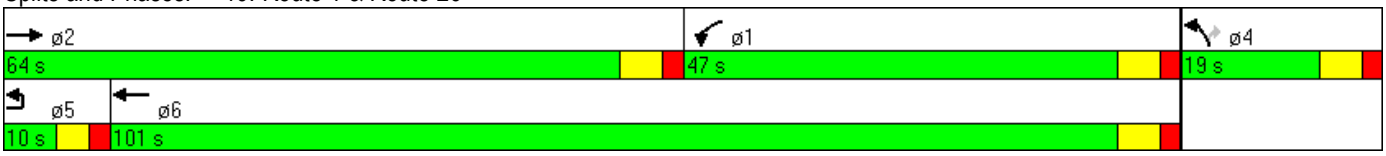
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1780	580	1080	320	610
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1790	0	20	1320	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4973			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4973			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	521	1904	0	21	1404	128	74	106	53	160	21	298
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	48	0	0	228
Lane Group Flow (vph)	521	1904	0	21	1524	0	0	180	5	0	181	70
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Effective Green, g (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.29	0.60		0.03	0.34			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	512	3022		54	1683			183	158		192	170
v/s Ratio Prot	c0.30	0.38		0.01	c0.31			c0.10			c0.10	
v/s Ratio Perm									0.00			0.04
v/c Ratio	1.02	0.63		0.39	0.91			0.98	0.03		0.94	0.41
Uniform Delay, d1	46.0	16.7		61.8	41.0			58.4	52.8		57.6	54.2
Progression Factor	1.28	0.17		0.89	0.91			1.00	1.00		1.00	1.00
Incremental Delay, d2	16.6	0.1		1.6	8.0			61.2	0.0		48.0	0.6
Delay (s)	75.6	3.0		56.6	45.3			119.6	52.9		105.7	54.8
Level of Service	E	A		E	D			F	D		F	D
Approach Delay (s)		18.6			45.4			104.4			74.0	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM Average Control Delay	37.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1790	0	20	1320	120	70	100	50	150	20	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	521	1904	0	21	1532	0	0	180	53	0	181	298
v/c Ratio	1.02	0.61		0.27	0.91			0.98	0.26		0.94	0.75
Control Delay	73.4	2.9		60.7	45.3			120.6	17.1		109.0	23.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	73.4	2.9		60.7	45.3			120.6	17.1		109.0	23.3
Queue Length 50th (ft)	~409	71		18	284			154	0		154	34
Queue Length 95th (ft)	m341	m65		m41	515			#306	41		#299	#141
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3100		94	1690			183	206		192	398
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.02	0.61		0.22	0.91			0.98	0.26		0.94	0.75

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	490	1790	20	1320	100	50	20	280
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	830	540	490	270	300	340	1080	830	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3330		3433	1863	1583	1752	3505	1568	1752	5002	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3330		3433	1863	1583	1752	3505	1568	1752	5002	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	326	874	568	516	284	316	358	1137	874	263	884	42
RTOR Reduction (vph)	0	82	0	0	0	250	0	0	242	0	4	0
Lane Group Flow (vph)	326	1360	0	516	284	66	358	1137	632	263	922	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.22	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	948		555	301	256	283	971	434	189	1116	
v/s Ratio Prot	0.18	c0.41		0.15	c0.15		c0.20	0.32		0.15	0.18	
v/s Ratio Perm						0.04			c0.40			
v/c Ratio	0.65	1.43		0.93	0.94	0.26	1.27	1.17	1.46	1.39	0.83	
Uniform Delay, d1	40.8	46.5		53.8	53.9	47.7	54.5	47.0	47.0	58.0	48.1	
Progression Factor	1.02	1.01		0.94	0.93	2.22	1.00	1.00	1.00	0.91	1.03	
Incremental Delay, d2	4.1	199.4		17.7	30.4	0.1	144.3	88.0	217.5	202.6	6.4	
Delay (s)	45.6	246.3		68.0	80.8	106.0	198.8	135.0	264.5	255.7	55.9	
Level of Service	D	F		E	F	F	F	F	F	F	E	
Approach Delay (s)		209.3			82.0			192.5			100.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	160.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	118.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	830	540	490	270	300	340	1080	830	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		3150			1269			820			2979	
Travel Time (s)		71.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	1442	0	516	284	316	358	1137	874	263	926	0
v/c Ratio	0.65	1.40		0.93	0.94	0.62	1.27	1.17	1.29	1.39	0.83	
Control Delay	46.3	217.0		70.5	83.7	20.0	188.2	129.8	167.3	242.2	56.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.3	217.0		70.5	83.7	20.0	188.2	129.8	167.3	242.2	56.0	
Queue Length 50th (ft)	227	~817		212	228	85	~379	~600	~725	~298	279	
Queue Length 95th (ft)	m253	m#851		m#237	m#289	m106	#575	#737	#979	m#441	m321	
Internal Link Dist (ft)		3070			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1031		555	301	506	283	971	676	189	1119	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.65	1.40		0.93	0.94	0.62	1.27	1.17	1.29	1.39	0.83	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

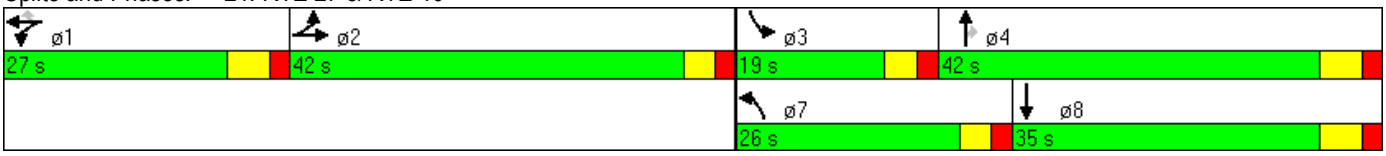
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	310	830	490	270	300	340	1080	830	250	840
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	369	10	305	20	5	10	182	408	50	20	345	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.90		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1624		1770	1671		1752	3448		1770	3306	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1624		1770	1671		1752	3448		1770	3306	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	401	11	332	22	5	11	198	443	54	22	375	293
RTOR Reduction (vph)	0	241	0	0	11	0	0	9	0	0	145	0
Lane Group Flow (vph)	401	102	0	22	5	0	198	488	0	22	523	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	18.1	17.4		1.6	0.9		11.5	26.9		1.6	17.0	
Effective Green, g (s)	18.1	17.4		1.6	0.9		11.5	26.9		1.6	17.0	
Actuated g/C Ratio	0.29	0.27		0.03	0.01		0.18	0.42		0.03	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	514	445		45	24		317	1461		45	885	
v/s Ratio Prot	c0.22	c0.06		0.01	0.00		c0.11	0.14		0.01	c0.16	
v/s Ratio Perm												
v/c Ratio	0.78	0.23		0.49	0.21		0.62	0.33		0.49	0.59	
Uniform Delay, d1	20.9	17.9		30.5	31.0		24.0	12.3		30.5	20.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.0	0.1		3.0	1.6		2.8	0.0		3.0	0.7	
Delay (s)	27.8	18.0		33.6	32.6		26.8	12.3		33.6	20.9	
Level of Service	C	B		C	C		C	B		C	C	
Approach Delay (s)		23.3			33.2			16.4			21.3	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	369	10	305	20	5	10	182	408	50	20	345	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	100		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	401	343	0	22	16	0	198	497	0	22	668	0
v/c Ratio	0.71	0.49		0.14	0.10		0.57	0.31		0.14	0.70	
Control Delay	27.4	5.8		33.6	22.4		31.9	12.6		33.6	19.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.4	5.8		33.6	22.4		31.9	12.6		33.6	19.6	
Queue Length 50th (ft)	120	3		7	2		62	42		7	75	
Queue Length 95th (ft)	278	59		33	21		#175	136		33	174	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	200			100			200			200		
Base Capacity (vph)	831	1189		163	500		452	1827		163	1286	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.48	0.29		0.13	0.03		0.44	0.27		0.13	0.52	

Intersection Summary

Area Type: Other

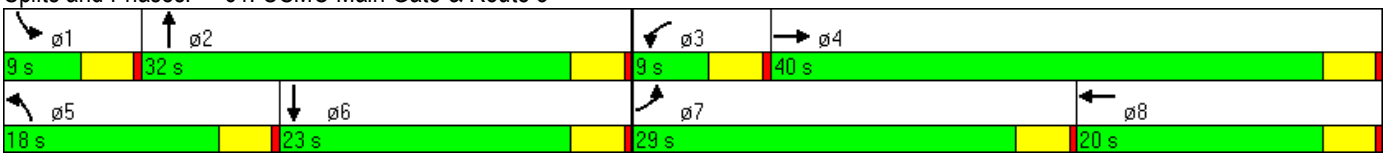
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	369	10	20	5	182	408	20	345
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	29.0	40.0	9.0	20.0	18.0	32.0	9.0	23.0
Total Split (%)	32.2%	44.4%	10.0%	22.2%	20.0%	35.6%	10.0%	25.6%
Maximum Green (s)	25.0	36.0	5.0	16.0	14.0	28.0	5.0	19.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 58
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	10	610	670	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1752	3505	3524	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1752	3505	3524	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	43	11	663	728	22
RTOR Reduction (vph)	0	40	0	0	3	0
Lane Group Flow (vph)	33	3	11	663	747	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.0	3.0	0.8	26.6	21.8	
Effective Green, g (s)	3.0	3.0	0.8	26.6	21.8	
Actuated g/C Ratio	0.08	0.08	0.02	0.71	0.58	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	141	126	37	2480	2043	
v/s Ratio Prot	c0.02		0.01	c0.19	c0.21	
v/s Ratio Perm		0.00				
v/c Ratio	0.23	0.03	0.30	0.27	0.37	
Uniform Delay, d1	16.2	16.0	18.1	2.0	4.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.0	1.6	0.0	0.0	
Delay (s)	16.5	16.0	19.8	2.0	4.3	
Level of Service	B	B	B	A	A	
Approach Delay (s)	16.2			2.3	4.3	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	4.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	37.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	10	610	670	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	43	11	663	750	0
v/c Ratio	0.11	0.14	0.04	0.24	0.29	
Control Delay	14.6	7.3	15.0	2.7	4.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.6	7.3	15.0	2.7	4.5	
Queue Length 50th (ft)	6	0	2	21	24	
Queue Length 95th (ft)	23	18	12	41	96	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	200		200			
Base Capacity (vph)	963	881	281	3352	2895	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.03	0.05	0.04	0.20	0.26	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	40	10	610	670
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	21.0	9.0	39.0	30.0
Total Split (%)	35.0%	35.0%	15.0%	65.0%	50.0%
Maximum Green (s)	17.0	17.0	5.0	35.0	26.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 32.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	540	420	5	5	160
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	587	457	5	5	174
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						6
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	462				1057	459
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	462				1057	459
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	71
cM capacity (veh/h)	1094				248	602

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	5	587	462	179
Volume Left	5	0	0	5
Volume Right	0	0	5	174
cSH	1094	1700	1700	621
Volume to Capacity	0.00	0.35	0.27	0.29
Queue Length 95th (ft)	0	0	0	30
Control Delay (s)	8.3	0.0	0.0	13.6
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	13.6
Approach LOS				B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	441	30	10	698	72	210	20	40	19	20	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3537		1770	3462		1770	1669		1228	1475	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	3537		1770	3462		1770	1669		1228	1475	
Peak-hour factor, PHF	0.92	0.80	0.80	0.80	0.80	0.92	0.80	0.92	0.80	0.92	0.92	0.92
Adj. Flow (vph)	49	551	38	12	872	78	262	22	50	21	22	20
RTOR Reduction (vph)	0	5	0	0	7	0	0	34	0	0	17	0
Lane Group Flow (vph)	49	584	0	12	943	0	262	38	0	21	25	0
Heavy Vehicles (%)	1%	1%	2%	2%	3%	3%	2%	2%	2%	47%	2%	39%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.5	25.4		0.6	23.5		14.0	21.2		2.1	9.3	
Effective Green, g (s)	2.5	25.4		0.6	23.5		14.0	21.2		2.1	9.3	
Actuated g/C Ratio	0.04	0.39		0.01	0.36		0.21	0.32		0.03	0.14	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	68	1376		16	1246		379	542		39	210	
v/s Ratio Prot	c0.03	0.16		0.01	c0.27		c0.15	0.02		0.02	c0.02	
v/s Ratio Perm												
v/c Ratio	0.72	0.42		0.75	0.76		0.69	0.07		0.54	0.12	
Uniform Delay, d1	31.1	14.6		32.3	18.4		23.7	15.2		31.1	24.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	27.0	0.1		97.6	2.4		4.4	0.0		7.0	0.1	
Delay (s)	58.0	14.7		129.9	20.8		28.0	15.3		38.1	24.5	
Level of Service	E	B		F	C		C	B		D	C	
Approach Delay (s)		18.0			22.1			25.3			29.0	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	441	30	10	698	72	210	20	40	19	20	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	150		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		981			553			425			434	
Travel Time (s)		19.1			10.8			8.3			8.5	
Peak Hour Factor	0.92	0.80	0.80	0.80	0.80	0.92	0.80	0.92	0.80	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	2%	2%	3%	3%	2%	2%	2%	47%	2%	39%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	589	0	12	950	0	262	72	0	21	42	0
v/c Ratio	0.31	0.39		0.09	0.74		0.63	0.12		0.17	0.25	
Control Delay	38.5	13.2		36.4	21.4		30.9	10.6		36.0	25.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	38.5	13.2		36.4	21.4		30.9	10.6		36.0	25.3	
Queue Length 50th (ft)	19	66		5	165		94	5		8	8	
Queue Length 95th (ft)	#61	133		20	236		166	39		32	40	
Internal Link Dist (ft)		901			473			345			354	
Turn Bay Length (ft)	200			200			150			200		
Base Capacity (vph)	164	2137		130	1976		682	972		158	474	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.30	0.28		0.09	0.48		0.38	0.07		0.13	0.09	

Intersection Summary

Area Type: Other

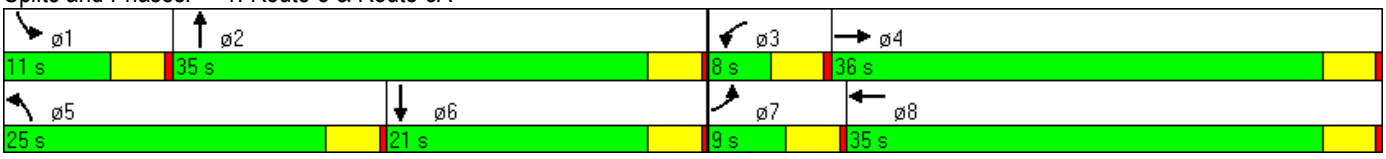
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	45	441	10	698	210	20	19	20
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	20.0	20.0	8.0	20.0
Total Split (s)	9.0	36.0	8.0	35.0	25.0	35.0	11.0	21.0
Total Split (%)	10.0%	40.0%	8.9%	38.9%	27.8%	38.9%	12.2%	23.3%
Maximum Green (s)	5.0	32.0	4.0	31.0	21.0	31.0	7.0	17.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	Min	Min	None	Min
Walk Time (s)		5.0		5.0	5.0	5.0		5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0		11.0
Pedestrian Calls (#/hr)		0		0	0	0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 59.9
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Route 3 & Route 3A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	221	5	112	50	10	20	295	345	20	10	468	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	100		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	240	127	0	54	33	0	321	397	0	11	952	0
v/c Ratio	0.70	0.32		0.34	0.21		0.74	0.19		0.10	0.81	
Control Delay	41.4	9.3		40.0	23.2		39.0	8.2		38.8	24.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.4	9.3		40.0	23.2		39.0	8.2		38.8	24.2	
Queue Length 50th (ft)	112	2		26	5		147	41		5	172	
Queue Length 95th (ft)	#219	46		62	31		#277	85		21	#267	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	200			100			200			200		
Base Capacity (vph)	407	664		188	424		510	2224		108	1351	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.59	0.19		0.29	0.08		0.63	0.18		0.10	0.70	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	221	5	112	50	10	20	295	345	20	10	468	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.90		1.00	0.99		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1610		1770	1676		1770	3510		1770	3292	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1610		1770	1676		1770	3510		1770	3292	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	5	122	54	11	22	321	375	22	11	509	443
RTOR Reduction (vph)	0	101	0	0	21	0	0	4	0	0	159	0
Lane Group Flow (vph)	240	26	0	54	12	0	321	393	0	11	793	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.3	12.8		3.6	3.1		16.9	40.9		0.7	24.7	
Effective Green, g (s)	13.3	12.8		3.6	3.1		16.9	40.9		0.7	24.7	
Actuated g/C Ratio	0.18	0.17		0.05	0.04		0.23	0.55		0.01	0.33	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	321	278		86	70		404	1940		17	1099	
v/s Ratio Prot	c0.13	0.02		0.03	c0.01		c0.18	0.11		0.01	c0.24	
v/s Ratio Perm												
v/c Ratio	0.75	0.09		0.63	0.17		0.79	0.20		0.65	0.72	
Uniform Delay, d1	28.8	25.7		34.5	34.2		26.9	8.3		36.5	21.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.1	0.1		9.9	0.4		9.7	0.0		49.2	2.0	
Delay (s)	36.8	25.8		44.4	34.6		36.6	8.4		85.7	23.6	
Level of Service	D	C		D	C		D	A		F	C	
Approach Delay (s)		33.0			40.7			21.0			24.3	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	74.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

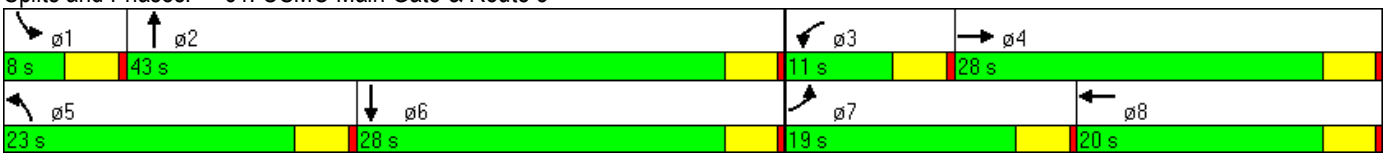
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	221	5	50	10	295	345	10	468
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	19.0	28.0	11.0	20.0	23.0	43.0	8.0	28.0
Total Split (%)	21.1%	31.1%	12.2%	22.2%	25.6%	47.8%	8.9%	31.1%
Maximum Green (s)	15.0	24.0	7.0	16.0	19.0	39.0	4.0	24.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 69.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	60	650	920	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3507	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1770	3539	3507	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	43	65	707	1000	65
RTOR Reduction (vph)	0	40	0	0	6	0
Lane Group Flow (vph)	33	3	65	707	1059	0
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.0	3.0	3.0	31.7	24.7	
Effective Green, g (s)	3.0	3.0	3.0	31.7	24.7	
Actuated g/C Ratio	0.07	0.07	0.07	0.74	0.58	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	124	111	124	2627	2029	
v/s Ratio Prot	c0.02		c0.04	0.20	c0.30	
v/s Ratio Perm		0.00				
v/c Ratio	0.27	0.03	0.52	0.27	0.52	
Uniform Delay, d1	18.8	18.5	19.2	1.8	5.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.0	1.8	0.0	0.1	
Delay (s)	19.2	18.5	21.0	1.8	5.5	
Level of Service	B	B	C	A	A	
Approach Delay (s)	18.8			3.4	5.5	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	5.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	42.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	60	650	920	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	43	65	707	1065	0
v/c Ratio	0.13	0.16	0.25	0.24	0.44	
Control Delay	19.7	9.4	21.1	2.2	7.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	19.7	9.4	21.1	2.2	7.2	
Queue Length 50th (ft)	8	0	15	23	95	
Queue Length 95th (ft)	28	22	47	43	152	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	200		200			
Base Capacity (vph)	780	722	293	3052	2515	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.06	0.22	0.23	0.42	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	40	60	650	920
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	10.0	40.0	30.0
Total Split (%)	33.3%	33.3%	16.7%	66.7%	50.0%
Maximum Green (s)	16.0	16.0	6.0	36.0	26.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 39
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	599	110	30	490	50	70	20	10	71	20	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.95		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3457		1770	3297		1770	1770		1543	1564	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3457		1770	3297		1770	1770		1543	1564	
Peak-hour factor, PHF	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	20	666	122	33	544	54	78	22	11	77	22	49
RTOR Reduction (vph)	0	16	0	0	8	0	0	9	0	0	42	0
Lane Group Flow (vph)	20	772	0	33	590	0	78	24	0	77	29	0
Heavy Vehicles (%)	2%	2%	2%	2%	8%	8%	2%	2%	2%	17%	2%	12%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.8	17.2		1.9	18.3		3.9	6.4		4.2	6.7	
Effective Green, g (s)	0.8	17.2		1.9	18.3		3.9	6.4		4.2	6.7	
Actuated g/C Ratio	0.02	0.38		0.04	0.40		0.09	0.14		0.09	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	31	1301		74	1320		151	248		142	229	
v/s Ratio Prot	0.01	c0.22		c0.02	0.18		0.04	0.01		c0.05	c0.02	
v/s Ratio Perm												
v/c Ratio	0.65	0.59		0.45	0.45		0.52	0.09		0.54	0.13	
Uniform Delay, d1	22.3	11.4		21.4	10.0		20.0	17.1		19.8	17.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	29.6	0.5		1.6	0.1		1.2	0.1		2.3	0.1	
Delay (s)	51.9	11.9		22.9	10.1		21.2	17.2		22.1	17.0	
Level of Service	D	B		C	B		C	B		C	B	
Approach Delay (s)		12.9			10.8			20.0			19.7	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	45.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	599	110	30	490	50	70	20	10	71	20	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	150		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1043			668			452			397	
Travel Time (s)		20.3			13.0			8.8			7.7	
Peak Hour Factor	0.92	0.90	0.90	0.90	0.90	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	2%	8%	8%	2%	2%	2%	17%	2%	12%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	788	0	33	598	0	78	33	0	77	71	0
v/c Ratio	0.08	0.57		0.12	0.42		0.24	0.12		0.26	0.25	
Control Delay	25.6	13.5		24.9	10.4		23.1	20.4		23.4	14.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.6	13.5		24.9	10.4		23.1	20.4		23.4	14.6	
Queue Length 50th (ft)	4	65		7	47		16	5		16	5	
Queue Length 95th (ft)	27	188		37	136		65	32		65	42	
Internal Link Dist (ft)		963			588			372			317	
Turn Bay Length (ft)	200			200			150			200		
Base Capacity (vph)	368	2678		420	2587		578	1084		550	1002	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.29		0.08	0.23		0.13	0.03		0.14	0.07	

Intersection Summary

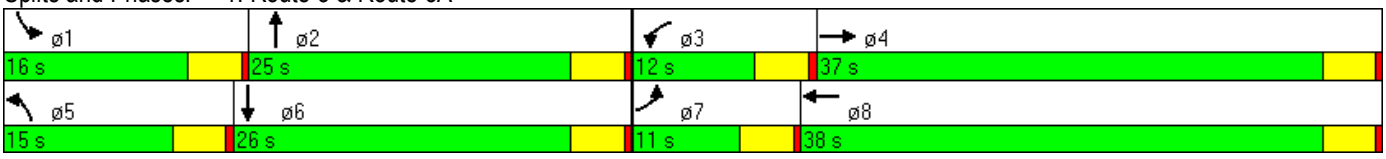
Area Type: Other

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	18	599	30	490	70	20	71	20
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	11.0	37.0	12.0	38.0	15.0	25.0	16.0	26.0
Total Split (%)	12.2%	41.1%	13.3%	42.2%	16.7%	27.8%	17.8%	28.9%
Maximum Green (s)	7.0	33.0	8.0	34.0	11.0	21.0	12.0	22.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 42.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Route 3 & Route 3A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	369	10	305	20	5	10	182	408	50	20	345	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.90		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1624		1770	1671		1752	3448		1770	3306	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1624		1770	1671		1752	3448		1770	3306	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	401	11	332	22	5	11	198	443	54	22	375	293
RTOR Reduction (vph)	0	241	0	0	11	0	0	9	0	0	145	0
Lane Group Flow (vph)	401	102	0	22	5	0	198	488	0	22	523	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	18.1	17.4		1.6	0.9		11.5	26.9		1.6	17.0	
Effective Green, g (s)	18.1	17.4		1.6	0.9		11.5	26.9		1.6	17.0	
Actuated g/C Ratio	0.29	0.27		0.03	0.01		0.18	0.42		0.03	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	514	445		45	24		317	1461		45	885	
v/s Ratio Prot	c0.22	c0.06		0.01	0.00		c0.11	0.14		0.01	c0.16	
v/s Ratio Perm												
v/c Ratio	0.78	0.23		0.49	0.21		0.62	0.33		0.49	0.59	
Uniform Delay, d1	20.9	17.9		30.5	31.0		24.0	12.3		30.5	20.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.0	0.1		3.0	1.6		2.8	0.0		3.0	0.7	
Delay (s)	27.8	18.0		33.6	32.6		26.8	12.3		33.6	20.9	
Level of Service	C	B		C	C		C	B		C	C	
Approach Delay (s)		23.3			33.2			16.4			21.3	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	369	10	305	20	5	10	182	408	50	20	345	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	100		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	401	343	0	22	16	0	198	497	0	22	668	0
v/c Ratio	0.71	0.49		0.14	0.10		0.57	0.31		0.14	0.70	
Control Delay	27.4	5.8		33.6	22.4		31.9	12.6		33.6	19.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.4	5.8		33.6	22.4		31.9	12.6		33.6	19.6	
Queue Length 50th (ft)	120	3		7	2		62	42		7	75	
Queue Length 95th (ft)	278	59		33	21		#175	136		33	174	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	200			100			200			200		
Base Capacity (vph)	831	1189		163	500		452	1827		163	1286	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.48	0.29		0.13	0.03		0.44	0.27		0.13	0.52	

Intersection Summary

Area Type: Other

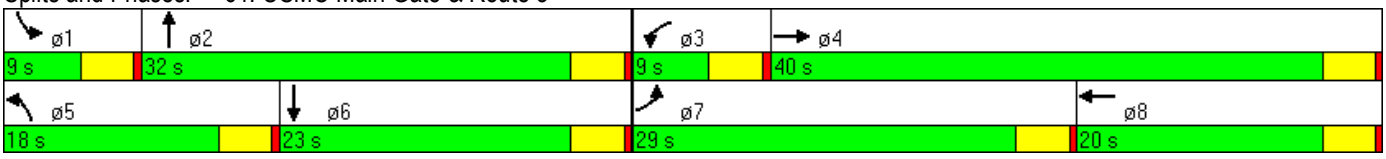
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	369	10	20	5	182	408	20	345
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	29.0	40.0	9.0	20.0	18.0	32.0	9.0	23.0
Total Split (%)	32.2%	44.4%	10.0%	22.2%	20.0%	35.6%	10.0%	25.6%
Maximum Green (s)	25.0	36.0	5.0	16.0	14.0	28.0	5.0	19.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 58
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	10	610	670	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1752	3505	3524	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1583	1752	3505	3524	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	43	11	663	728	22
RTOR Reduction (vph)	0	40	0	0	3	0
Lane Group Flow (vph)	33	3	11	663	747	0
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.0	3.0	0.8	26.6	21.8	
Effective Green, g (s)	3.0	3.0	0.8	26.6	21.8	
Actuated g/C Ratio	0.08	0.08	0.02	0.71	0.58	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	141	126	37	2480	2043	
v/s Ratio Prot	c0.02		0.01	c0.19	c0.21	
v/s Ratio Perm		0.00				
v/c Ratio	0.23	0.03	0.30	0.27	0.37	
Uniform Delay, d1	16.2	16.0	18.1	2.0	4.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.0	1.6	0.0	0.0	
Delay (s)	16.5	16.0	19.8	2.0	4.3	
Level of Service	B	B	B	A	A	
Approach Delay (s)	16.2			2.3	4.3	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	4.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	37.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	40	10	610	670	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0	200			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	43	11	663	750	0
v/c Ratio	0.11	0.14	0.04	0.24	0.29	
Control Delay	14.6	7.3	15.0	2.7	4.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.6	7.3	15.0	2.7	4.5	
Queue Length 50th (ft)	6	0	2	21	24	
Queue Length 95th (ft)	23	18	12	41	96	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	200		200			
Base Capacity (vph)	963	881	281	3352	2895	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.03	0.05	0.04	0.20	0.26	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	40	10	610	670
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	21.0	9.0	39.0	30.0
Total Split (%)	35.0%	35.0%	15.0%	65.0%	50.0%
Maximum Green (s)	17.0	17.0	5.0	35.0	26.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 32.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Guam and CNMI Military Relocation
(2012 Roadmap Adjustments)

TRAFFIC OPERATIONS REPORT
SUPPLEMENTAL ANALYSES

Appendix C

Synchro Analyses for
Revised Finegayan/South Finegayan Alternative

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	52	480	745	10	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	65	600	931	12	12	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		1290				
pX, platoon unblocked					0.97	
vC, conflicting volume	944				1668	938
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	944				1673	938
tC, single (s)	4.1				6.8	6.7
tC, 2 stage (s)						
tF (s)	2.2				3.9	3.7
p0 queue free %	91				83	91
cM capacity (veh/h)	723				73	268

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	65	600	944	38
Volume Left	65	0	0	12
Volume Right	0	0	12	25
cSH	723	1700	1700	142
Volume to Capacity	0.09	0.35	0.56	0.26
Queue Length 95th (ft)	7	0	0	25
Control Delay (s)	10.5	0.0	0.0	39.2
Lane LOS	B			E
Approach Delay (s)	1.0		0.0	39.2
Approach LOS				E

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	460	40	20	505	230	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	575	50	25	631	288	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			625		1281	600
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			625		1281	600
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		0	88
cM capacity (veh/h)			961		178	501

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	625	656	350
Volume Left	0	25	288
Volume Right	50	0	62
cSH	1700	961	201
Volume to Capacity	0.37	0.03	1.74
Queue Length 95th (ft)	0	2	602
Control Delay (s)	0.0	0.7	394.2
Lane LOS		A	F
Approach Delay (s)	0.0	0.7	394.2
Approach LOS			F

Intersection Summary			
Average Delay	84.9		
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	510	525	55	20	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	12	638	656	69	25	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	725				1353	691
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	725				1353	691
tC, single (s)	4.1				6.9	6.7
tC, 2 stage (s)						
tF (s)	2.2				4.0	3.8
p0 queue free %	99				80	97
cM capacity (veh/h)	882				128	370

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	650	725	38
Volume Left	12	0	25
Volume Right	0	69	12
cSH	882	1700	163
Volume to Capacity	0.01	0.43	0.23
Queue Length 95th (ft)	1	0	21
Control Delay (s)	0.4	0.0	33.5
Lane LOS	A		D
Approach Delay (s)	0.4	0.0	33.5
Approach LOS			D

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	160	710	950	30	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	180	798	1067	34	11	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		704				
pX, platoon unblocked						
vC, conflicting volume	1101				1843	1084
vC1, stage 1 conf vol					1084	
vC2, stage 2 conf vol					758	
vCu, unblocked vol	1101				1843	1084
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	71				95	89
cM capacity (veh/h)	630				207	212

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	180	399	399	1101	34
Volume Left	180	0	0	0	11
Volume Right	0	0	0	34	22
cSH	630	1700	1700	1700	318
Volume to Capacity	0.29	0.23	0.23	0.65	0.11
Queue Length 95th (ft)	29	0	0	0	9
Control Delay (s)	13.0	0.0	0.0	0.0	23.8
Lane LOS	B				C
Approach Delay (s)	2.4			0.0	23.8
Approach LOS					C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	150	870	300	110	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.98		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3392		1863	1583	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3392		1863	1583	1770	3539
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	1069	172	1000	345	126	1149
RTOR Reduction (vph)	11	0	0	114	0	0
Lane Group Flow (vph)	1230	0	1000	231	126	1149
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	37.5		55.5	55.5	10.0	71.0
Effective Green, g (s)	37.5		55.5	55.5	10.0	71.0
Actuated g/C Ratio	0.31		0.46	0.46	0.08	0.59
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	1060		862	732	148	2094
v/s Ratio Prot	c0.36		c0.54		c0.07	0.32
v/s Ratio Perm				0.15		
v/c Ratio	1.16		1.16	0.32	0.85	0.55
Uniform Delay, d1	41.2		32.2	20.3	54.3	14.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	82.9		84.9	1.1	35.5	1.0
Delay (s)	124.1		117.1	21.4	89.8	15.9
Level of Service	F		F	C	F	B
Approach Delay (s)	124.1		92.6			23.2
Approach LOS	F		F			C

Intersection Summary			
HCM Average Control Delay	79.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	930	150	870	300	110	1000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1517		1605			620
Travel Time (s)	29.6		31.3			12.1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1241	0	1000	345	126	1149
v/c Ratio	1.16		1.16	0.41	0.85	0.55
Control Delay	119.5		116.1	9.2	97.5	16.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	119.5		116.1	9.2	97.5	16.1
Queue Length 50th (ft)	~583		~917	59	98	267
Queue Length 95th (ft)	#679		#1108	120	#199	309
Internal Link Dist (ft)	1437		1525			540
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	1071		862	846	148	2094
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	1.16		1.16	0.41	0.85	0.55

Intersection Summary	
Area Type:	Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	930	870	300	110	1000
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	43.0	61.5	61.5	15.5	77.0
Total Split (%)	35.8%	51.3%	51.3%	12.9%	64.2%
Maximum Green (s)	37.5	55.5	55.5	10.0	71.0
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	370	90	10	740	1970	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	430	105	12	860	2291	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2779	1180	2360			
vC1, stage 1 conf vol	2326					
vC2, stage 2 conf vol	453					
vCu, unblocked vol	2779	1180	2360			
tC, single (s)	6.9	7.0	4.1			
tC, 2 stage (s)	5.9					
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	42	94			
cM capacity (veh/h)	57	181	204			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	535	12	430	430	1527	833
Volume Left	430	12	0	0	0	0
Volume Right	105	0	0	0	0	70
cSH	66	204	1700	1700	1700	1700
Volume to Capacity	8.11	0.06	0.25	0.25	0.90	0.49
Queue Length 95th (ft)	Err	5	0	0	0	0
Control Delay (s)	Err	23.7	0.0	0.0	0.0	0.0
Lane LOS	F	C				
Approach Delay (s)	Err	0.3			0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	1419.7		
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	330	560	180	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1845	1568	1752	1845
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1845	1568	1752	1845
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	156	89	367	622	200	267
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	156	89	367	622	200	267
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	8.2	84.2	46.7	84.2	13.8	66.0
Effective Green, g (s)	8.2	84.2	46.7	84.2	13.8	66.0
Actuated g/C Ratio	0.10	1.00	0.55	1.00	0.16	0.78
Clearance Time (s)	4.0		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	334	1583	1023	1568	287	1446
v/s Ratio Prot	0.05		0.20		c0.11	0.14
v/s Ratio Perm		0.06		c0.40		
v/c Ratio	0.47	0.06	0.36	0.40	0.70	0.18
Uniform Delay, d1	35.9	0.0	10.4	0.0	33.2	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	1.0	0.8	5.8	0.3
Delay (s)	36.3	0.1	11.4	0.8	39.1	2.6
Level of Service	D	A	B	A	D	A
Approach Delay (s)	23.1		4.7			18.2
Approach LOS	C		A			B

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	5.5
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	330	560	180	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		927			661
Travel Time (s)	17.8		18.1			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	89	367	622	200	267
v/c Ratio	0.47	0.06	0.36	0.40	0.70	0.18
Control Delay	40.6	0.1	13.0	0.8	45.9	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	0.1	13.0	0.8	45.9	2.8
Queue Length 50th (ft)	40	0	100	0	101	26
Queue Length 95th (ft)	70	0	196	0	164	52
Internal Link Dist (ft)	833		847			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	571	1583	1023	1568	406	1446
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.06	0.36	0.40	0.49	0.18

Intersection Summary

Area Type: Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	80	330	560	180	240
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		10.0		6.5	10.0
Minimum Split (s)	15.0		22.0		12.0	22.0
Total Split (s)	18.0	0.0	47.0	0.0	25.0	72.0
Total Split (%)	20.0%	0.0%	52.2%	0.0%	27.8%	80.0%
Maximum Green (s)	14.0		41.0		19.5	66.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	0.5		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		Max		None	Max
Walk Time (s)	5.0					
Flash Dont Walk (s)	11.0					
Pedestrian Calls (#/hr)	0					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 84.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	80	70	760	280	150	840	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.92		1.00	0.96		1.00	0.96		1.00	0.99	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685		1681	1650		1752	3363		1752	3470	
Flt Permitted		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1685		1681	1650		1752	3363		1752	3470	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	22	11	54	591	32	86	75	817	301	161	903	65
RTOR Reduction (vph)	0	51	0	0	10	0	0	29	0	0	4	0
Lane Group Flow (vph)	0	36	0	361	338	0	75	1089	0	161	964	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.1		29.0	29.0		7.9	49.0		13.9	55.0	
Effective Green, g (s)		7.1		29.0	29.0		7.9	49.0		13.9	55.0	
Actuated g/C Ratio		0.06		0.24	0.24		0.07	0.41		0.12	0.46	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		100		406	399		115	1373		203	1590	
v/s Ratio Prot		c0.02		c0.21	0.20		0.04	c0.32		c0.09	0.28	
v/s Ratio Perm												
v/c Ratio		0.36		0.89	0.85		0.65	0.79		0.79	0.61	
Uniform Delay, d1		54.3		43.9	43.4		54.7	31.1		51.7	24.4	
Progression Factor		1.00		1.00	1.00		1.44	0.46		1.00	1.00	
Incremental Delay, d2		0.8		19.9	14.7		7.3	3.6		17.7	1.7	
Delay (s)		55.1		63.9	58.1		85.9	17.8		69.4	26.1	
Level of Service		E		E	E		F	B		E	C	
Approach Delay (s)		55.1			61.0			22.1			32.3	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM Average Control Delay	35.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	10	50	550	30	80	70	760	280	150	840	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		454			2553			739			912	
Travel Time (s)		12.4			69.6			14.4			17.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)				39%								
Lane Group Flow (vph)	0	87	0	361	348	0	75	1118	0	161	968	0
v/c Ratio		0.58		0.89	0.85		0.57	0.80		0.79	0.60	
Control Delay		39.4		67.7	61.2		89.3	18.7		78.6	27.7	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		39.4		67.7	61.2		89.3	18.7		78.6	27.7	
Queue Length 50th (ft)		25		277	255		62	336		120	305	
Queue Length 95th (ft)		77		#430	#395		m90	#528		#235	411	
Internal Link Dist (ft)		374			2473			659			832	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		190		451	452		162	1403		214	1622	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.46		0.80	0.77		0.46	0.80		0.75	0.60	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

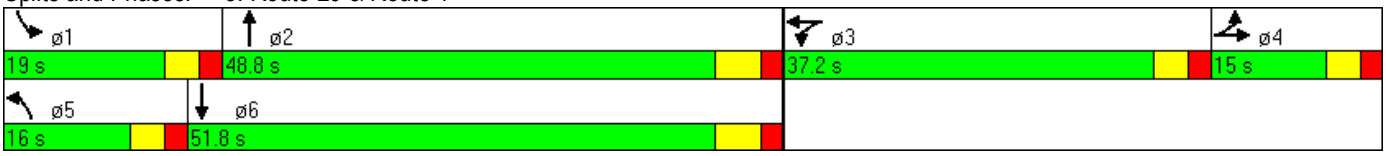
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	10	550	30	70	760	150	840
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	15.0	23.5	23.5	12.0	32.0	12.0	25.0
Total Split (s)	15.0	37.2	37.2	16.0	48.8	19.0	51.8
Total Split (%)	12.5%	31.0%	31.0%	13.3%	40.7%	15.8%	43.2%
Maximum Green (s)	10.0	32.2	32.2	11.0	42.8	14.0	45.8
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	160	20	40	50	40	10	30	330	20	10	300	200
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	176	22	44	55	44	11	33	363	22	11	330	220
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	934	912	440	956	1011	374	549			385		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	934	912	440	956	1011	374	549			385		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	12	92	93	73	81	98	97			99		
cM capacity (veh/h)	200	262	617	200	230	673	1015			1168		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	110	418	560
Volume Left	176	55	33	11
Volume Right	44	11	22	220
cSH	234	228	1015	1168
Volume to Capacity	1.03	0.48	0.03	0.01
Queue Length 95th (ft)	251	60	3	1
Control Delay (s)	113.0	34.7	1.0	0.3
Lane LOS	F	D	A	A
Approach Delay (s)	113.0	34.7	1.0	0.3
Approach LOS	F	D		

Intersection Summary			
Average Delay	23.9		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	140	1030	150	160	1520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	1568	3438		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	1568	3438		1752	3505
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	152	1120	163	174	1652
RTOR Reduction (vph)	0	74	9	0	0	0
Lane Group Flow (vph)	326	78	1274	0	174	1652
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	26.0	26.0	62.9		15.1	83.0
Effective Green, g (s)	26.0	26.0	62.9		15.1	83.0
Actuated g/C Ratio	0.22	0.22	0.52		0.13	0.69
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	380	340	1802		220	2424
v/s Ratio Prot	c0.19		0.37		0.10	c0.47
v/s Ratio Perm		0.05				
v/c Ratio	0.86	0.23	0.71		0.79	0.68
Uniform Delay, d1	45.2	38.7	21.6		50.9	10.8
Progression Factor	1.00	1.00	0.44		1.06	0.98
Incremental Delay, d2	16.6	0.1	2.2		13.9	1.3
Delay (s)	61.8	38.9	11.6		67.6	11.9
Level of Service	E	D	B		E	B
Approach Delay (s)	54.5		11.6			17.2
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	300	140	1030	150	160	1520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	608		1553			525
Travel Time (s)	11.8		30.3			10.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	326	152	1283	0	174	1652
v/c Ratio	0.86	0.37	0.71		0.79	0.68
Control Delay	66.2	17.6	12.2		74.8	13.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	66.2	17.6	12.2		74.8	13.0
Queue Length 50th (ft)	243	36	139		141	305
Queue Length 95th (ft)	335	91	m543		m#222	348
Internal Link Dist (ft)	528		1473			445
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	467	488	1811		241	2424
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.70	0.31	0.71		0.72	0.68

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	300	140	1030	160	1520
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	12.0	22.0
Total Split (s)	37.0	37.0	62.0	21.0	83.0
Total Split (%)	30.8%	30.8%	51.7%	17.5%	69.2%
Maximum Green (s)	32.0	32.0	56.0	16.0	77.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 64 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	100	160	110	150	300	180
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Hourly flow rate (vph)	137	219	151	205	411	247
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1041	534	658			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1041	534	658			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	35	60	84			
cM capacity (veh/h)	212	544	925			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	356	356	658
Volume Left	137	151	0
Volume Right	219	0	247
cSH	340	925	1700
Volume to Capacity	1.05	0.16	0.39
Queue Length 95th (ft)	316	15	0
Control Delay (s)	98.0	5.1	0.0
Lane LOS	F	A	
Approach Delay (s)	98.0	5.1	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	26.8		
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	620	370	0	1730	310	280	1940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00		1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00		1.00	1.00
Frt	1.00	1.00		0.98		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1752	5036		4921		1770	2749
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1752	5036		4921		1770	2749
Peak-hour factor, PHF	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Adj. Flow (vph)	674	402	0	1880	337	304	2109
RTOR Reduction (vph)	0	0	0	21	0	0	456
Lane Group Flow (vph)	674	402	0	2196	0	304	1653
Confl. Peds. (#/hr)							1
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	26.0	72.0		41.0		36.0	36.0
Effective Green, g (s)	26.0	72.0		41.0		36.0	36.0
Actuated g/C Ratio	0.22	0.60		0.34		0.30	0.30
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	380	3022		1681		531	825
v/s Ratio Prot	c0.38	0.08		c0.45		0.17	
v/s Ratio Perm							c0.60
v/c Ratio	1.77	0.13		1.31		0.57	2.00
Uniform Delay, d1	47.0	10.4		39.5		35.5	42.0
Progression Factor	0.50	1.00		0.71		1.00	1.00
Incremental Delay, d2	355.5	0.1		141.7		0.9	456.1
Delay (s)	379.0	10.5		169.6		36.4	498.1
Level of Service	F	B		F		D	F
Approach Delay (s)		241.3		169.6		439.9	
Approach LOS		F		F		F	

Intersection Summary			
HCM Average Control Delay	297.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	620	370	0	1730	310	280	1940
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		803		2115	
Travel Time (s)		35.6		15.6		41.2	
Confl. Peds. (#/hr)							1
Peak Hour Factor	0.92	0.92	0.93	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	674	402	0	2217	0	304	2109
v/c Ratio	1.77	0.13		1.30		0.57	1.65
Control Delay	377.8	10.6		166.8		40.6	316.9
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	377.8	10.6		166.8		40.6	316.9
Queue Length 50th (ft)	~804	71		~804		199	~1142
Queue Length 95th (ft)	#1040	m58		#871		294	#1293
Internal Link Dist (ft)		1747		723		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	380	3022		1702		531	1280
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.77	0.13		1.30		0.57	1.65

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	620	370	1730	280	1940	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	20.0	20.0	9.0
Total Split (s)	31.0	69.0	47.0	42.0	42.0	9.0
Total Split (%)	25.8%	57.5%	39.2%	35.0%	35.0%	8%
Maximum Green (s)	26.0	63.0	41.0	36.0	36.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	7.0	7.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	750	2490	410	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4851		1752	5036	3400	1568
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4851		1752	5036	3400	1568
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	819	266	798	2649	436	330
RTOR Reduction (vph)	0	47	0	0	0	0	274
Lane Group Flow (vph)	11	1038	0	798	2649	436	56
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	29.6		53.0	81.6	20.4	20.4
Effective Green, g (s)	1.0	29.6		53.0	81.6	20.4	20.4
Actuated g/C Ratio	0.01	0.25		0.44	0.68	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	15	1197		774	3424	578	267
v/s Ratio Prot	0.01	c0.21		c0.46	0.53	c0.13	
v/s Ratio Perm							0.04
v/c Ratio	0.73	0.87		1.03	0.77	0.75	0.21
Uniform Delay, d1	59.4	43.3		33.5	13.0	47.4	42.9
Progression Factor	0.99	0.88		0.82	0.81	0.62	0.38
Incremental Delay, d2	88.3	8.0		19.1	0.2	4.2	0.1
Delay (s)	147.1	46.0		46.4	10.6	33.7	16.5
Level of Service	F	D		D	B	C	B
Approach Delay (s)		47.0			18.9	26.3	
Approach LOS		D			B	C	

Intersection Summary			
HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	770	250	750	2490	410	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	733	
Travel Time (s)		68.2			23.9	14.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1085	0	798	2649	436	330
v/c Ratio	0.15	0.77		1.12	0.74	0.75	0.61
Control Delay	59.1	37.6		83.6	9.9	36.7	6.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	59.1	37.6		83.6	9.9	36.7	6.0
Queue Length 50th (ft)	8	137		~725	304	75	1
Queue Length 95th (ft)	m25	m#222		m269	m219	106	19
Internal Link Dist (ft)		3423			1148	653	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	75	1404		715	3593	765	609
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.15	0.77		1.12	0.74	0.57	0.54

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	770	750	2490	410	310
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	33.0	20.0	21.5	33.0	33.0
Total Split (s)	10.0	33.0	54.0	77.0	33.0	33.0
Total Split (%)	8.3%	27.5%	45.0%	64.2%	27.5%	27.5%
Maximum Green (s)	5.0	27.0	49.0	71.0	27.0	27.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	780	10	2010	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.96	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4827	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4827	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	322	133	267	867	11	2233	856
RTOR Reduction (vph)	0	120	0	0	0	58	0
Lane Group Flow (vph)	322	13	267	867	11	3031	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Effective Green, g (s)	12.0	12.0	19.0	91.2	0.8	73.0	
Actuated g/C Ratio	0.10	0.10	0.16	0.76	0.01	0.61	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	343	158	277	3827	12	2936	
v/s Ratio Prot	c0.09		c0.15	0.17	0.01	c0.63	
v/s Ratio Perm		0.01					
v/c Ratio	0.94	0.08	0.96	0.23	0.92	1.03	
Uniform Delay, d1	53.6	49.0	50.2	4.2	59.6	23.5	
Progression Factor	1.00	1.00	1.08	0.99	0.98	0.60	
Incremental Delay, d2	32.3	0.1	39.7	0.1	171.3	23.1	
Delay (s)	86.0	49.1	93.9	4.2	229.6	37.1	
Level of Service	F	D	F	A	F	D	
Approach Delay (s)	75.2			25.4		37.8	
Approach LOS	E			C		D	

Intersection Summary			
HCM Average Control Delay	38.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	290	120	240	780	10	2010	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	828			1332		3503	
Travel Time (s)	22.6			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	322	133	267	867	11	3089	0
v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.03	
Control Delay	89.2	14.5	95.7	3.4	60.2	37.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	89.2	14.5	95.7	3.4	60.2	37.9	
Queue Length 50th (ft)	129	0	217	42	9	~477	
Queue Length 95th (ft)	#219	60	#384	81	m13	#226	
Internal Link Dist (ft)	748			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	343	278	277	3995	60	2992	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.94	0.48	0.96	0.22	0.18	1.03	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	290	120	240	780	10	2010
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	15.0	15.0	12.0	21.5	9.0	33.0
Total Split (s)	17.0	17.0	24.0	94.0	9.0	79.0
Total Split (%)	14.2%	14.2%	20.0%	78.3%	7.5%	65.8%
Maximum Green (s)	12.0	12.0	19.0	88.0	4.0	73.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	16.0	16.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 117 (98%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14 & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	590	200	80	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4845		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4845		1752	5036
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	774	298	702	238	95	1333
RTOR Reduction (vph)	0	140	48	0	0	0
Lane Group Flow (vph)	774	158	892	0	95	1333
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	59.4	59.4	33.6		11.0	49.6
Effective Green, g (s)	59.4	59.4	33.6		11.0	49.6
Actuated g/C Ratio	0.49	0.49	0.28		0.09	0.41
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	876	784	1357		161	2082
v/s Ratio Prot	c0.44	0.10	0.18		0.05	c0.26
v/s Ratio Perm						
v/c Ratio	0.88	0.20	0.66		0.59	0.64
Uniform Delay, d1	27.2	17.0	38.1		52.3	28.1
Progression Factor	0.88	0.41	0.74		0.70	0.56
Incremental Delay, d2	10.1	0.0	2.1		2.4	0.9
Delay (s)	34.1	7.1	30.4		39.2	16.6
Level of Service	C	A	C		D	B
Approach Delay (s)	26.6		30.4			18.1
Approach LOS	C		C			B

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	650	250	590	200	80	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	270	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1703		2992			763
Travel Time (s)	33.2		58.3			14.9
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	2%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	774	298	940	0	95	1333
v/c Ratio	0.88	0.32	0.67		0.59	0.64
Control Delay	36.3	1.8	29.4		47.0	17.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	36.3	1.8	29.4		47.0	17.3
Queue Length 50th (ft)	576	14	231		67	197
Queue Length 95th (ft)	611	6	m267		m79	m214
Internal Link Dist (ft)	1623		2912			683
Turn Bay Length (ft)	270				530	
Base Capacity (vph)	959	984	1406		161	2082
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.81	0.30	0.67		0.59	0.64

Intersection Summary

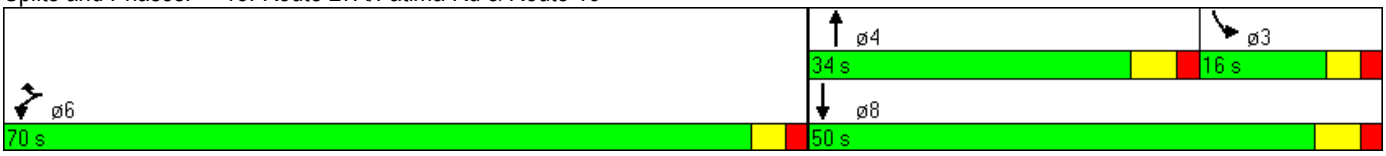
Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	650	250	590	80	1120
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	33.0	33.0	33.0	10.0	33.0
Total Split (s)	70.0	70.0	34.0	16.0	50.0
Total Split (%)	58.3%	58.3%	28.3%	13.3%	41.7%
Maximum Green (s)	65.0	65.0	28.0	11.0	44.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?				Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 61 (51%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1080	10	120	120	90	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4916		1752	5029		1770	1743		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4916		1752	5029		1770	1743		1770	1863	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	154	527	99	165	1187	11	132	132	99	33	253	505
RTOR Reduction (vph)	0	19	0	0	1	0	0	23	0	0	0	328
Lane Group Flow (vph)	154	607	0	165	1197	0	132	208	0	33	253	177
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	13.7	45.1		15.5	46.9		17.5	17.5		20.9	20.9	20.9
Effective Green, g (s)	13.7	45.1		15.5	46.9		17.5	17.5		20.9	20.9	20.9
Actuated g/C Ratio	0.11	0.38		0.13	0.39		0.15	0.15		0.17	0.17	0.17
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	200	1848		226	1966		258	254		308	324	276
v/s Ratio Prot	0.09	0.12		c0.09	c0.24		0.07	c0.12		0.02	c0.14	
v/s Ratio Perm												0.11
v/c Ratio	0.77	0.33		0.73	0.61		0.51	0.82		0.11	0.78	0.64
Uniform Delay, d1	51.6	26.7		50.2	29.2		47.3	49.7		41.7	47.4	46.1
Progression Factor	1.19	0.30		1.40	0.67		1.36	1.40		1.00	1.00	1.00
Incremental Delay, d2	14.8	0.5		8.4	1.2		0.6	14.5		0.1	10.7	3.8
Delay (s)	76.5	8.5		78.7	20.7		65.1	84.0		41.8	58.1	49.9
Level of Service	E	A		E	C		E	F		D	E	D
Approach Delay (s)		21.9			27.7			77.1			52.1	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	480	90	150	1080	10	120	120	90	30	230	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		771			1721			2270			924	
Travel Time (s)		15.0			33.5			61.9			25.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	626	0	165	1198	0	132	231	0	33	253	505
v/c Ratio	0.77	0.34		0.73	0.61		0.51	0.83		0.11	0.78	0.84
Control Delay	84.8	8.9		85.3	22.3		69.2	81.0		39.8	63.5	23.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	84.8	8.9		85.3	22.3		69.2	81.0		39.8	63.5	23.6
Queue Length 50th (ft)	101	71		130	134		108	171		22	190	79
Queue Length 95th (ft)	#185	113		m207	m249		m166	#259		48	263	211
Internal Link Dist (ft)		691			1641			2190			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	234	1868		307	1966		310	327		413	435	674
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.34		0.54	0.61		0.43	0.71		0.08	0.58	0.75

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

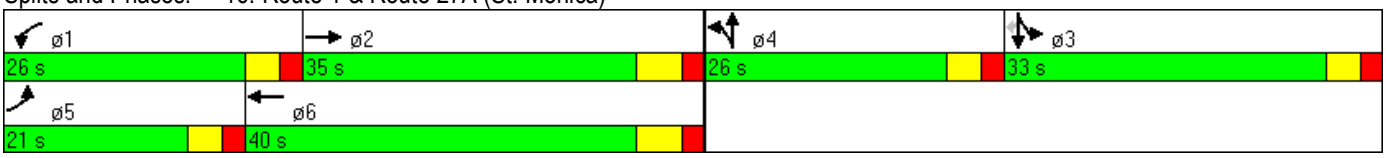
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	140	480	150	1080	120	120	30	230	460
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	6.5	10.0	6.5	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	12.0	31.0	12.0	31.0	18.0	18.0	18.0	18.0	18.0
Total Split (s)	21.0	35.0	26.0	40.0	26.0	26.0	33.0	33.0	33.0
Total Split (%)	17.5%	29.2%	21.7%	33.3%	21.7%	21.7%	27.5%	27.5%	27.5%
Maximum Green (s)	16.0	29.0	21.0	34.0	21.0	21.0	28.0	28.0	28.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 86 (72%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	70	40	150	20	30	10	60	200	20	20	250	130
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	45	170	23	34	11	68	227	23	23	284	148

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	80	216	68	68	250	307	148
Volume Left (vph)	80	0	23	68	0	23	0
Volume Right (vph)	0	170	11	0	23	0	148
Hadj (s)	0.53	-0.52	0.00	0.53	-0.03	0.07	-0.67
Departure Headway (s)	7.2	6.1	7.0	6.8	6.3	6.2	5.5
Degree Utilization, x	0.16	0.37	0.13	0.13	0.43	0.53	0.22
Capacity (veh/h)	468	550	459	500	549	559	627
Control Delay (s)	10.3	11.4	11.1	9.6	12.8	14.8	8.8
Approach Delay (s)	11.1		11.1	12.1		12.8	
Approach LOS	B		B	B		B	

Intersection Summary			
Delay	12.1		
HCM Level of Service	B		
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	890	1320	30	100	150	700	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.99		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4937		1752	5019		1770	1863	2745		1852	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	641	87	967	1435	33	109	163	761	43	326	43
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	710	0	0	10
Lane Group Flow (vph)	76	713	0	967	1466	0	109	163	51	0	369	33
Confl. Peds. (#/hr)			2						2			2
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Effective Green, g (s)	8.1	26.0		45.0	62.9		8.0	8.0	8.0		19.0	19.0
Actuated g/C Ratio	0.07	0.22		0.38	0.52		0.07	0.07	0.07		0.16	0.16
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	118	1070		657	2631		118	124	183		293	247
v/s Ratio Prot	0.04	c0.14		c0.55	0.29		0.06	c0.09			c0.20	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.64	0.67		1.47	0.56		0.92	1.31	0.28		1.26	0.13
Uniform Delay, d1	54.5	43.0		37.5	19.2		55.7	56.0	53.3		50.5	43.4
Progression Factor	1.36	0.72		0.99	0.64		0.93	0.93	4.09		1.00	1.00
Incremental Delay, d2	8.4	3.2		218.7	0.7		10.8	146.8	0.0		141.4	0.1
Delay (s)	82.8	34.3		256.1	12.9		62.4	198.8	218.0		191.9	43.5
Level of Service	F	C		F	B		E	F	F		F	D
Approach Delay (s)		38.9			109.5			198.6			176.4	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	122.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	115.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	590	80	890	1320	30	100	150	700	40	300	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1542			2835			740	
Travel Time (s)		29.5			30.0			55.2			25.2	
Confl. Peds. (#/hr)			2						2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	728	0	967	1468	0	109	163	761	0	369	43
v/c Ratio	0.57	0.67		1.47	0.55		0.92	1.31	0.85		1.26	0.17
Control Delay	87.8	33.7		249.0	13.0		65.0	188.1	14.6		183.0	35.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	87.8	33.7		249.0	13.0		65.0	188.1	14.6		183.0	35.8
Queue Length 50th (ft)	62	186		~1028	187		88	~166	106		~358	21
Queue Length 95th (ft)	m111	237		m#1231	m238		m#117	m#200	m84		#550	56
Internal Link Dist (ft)		1435			1462			2755			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	172	1085		657	2675		118	124	893		293	257
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.44	0.67		1.47	0.55		0.92	1.31	0.85		1.26	0.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

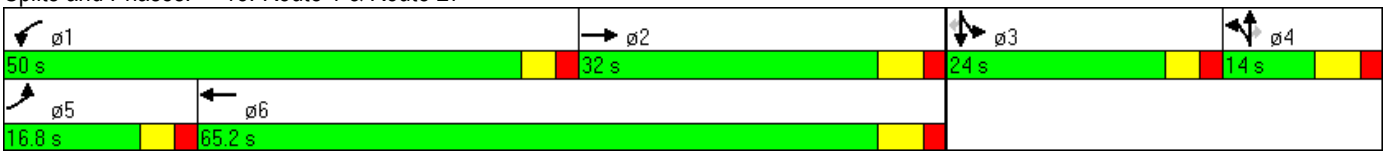
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	70	590	890	1320	100	150	700	300	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.5	31.0	12.0	31.0	11.0	11.0	11.0	20.0	20.0
Total Split (s)	16.8	32.0	50.0	65.2	14.0	14.0	14.0	24.0	24.0
Total Split (%)	14.0%	26.7%	41.7%	54.3%	11.7%	11.7%	11.7%	20.0%	20.0%
Maximum Green (s)	11.8	26.0	45.0	59.2	8.0	8.0	8.0	19.0	19.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	910	370	640	1780	550	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4817		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4817		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	968	394	681	1894	585	394
RTOR Reduction (vph)	0	64	0	0	0	0	325
Lane Group Flow (vph)	11	1298	0	681	1894	585	69
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	0.8	30.0		51.0	81.2	21.0	21.0
Effective Green, g (s)	0.8	30.0		51.0	81.2	21.0	21.0
Actuated g/C Ratio	0.01	0.25		0.42	0.68	0.18	0.18
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	12	1204		745	3408	601	277
v/s Ratio Prot	0.01	c0.27		c0.39	0.38	c0.17	
v/s Ratio Perm							0.04
v/c Ratio	0.92	1.08		0.91	0.56	0.97	0.25
Uniform Delay, d1	59.6	45.0		32.4	10.1	49.2	42.7
Progression Factor	1.32	0.61		0.62	0.27	1.00	1.00
Incremental Delay, d2	158.0	44.9		4.7	0.2	29.7	0.2
Delay (s)	236.6	72.1		24.7	2.9	79.0	42.9
Level of Service	F	E		C	A	E	D
Approach Delay (s)		73.4			8.6	64.4	
Approach LOS		E			A	E	

Intersection Summary			
HCM Average Control Delay	37.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	910	370	640	1780	550	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		563			1121	1738	
Travel Time (s)		11.0			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	11	1362	0	681	1894	585	394
v/c Ratio	0.18	0.96		0.99	0.53	0.97	0.65
Control Delay	79.1	35.4		39.8	2.4	80.2	10.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	79.1	35.4		39.8	2.4	80.2	10.0
Queue Length 50th (ft)	9	179		551	55	235	0
Queue Length 95th (ft)	m11	m#426		m548	m59	#351	93
Internal Link Dist (ft)		483			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	60	1426		686	3575	601	602
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.18	0.96		0.99	0.53	0.97	0.65

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	910	640	1780	550	370
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	18.5	21.0	20.0	20.0
Total Split (s)	9.0	40.0	53.0	84.0	27.0	27.0
Total Split (%)	7.5%	33.3%	44.2%	70.0%	22.5%	22.5%
Maximum Green (s)	4.0	34.0	47.0	78.0	21.0	21.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 87 (73%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	970	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1577	4532		1577	4496			1636	1425		1608	1425
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1577	4532		1577	4496			1636	1425		1608	1425
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	1021	0	21	2074	116	53	53	11	179	32	400
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	10	0	0	176
Lane Group Flow (vph)	211	1021	0	21	2185	0	0	106	1	0	211	224
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Effective Green, g (s)	15.0	70.6		2.8	58.4			9.6	9.6		16.0	16.0
Actuated g/C Ratio	0.12	0.59		0.02	0.49			0.08	0.08		0.13	0.13
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	197	2666		37	2188			131	114		214	190
v/s Ratio Prot	c0.13	0.23		0.01	c0.49			c0.06			0.13	
v/s Ratio Perm									0.00			c0.16
v/c Ratio	1.07	0.38		0.57	1.00			0.81	0.01		0.99	1.18
Uniform Delay, d1	52.5	13.1		58.0	30.8			54.3	50.8		51.9	52.0
Progression Factor	1.19	0.34		1.14	0.78			1.00	1.00		1.00	1.00
Incremental Delay, d2	64.1	0.2		9.1	16.8			28.1	0.0		56.9	121.9
Delay (s)	126.6	4.7		75.0	40.9			82.4	50.8		108.8	173.9
Level of Service	F	A		E	D			F	D		F	F
Approach Delay (s)		25.6			41.2			79.4			151.4	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM Average Control Delay	53.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	970	0	20	1970	110	50	50	10	170	30	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			374			423			1399	
Travel Time (s)		21.8			7.3			14.4			38.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	1021	0	21	2190	0	0	106	11	0	211	400
v/c Ratio	1.07	0.37		0.24	1.00			0.81	0.09		0.99	1.09
Control Delay	121.5	4.4		67.1	41.6			95.0	26.6		110.4	98.7
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	121.5	4.4		67.1	41.6			95.0	26.6		110.4	98.7
Queue Length 50th (ft)	~185	37		17	~642			82	0		165	~204
Queue Length 95th (ft)	m#244	m49		m26	#738			#179	19		#324	#404
Internal Link Dist (ft)		1041			294			343			1319	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	197	2780		92	2193			136	129		214	366
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.07	0.37		0.23	1.00			0.78	0.09		0.99	1.09

Intersection Summary

Area Type: CBD

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	200	970	20	1970	50	10	30	380
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	6.5	20.0	6.5	20.0	8.0	8.0	10.0	10.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	20.0	20.0
Total Split (s)	20.0	72.0	12.0	64.0	15.0	15.0	21.0	21.0
Total Split (%)	16.7%	60.0%	10.0%	53.3%	12.5%	12.5%	17.5%	17.5%
Maximum Green (s)	15.0	66.0	7.0	58.0	10.0	10.0	16.0	16.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	210	580	550	480	170	1270	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4956	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3269		3433	1863	1583	1752	3505	1568	1752	4956	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	115	356	368	816	874	241	667	632	552	195	1460	172
RTOR Reduction (vph)	0	155	0	0	0	91	0	0	351	0	12	0
Lane Group Flow (vph)	115	569	0	816	874	150	667	632	201	195	1620	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Effective Green, g (s)	7.0	7.0		32.0	32.0	32.0	15.0	43.7	43.7	15.3	44.0	
Actuated g/C Ratio	0.06	0.06		0.27	0.27	0.27	0.12	0.36	0.36	0.13	0.37	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	103	191		915	497	422	219	1276	571	223	1817	
v/s Ratio Prot	0.06	c0.17		0.24	c0.47		c0.38	0.18		0.11	c0.33	
v/s Ratio Perm						0.09			0.13			
v/c Ratio	1.12	2.98		0.89	1.76	0.36	3.05	0.50	0.35	0.87	0.89	
Uniform Delay, d1	56.5	56.5		42.3	44.0	35.6	52.5	29.6	27.8	51.4	35.8	
Progression Factor	0.81	0.67		0.85	0.86	0.70	1.00	1.00	1.00	1.05	0.89	
Incremental Delay, d2	120.8	902.8		3.2	343.6	0.0	932.6	1.4	1.7	21.8	5.2	
Delay (s)	166.4	940.9		39.1	381.3	25.2	985.1	31.0	29.5	75.7	37.1	
Level of Service	F	F		D	F	C	F	C	C	E	D	
Approach Delay (s)		834.8			192.2			374.4			41.2	
Approach LOS		F			F			F			D	

Intersection Summary			
HCM Average Control Delay	285.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	310	320	710	760	210	580	550	480	170	1270	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		3085			2934			862			2992	
Travel Time (s)		70.1			57.2			16.8			58.3	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	724	0	816	874	241	667	632	552	195	1632	0
v/c Ratio	1.12	2.09		0.89	1.76	0.47	3.05	0.49	0.60	0.87	0.89	
Control Delay	164.7	520.3		40.4	370.5	13.3	951.5	31.4	5.3	80.5	37.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	164.7	520.3		40.4	370.5	13.3	951.5	31.4	5.3	80.5	37.1	
Queue Length 50th (ft)	~102	~400		332	~1028	72	~899	200	0	152	291	
Queue Length 95th (ft)	#214	#500		m279	m#813	m60	#1086	246	60	m#243	369	
Internal Link Dist (ft)		3005			2854			782			2912	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	103	346		915	497	513	219	1277	922	234	1829	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.12	2.09		0.89	1.76	0.47	3.05	0.49	0.60	0.83	0.89	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

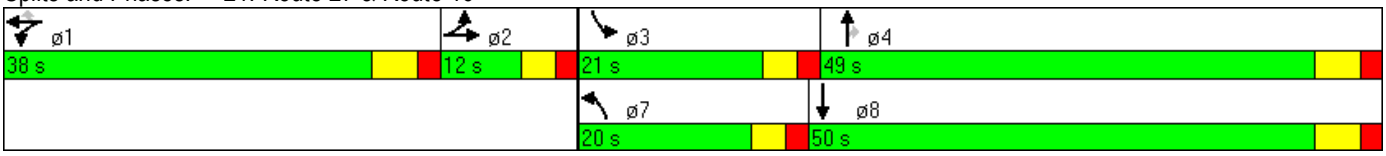
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	100	310	710	760	210	580	550	480	170	1270
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	10.0	10.0	32.0	32.0	32.0	12.0	46.0	46.0	20.0	33.0
Total Split (s)	12.0	12.0	38.0	38.0	38.0	20.0	49.0	49.0	21.0	50.0
Total Split (%)	10.0%	10.0%	31.7%	31.7%	31.7%	16.7%	40.8%	40.8%	17.5%	41.7%
Maximum Green (s)	7.0	7.0	32.0	32.0	32.0	15.0	43.0	43.0	16.0	44.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 109 (91%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: Route 27 & Route 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	5	122	50	10	20	442	371	10	10	489	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.90		1.00	1.00		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1609		1770	1676		1752	3491		1752	3349	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1787	1609		1770	1676		1752	3491		1752	3349	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	5	133	54	11	22	480	403	11	11	532	224
RTOR Reduction (vph)	0	113	0	0	21	0	0	2	0	0	48	0
Lane Group Flow (vph)	229	25	0	54	12	0	480	412	0	11	708	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.1	11.6		3.8	3.3		24.8	46.7		0.7	22.6	
Effective Green, g (s)	12.1	11.6		3.8	3.3		24.8	46.7		0.7	22.6	
Actuated g/C Ratio	0.15	0.15		0.05	0.04		0.31	0.59		0.01	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	274	237		85	70		551	2069		16	961	
v/s Ratio Prot	c0.13	c0.02		0.03	0.01		c0.27	0.12		0.01	c0.21	
v/s Ratio Perm												
v/c Ratio	0.84	0.10		0.64	0.17		0.87	0.20		0.69	0.74	
Uniform Delay, d1	32.4	29.1		36.8	36.4		25.5	7.4		38.9	25.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.5	0.1		10.9	0.4		13.7	0.0		67.5	2.6	
Delay (s)	50.9	29.2		47.7	36.9		39.2	7.4		106.5	28.0	
Level of Service	D	C		D	D		D	A		F	C	
Approach Delay (s)		42.7			43.6			24.5			29.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	5	122	50	10	20	442	371	10	10	489	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		688			794			1225			763	
Travel Time (s)		13.4			15.5			23.9			14.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	138	0	54	33	0	480	414	0	11	756	0
v/c Ratio	0.78	0.38		0.37	0.23		0.82	0.19		0.11	0.82	
Control Delay	52.6	10.2		41.7	23.6		37.9	7.1		39.4	32.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.6	10.2		41.7	23.6		37.9	7.1		39.4	32.6	
Queue Length 50th (ft)	111	2		26	5		221	38		5	167	
Queue Length 95th (ft)	#240	50		62	31		#406	82		21	#264	
Internal Link Dist (ft)		608			714			1145			683	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	293	556		170	384		599	2210		96	1010	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.78	0.25		0.32	0.09		0.80	0.19		0.11	0.75	

Intersection Summary

Area Type: Other

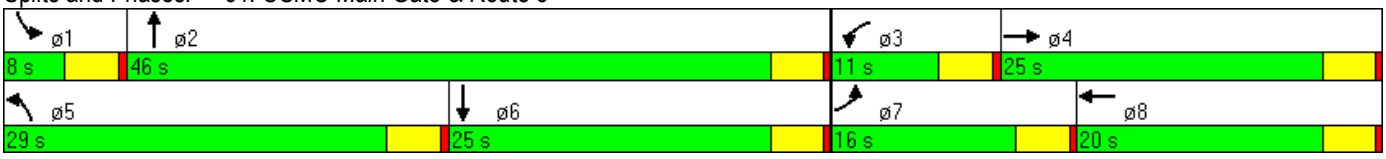
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	211	5	50	10	442	371	10	489
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	16.0	25.0	11.0	20.0	29.0	46.0	8.0	25.0
Total Split (%)	17.8%	27.8%	12.2%	22.2%	32.2%	51.1%	8.9%	27.8%
Maximum Green (s)	12.0	21.0	7.0	16.0	25.0	42.0	4.0	21.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 74
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	29	38	206	824	932	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1805	1615	1770	3539	3498	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1805	1615	1770	3539	3498	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	41	224	896	1013	86
RTOR Reduction (vph)	0	38	0	0	8	0
Lane Group Flow (vph)	32	3	224	896	1091	0
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	3.3	3.3	9.6	35.9	22.3	
Effective Green, g (s)	3.3	3.3	9.6	35.9	22.3	
Actuated g/C Ratio	0.07	0.07	0.20	0.76	0.47	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	126	113	360	2692	1653	
v/s Ratio Prot	c0.02		c0.13	0.25	c0.31	
v/s Ratio Perm		0.00				
v/c Ratio	0.25	0.03	0.62	0.33	0.66	
Uniform Delay, d1	20.8	20.5	17.1	1.8	9.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.0	2.4	0.0	0.7	
Delay (s)	21.2	20.5	19.5	1.8	10.3	
Level of Service	C	C	B	A	B	
Approach Delay (s)	20.8			5.4	10.3	
Approach LOS	C			A	B	

Intersection Summary			
HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	47.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	29	38	206	824	932	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	933			2553	704	
Travel Time (s)	18.2			49.7	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	2%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	41	224	896	1099	0
v/c Ratio	0.15	0.18	0.60	0.30	0.64	
Control Delay	21.3	10.2	24.6	2.3	12.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.3	10.2	24.6	2.3	12.3	
Queue Length 50th (ft)	9	0	58	32	127	
Queue Length 95th (ft)	28	21	#119	57	201	
Internal Link Dist (ft)	853			2473	624	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	647	605	436	2947	1750	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.07	0.51	0.30	0.63	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	29	38	206	824	932
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	15.0	40.0	25.0
Total Split (%)	33.3%	33.3%	25.0%	66.7%	41.7%
Maximum Green (s)	16.0	16.0	11.0	36.0	21.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 45.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	180	350	430	5	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	196	380	467	5	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	473				1242	470
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	473				1242	470
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				97	99
cM capacity (veh/h)	1084				158	593

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	196	380	473	11
Volume Left	196	0	0	5
Volume Right	0	0	5	5
cSH	1084	1700	1700	316
Volume to Capacity	0.18	0.22	0.28	0.03
Queue Length 95th (ft)	16	0	0	3
Control Delay (s)	9.1	0.0	0.0	19.9
Lane LOS	A			C
Approach Delay (s)	3.1		0.0	19.9
Approach LOS				C

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	33	537	611	10	10	50
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	37	597	679	11	11	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	690				1354	684
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	690				1354	684
tC, single (s)	4.2				6.6	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.7	3.5
p0 queue free %	96				92	87
cM capacity (veh/h)	886				143	416

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	37	597	690	67
Volume Left	37	0	0	11
Volume Right	0	0	11	56
cSH	886	1700	1700	316
Volume to Capacity	0.04	0.35	0.41	0.21
Queue Length 95th (ft)	3	0	0	20
Control Delay (s)	9.2	0.0	0.0	19.4
Lane LOS	A			C
Approach Delay (s)	0.5		0.0	19.4
Approach LOS				C

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	377	130	50	491	80	20
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	419	144	56	546	89	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			563		1148	491
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			563		1148	491
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		57	96
cM capacity (veh/h)			1013		208	577

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	563	601	111
Volume Left	0	56	89
Volume Right	144	0	22
cSH	1700	1013	238
Volume to Capacity	0.33	0.05	0.47
Queue Length 95th (ft)	0	4	57
Control Delay (s)	0.0	1.5	32.7
Lane LOS		A	D
Approach Delay (s)	0.0	1.5	32.7
Approach LOS			D

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	397	511	49	63	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	11	441	568	54	70	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	622				1058	595
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	622				1058	595
tC, single (s)	4.1				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.4
p0 queue free %	99				71	98
cM capacity (veh/h)	964				242	497

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	452	622	81
Volume Left	11	0	70
Volume Right	0	54	11
cSH	964	1700	260
Volume to Capacity	0.01	0.37	0.31
Queue Length 95th (ft)	1	0	32
Control Delay (s)	0.3	0.0	25.0
Lane LOS	A		D
Approach Delay (s)	0.3	0.0	25.0
Approach LOS			D

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	60	690	810	20	5	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	68	784	920	23	6	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						4
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (ft)		653				
pX, platoon unblocked						
vC, conflicting volume	943				1460	932
vC1, stage 1 conf vol					932	
vC2, stage 2 conf vol					528	
vCu, unblocked vol	943				1460	932
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	90				98	96
cM capacity (veh/h)	711				294	268

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	68	392	392	943	17
Volume Left	68	0	0	0	6
Volume Right	0	0	0	23	11
cSH	711	1700	1700	1700	402
Volume to Capacity	0.10	0.23	0.23	0.55	0.04
Queue Length 95th (ft)	8	0	0	0	3
Control Delay (s)	10.6	0.0	0.0	0.0	18.5
Lane LOS	B				C
Approach Delay (s)	0.8			0.0	18.5
Approach LOS					C

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	330	110	790	560	150	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		6.0	6.0	5.5	6.0
Lane Util. Factor	0.97		1.00	1.00	1.00	0.95
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.96		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3320		1845	1568	1770	3539
Flt Permitted	0.96		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3320		1845	1568	1770	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	359	120	859	609	163	967
RTOR Reduction (vph)	29	0	0	224	0	0
Lane Group Flow (vph)	450	0	859	385	163	967
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Turn Type				Perm	Prot	
Protected Phases	4		2		1	6
Permitted Phases				2		
Actuated Green, G (s)	20.1		66.7	66.7	14.3	86.5
Effective Green, g (s)	20.1		66.7	66.7	14.3	86.5
Actuated g/C Ratio	0.17		0.56	0.56	0.12	0.73
Clearance Time (s)	5.5		6.0	6.0	5.5	6.0
Vehicle Extension (s)	3.5		4.0	4.0	3.5	4.0
Lane Grp Cap (vph)	565		1042	886	214	2592
v/s Ratio Prot	c0.14		c0.47		c0.09	0.27
v/s Ratio Perm				0.25		
v/c Ratio	0.80		0.82	0.43	0.76	0.37
Uniform Delay, d1	47.0		20.9	14.8	50.3	5.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	7.9		7.4	1.6	15.2	0.4
Delay (s)	54.9		28.3	16.4	65.4	6.2
Level of Service	D		C	B	E	A
Approach Delay (s)	54.9		23.4			14.8
Approach LOS	D		C			B

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	118.1	Sum of lost time (s)	17.0
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	330	110	790	560	150	890
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400	0		0	180	
Storage Lanes	2	0		1	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	1950		1245			3058
Travel Time (s)	38.0		24.3			59.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	479	0	859	609	163	967
v/c Ratio	0.81		0.82	0.55	0.76	0.37
Control Delay	55.1		30.1	4.7	72.7	6.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	55.1		30.1	4.7	72.7	6.5
Queue Length 50th (ft)	170		539	34	122	132
Queue Length 95th (ft)	230		#761	109	#219	165
Internal Link Dist (ft)	1870		1165			2978
Turn Bay Length (ft)	400				180	
Base Capacity (vph)	647		1042	1110	232	2593
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.74		0.82	0.55	0.70	0.37

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Configurations					
Volume (vph)	330	790	560	150	890
Turn Type			Perm	Prot	
Protected Phases	4	2		1	6
Permitted Phases			2		
Detector Phase	4	2	2	1	6
Switch Phase					
Minimum Initial (s)	8.0	10.0	10.0	10.0	10.0
Minimum Split (s)	27.5	28.0	28.0	15.5	22.0
Total Split (s)	27.5	71.5	71.5	21.0	92.5
Total Split (%)	22.9%	59.6%	59.6%	17.5%	77.1%
Maximum Green (s)	22.0	65.5	65.5	15.5	86.5
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.0	6.0	5.5	6.0
Lead/Lag		Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Vehicle Extension (s)	3.5	4.0	4.0	3.5	4.0
Minimum Gap (s)	3.5	4.0	4.0	3.5	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0		
Flash Dont Walk (s)	15.0	15.0	15.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 118.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Route 28 & Route 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	80	10	80	1340	920	340
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	83	10	83	1396	958	354
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2000	656	1312			
vC1, stage 1 conf vol	1135					
vC2, stage 2 conf vol	865					
vCu, unblocked vol	2000	656	1312			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	59	97	84			
cM capacity (veh/h)	202	408	523			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	94	83	698	698	639	674
Volume Left	83	83	0	0	0	0
Volume Right	10	0	0	0	0	354
cSH	214	523	1700	1700	1700	1700
Volume to Capacity	0.44	0.16	0.41	0.41	0.38	0.40
Queue Length 95th (ft)	52	14	0	0	0	0
Control Delay (s)	34.4	13.2	0.0	0.0	0.0	0.0
Lane LOS	D	B				
Approach Delay (s)	34.4	0.7			0.0	
Approach LOS	D					

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	660	160	270	230	100	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583	1727	1468	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583	1727	1468	1770	1863
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	776	188	318	271	118	318
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	776	188	318	271	118	318
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Actuated Green, G (s)	18.8	60.3	17.2	60.3	7.3	30.0
Effective Green, g (s)	18.8	60.3	17.2	60.3	7.3	30.0
Actuated g/C Ratio	0.31	1.00	0.29	1.00	0.12	0.50
Clearance Time (s)	5.5		6.0		5.5	6.0
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	1070	1583	493	1468	214	927
v/s Ratio Prot	c0.23		c0.18		c0.07	0.17
v/s Ratio Perm		0.12		0.18		
v/c Ratio	0.73	0.12	0.65	0.18	0.55	0.34
Uniform Delay, d1	18.5	0.0	18.9	0.0	25.0	9.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.2	2.2	0.3	1.7	0.1
Delay (s)	20.5	0.2	21.0	0.3	26.7	9.3
Level of Service	C	A	C	A	C	A
Approach Delay (s)	16.6		11.5			14.0
Approach LOS	B		B			B

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	17.0
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	660	160	270	230	100	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25	25		25	250	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	913		922			661
Travel Time (s)	17.8		18.0			12.9
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	2%	2%	10%	10%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	776	188	318	271	118	318
v/c Ratio	0.72	0.12	0.65	0.18	0.39	0.36
Control Delay	24.4	0.2	28.5	0.3	32.3	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	0.2	28.5	0.3	32.3	11.4
Queue Length 50th (ft)	128	0	104	0	40	65
Queue Length 95th (ft)	228	0	214	0	104	135
Internal Link Dist (ft)	833		842			581
Turn Bay Length (ft)					250	
Base Capacity (vph)	2048	1583	871	1468	446	1418
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.12	0.37	0.18	0.26	0.22

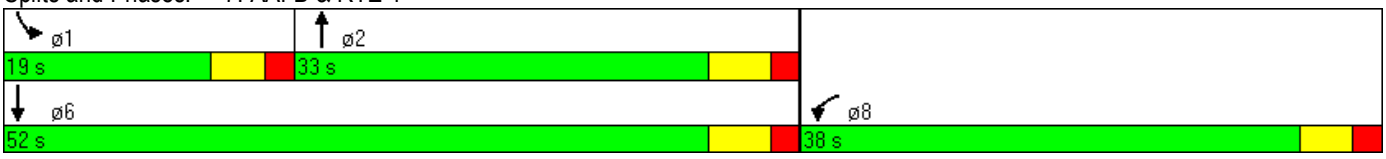
Intersection Summary

Area Type: Other

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	660	160	270	230	100	270
Turn Type		Free		Free	Prot	
Protected Phases	8		2		1	6
Permitted Phases		Free		Free		
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		10.0		8.0	10.0
Minimum Split (s)	21.5		22.0		13.5	22.0
Total Split (s)	38.0	0.0	33.0	0.0	19.0	52.0
Total Split (%)	42.2%	0.0%	36.7%	0.0%	21.1%	57.8%
Maximum Green (s)	32.5		27.0		13.5	46.0
Yellow Time (s)	3.5		4.0		3.5	4.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	4.0	6.0	4.0	5.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0		2.0		2.0	2.0
Minimum Gap (s)	2.0		2.0		2.0	2.0
Time Before Reduce (s)	0.0		0.0		0.0	0.0
Time To Reduce (s)	0.0		0.0		0.0	0.0
Recall Mode	None		None		None	None
Walk Time (s)						
Flash Dont Walk (s)						
Pedestrian Calls (#/hr)						

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 60.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 7: AAFB & RTE 1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	60	1110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.93		1.00	0.93		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1723		1681	1610		1703	3277		1752	3500	
Flt Permitted		0.99		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1723		1681	1610		1703	3277		1752	3500	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	11	22	33	341	11	99	11	1077	363	66	1220	11
RTOR Reduction (vph)	0	29	0	0	24	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	37	0	232	195	0	11	1418	0	66	1231	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Effective Green, g (s)		6.1		21.4	21.4		2.6	73.9		7.6	78.9	
Actuated g/C Ratio		0.05		0.16	0.16		0.02	0.57		0.06	0.61	
Clearance Time (s)		5.0		5.0	5.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)		2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		81		277	265		34	1863		102	2124	
v/s Ratio Prot		c0.02		c0.14	0.12		0.01	c0.43		c0.04	c0.35	
v/s Ratio Perm												
v/c Ratio		0.46		0.84	0.73		0.32	0.76		0.65	0.58	
Uniform Delay, d1		60.4		52.6	51.6		62.8	21.3		59.9	15.5	
Progression Factor		1.00		1.00	1.00		1.14	0.55		1.00	1.00	
Incremental Delay, d2		1.5		18.5	8.8		1.6	2.3		10.1	1.2	
Delay (s)		61.9		71.2	60.4		73.1	14.1		70.0	16.7	
Level of Service		E		E	E		E	B		E	B	
Approach Delay (s)		61.9			65.9			14.6			19.4	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	27.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	310	10	90	10	980	330	60	1110	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	200		0	150		0	220		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		447			2530			1092			1074	
Travel Time (s)		8.7			49.3			21.3			20.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	3%	3%	3%
Shared Lane Traffic (%)				32%								
Lane Group Flow (vph)	0	66	0	232	219	0	11	1440	0	66	1231	0
v/c Ratio		0.54		0.84	0.76		0.15	0.74		0.57	0.55	
Control Delay		51.6		77.4	61.2		71.2	14.8		77.1	16.9	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6		77.4	61.2		71.2	14.8		77.1	16.9	
Queue Length 50th (ft)		30		200	162		9	153		55	273	
Queue Length 95th (ft)		78		292	249		m16	205		104	474	
Internal Link Dist (ft)		367			2450			1012			994	
Turn Bay Length (ft)				200			150			220		
Base Capacity (vph)		147		336	345		92	1935		137	2234	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.45		0.69	0.63		0.12	0.74		0.48	0.55	

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations							
Volume (vph)	20	310	10	10	980	60	1110
Turn Type		Split		Prot		Prot	
Protected Phases	4	3	3	5	2	1	6
Permitted Phases							
Detector Phase	4	3	3	5	2	1	6
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	14.0	24.0	24.0	12.0	32.0	12.0	21.0
Total Split (s)	14.0	31.0	31.0	12.0	70.0	15.0	73.0
Total Split (%)	10.8%	23.8%	23.8%	9.2%	53.8%	11.5%	56.2%
Maximum Green (s)	9.0	26.0	26.0	7.0	64.0	10.0	67.0
Yellow Time (s)	3.0	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?							
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	C-Max	None	C-Max
Walk Time (s)		5.0	5.0		5.0		
Flash Dont Walk (s)		13.0	13.0		21.0		
Pedestrian Calls (#/hr)		0	0		0		

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 24 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 8: Route 29 & Route 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	140	50	40	20	20	10	50	150	30	10	270	140
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	147	53	42	21	21	11	53	158	32	11	284	147
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	679	674	358	726	732	174	432			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	679	674	358	726	732	174	432			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	85	94	92	94	99	95			99		
cM capacity (veh/h)	329	356	686	271	330	870	1123			1378		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	53	242	442
Volume Left	147	21	53	11
Volume Right	42	11	32	147
cSH	369	343	1123	1378
Volume to Capacity	0.66	0.15	0.05	0.01
Queue Length 95th (ft)	112	13	4	1
Control Delay (s)	31.6	17.4	2.2	0.3
Lane LOS	D	C	A	A
Approach Delay (s)	31.6	17.4	2.2	0.3
Approach LOS	D	C		

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	170	1190	180	140	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1736	1553	3370		1752	3505
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1736	1553	3370		1752	3505
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	177	1240	188	146	1240
RTOR Reduction (vph)	0	138	8	0	0	0
Lane Group Flow (vph)	188	39	1420	0	146	1240
Heavy Vehicles (%)	4%	4%	5%	5%	3%	3%
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	18.3	18.3	81.2		14.5	100.7
Effective Green, g (s)	18.3	18.3	81.2		14.5	100.7
Actuated g/C Ratio	0.14	0.14	0.62		0.11	0.77
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	244	219	2105		195	2715
v/s Ratio Prot	c0.11		c0.42		c0.08	0.35
v/s Ratio Perm		0.02				
v/c Ratio	0.77	0.18	0.67		0.75	0.46
Uniform Delay, d1	53.8	49.2	15.8		56.0	5.1
Progression Factor	1.00	1.00	0.30		1.19	0.68
Incremental Delay, d2	12.8	0.1	1.4		10.8	0.5
Delay (s)	66.6	49.4	6.1		77.4	3.9
Level of Service	E	D	A		E	A
Approach Delay (s)	58.2		6.1			11.7
Approach LOS	E		A			B

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	180	170	1190	180	140	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	429		1608			393
Travel Time (s)	8.4		31.3			7.7
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	5%	5%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	188	177	1428	0	146	1240
v/c Ratio	0.77	0.50	0.68		0.75	0.46
Control Delay	73.3	14.0	6.5		85.3	4.3
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.3	14.0	6.5		85.3	4.3
Queue Length 50th (ft)	155	12	54		103	73
Queue Length 95th (ft)	226	77	m276		m187	105
Internal Link Dist (ft)	349		1528			313
Turn Bay Length (ft)		100			150	
Base Capacity (vph)	334	429	2111		243	2714
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.56	0.41	0.68		0.60	0.46

Intersection Summary

Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	180	170	1190	140	1190
Turn Type		Perm		Prot	
Protected Phases	4		2	1	6
Permitted Phases		4			
Detector Phase	4	4	2	1	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	3.0	15.0
Minimum Split (s)	30.0	30.0	27.0	9.5	22.0
Total Split (s)	30.0	30.0	77.0	23.0	100.0
Total Split (%)	23.1%	23.1%	59.2%	17.7%	76.9%
Maximum Green (s)	25.0	25.0	71.0	18.0	94.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	None	C-Min
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	25.0	25.0	16.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 106 (82%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 10: Chalan Lajuna & Route 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	140	130	210	270	270	100
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	141	228	293	293	109
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1098	348	402			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1098	348	402			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	19	80	80			
cM capacity (veh/h)	188	693	1146			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	293	522	402
Volume Left	152	228	0
Volume Right	141	0	109
cSH	289	1146	1700
Volume to Capacity	1.01	0.20	0.24
Queue Length 95th (ft)	269	19	0
Control Delay (s)	96.1	5.1	0.0
Lane LOS	F	A	
Approach Delay (s)	96.1	5.1	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	25.4		
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1290	1230	0	850	170	160	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0		6.0	6.0
Lane Util. Factor	1.00	0.91		0.91		1.00	0.88
Frt	1.00	1.00		0.97		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1736	4988		4910		1770	2787
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1736	4988		4910		1770	2787
Peak-hour factor, PHF	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1358	1295	0	895	179	168	874
RTOR Reduction (vph)	0	0	0	22	0	0	754
Lane Group Flow (vph)	1358	1295	0	1052	0	168	120
Heavy Vehicles (%)	4%	4%	0%	3%	3%	2%	2%
Turn Type	Prot		Prot				Perm
Protected Phases	5	2	1	6		8	
Permitted Phases							8
Actuated Green, G (s)	64.0	100.2		31.2		17.8	17.8
Effective Green, g (s)	64.0	100.2		31.2		17.8	17.8
Actuated g/C Ratio	0.49	0.77		0.24		0.14	0.14
Clearance Time (s)	5.0	6.0		6.0		6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0		2.0	2.0
Lane Grp Cap (vph)	855	3845		1178		242	382
v/s Ratio Prot	c0.78	0.26		c0.21		c0.09	
v/s Ratio Perm							0.04
v/c Ratio	1.59	0.34		0.89		0.69	0.31
Uniform Delay, d1	33.0	4.6		47.8		53.5	50.6
Progression Factor	0.49	0.78		0.48		1.00	1.00
Incremental Delay, d2	265.2	0.0		9.7		6.8	0.2
Delay (s)	281.4	3.6		32.4		60.3	50.8
Level of Service	F	A		C		E	D
Approach Delay (s)		145.8		32.4		52.3	
Approach LOS		F		C		D	

Intersection Summary			
HCM Average Control Delay	99.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	114.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	1290	1230	0	850	170	160	830
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	1000		270		0	180	0
Storage Lanes	1		1		0	1	2
Taper Length (ft)	25		25		25	25	25
Right Turn on Red					Yes		Yes
Link Speed (mph)		35		35		35	
Link Distance (ft)		1827		694		2115	
Travel Time (s)		35.6		13.5		41.2	
Peak Hour Factor	0.95	0.95	0.98	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	1358	1295	0	1074	0	168	874
v/c Ratio	1.59	0.34		0.89		0.69	0.77
Control Delay	285.7	3.9		34.1		68.1	8.2
Queue Delay	0.0	0.0		0.0		0.0	0.0
Total Delay	285.7	3.9		34.1		68.1	8.2
Queue Length 50th (ft)	~1674	83		94		136	0
Queue Length 95th (ft)	m#1508	m109		#420		206	60
Internal Link Dist (ft)		1747		614		2035	
Turn Bay Length (ft)	1000					180	
Base Capacity (vph)	855	3846		1202		313	1212
Starvation Cap Reductn	0	0		0		0	0
Spillback Cap Reductn	0	0		0		0	0
Storage Cap Reductn	0	0		0		0	0
Reduced v/c Ratio	1.59	0.34		0.89		0.54	0.72

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

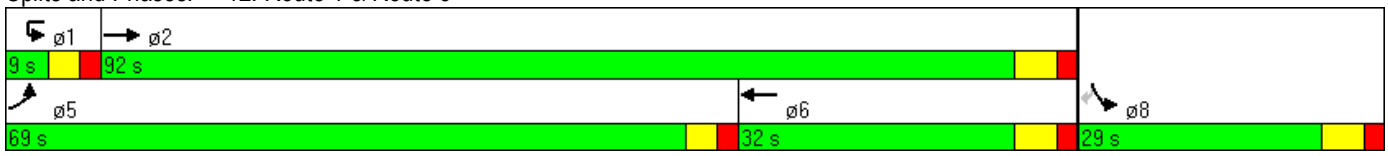
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR	ø1
Lane Configurations						
Volume (vph)	1290	1230	850	160	830	
Turn Type	Prot				Perm	
Protected Phases	5	2	6	8		1
Permitted Phases					8	
Detector Phase	5	2	6	8	8	
Switch Phase						
Minimum Initial (s)	3.0	15.0	15.0	5.0	5.0	3.0
Minimum Split (s)	12.0	21.5	32.0	29.0	29.0	9.0
Total Split (s)	69.0	92.0	32.0	29.0	29.0	9.0
Total Split (%)	53.1%	70.8%	24.6%	22.3%	22.3%	7%
Maximum Green (s)	64.0	86.0	26.0	23.0	23.0	4.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lead	Lag	Lag			Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	C-Min	None	None	None
Walk Time (s)			5.0	5.0	5.0	
Flash Dont Walk (s)			21.0	16.0	16.0	
Pedestrian Calls (#/hr)			0	0	0	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 12: Route 1 & Route 3



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1850	680	320	1440	560	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4815		1752	5036	3367	1530
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4815		1752	5036	3367	1530
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1927	708	333	1500	583	615
RTOR Reduction (vph)	0	54	0	0	0	0	219
Lane Group Flow (vph)	10	2581	0	333	1500	583	396
Confl. Peds. (#/hr)			1				2
Heavy Vehicles (%)	0%	3%	3%	3%	3%	4%	4%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	1.0	62.0		25.0	86.0	26.0	26.0
Effective Green, g (s)	1.0	62.0		25.0	86.0	26.0	26.0
Actuated g/C Ratio	0.01	0.48		0.19	0.66	0.20	0.20
Clearance Time (s)	5.0	6.0		5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	14	2296		337	3332	673	306
v/s Ratio Prot	0.01	c0.54		c0.19	0.30	0.17	
v/s Ratio Perm							c0.26
v/c Ratio	0.71	1.12		0.99	0.45	0.87	1.29
Uniform Delay, d1	64.4	34.0		52.4	10.6	50.3	52.0
Progression Factor	0.90	1.00		0.63	0.54	0.54	0.51
Incremental Delay, d2	56.2	59.5		34.5	0.3	5.2	142.5
Delay (s)	113.9	93.4		67.3	6.0	32.6	168.9
Level of Service	F	F		E	A	C	F
Approach Delay (s)		93.5			17.1	102.5	
Approach LOS		F			B	F	

Intersection Summary			
HCM Average Control Delay	70.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	10	1850	680	320	1440	560	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	430		0	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		3503			1228	735	
Travel Time (s)		68.2			23.9	14.3	
Confl. Peds. (#/hr)			1				2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	3%	3%	3%	3%	4%	4%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	10	2635	0	333	1500	583	615
v/c Ratio	0.14	1.06		1.18	0.43	0.87	1.17
Control Delay	56.9	61.5		132.9	5.2	35.0	103.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	56.9	61.5		132.9	5.2	35.0	103.6
Queue Length 50th (ft)	8	~870		~340	75	204	~412
Queue Length 95th (ft)	m11	m#906		m#459	146	m223	m#467
Internal Link Dist (ft)		3423			1148	655	
Turn Bay Length (ft)	300			430			
Base Capacity (vph)	69	2496		283	3487	673	525
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.14	1.06		1.18	0.43	0.87	1.17

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

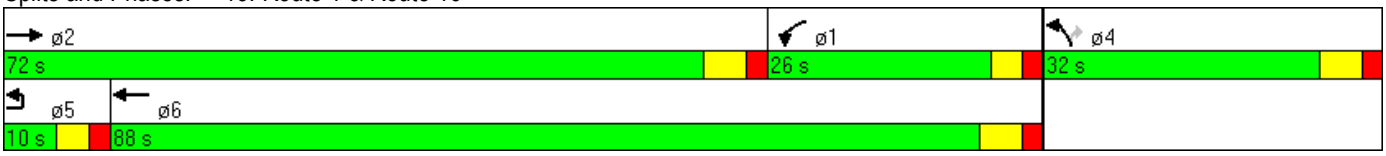
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	10	1850	320	1440	560	590
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	10.0	35.0	12.0	25.0	31.0	31.0
Total Split (s)	10.0	72.0	26.0	88.0	32.0	32.0
Total Split (%)	7.7%	55.4%	20.0%	67.7%	24.6%	24.6%
Maximum Green (s)	5.0	66.0	21.0	82.0	26.0	26.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 13: Route 1 & Route 16



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	830	190	260	2020	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	0.95	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	1583	1752	5036	1805	4768	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	1583	1752	5036	1805	4768	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	922	211	289	2244	33	1478	811
RTOR Reduction (vph)	0	110	0	0	0	76	0
Lane Group Flow (vph)	922	101	289	2244	33	2213	0
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Turn Type		Perm	Prot		Prot		
Protected Phases	8		5	2	1	6	
Permitted Phases		8					
Actuated Green, G (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Effective Green, g (s)	33.0	33.0	21.0	78.0	3.0	60.0	
Actuated g/C Ratio	0.25	0.25	0.16	0.60	0.02	0.46	
Clearance Time (s)	5.0	5.0	5.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	871	402	283	3022	42	2201	
v/s Ratio Prot	c0.27		c0.16	0.45	0.02	c0.46	
v/s Ratio Perm		0.06					
v/c Ratio	1.06	0.25	1.02	0.74	0.79	1.01	
Uniform Delay, d1	48.5	38.6	54.5	18.8	63.2	35.0	
Progression Factor	1.00	1.00	1.06	1.00	1.18	0.85	
Incremental Delay, d2	47.2	0.1	31.6	0.4	53.5	19.3	
Delay (s)	95.7	38.8	89.5	19.1	128.1	49.1	
Level of Service	F	D	F	B	F	D	
Approach Delay (s)	85.1			27.1		50.2	
Approach LOS	F			C		D	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Volume (vph)	830	190	260	2020	30	1330	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	200	430		250		0
Storage Lanes	2	1	1		1		0
Taper Length (ft)	25	25	25		25		25
Right Turn on Red		Yes					Yes
Link Speed (mph)	25			35		35	
Link Distance (ft)	856			1332		3503	
Travel Time (s)	23.3			25.9		68.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	0%	3%	3%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	922	211	289	2244	33	2289	0
v/c Ratio	1.06	0.41	1.02	0.72	0.49	1.01	
Control Delay	93.5	15.5	87.8	18.6	93.3	47.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	93.5	15.5	87.8	18.6	93.3	47.3	
Queue Length 50th (ft)	~438	42	~265	367	26	~718	
Queue Length 95th (ft)	#569	114	m#270	m371	m56	#782	
Internal Link Dist (ft)	776			1252		3423	
Turn Bay Length (ft)		200	430		250		
Base Capacity (vph)	871	512	283	3099	69	2277	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	1.06	0.41	1.02	0.72	0.48	1.01	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBR	NBL	NBT	SBU	SBT
Lane Configurations						
Volume (vph)	830	190	260	2020	30	1330
Turn Type		Perm	Prot		Prot	
Protected Phases	8		5	2	1	6
Permitted Phases		8				
Detector Phase	8	8	5	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	3.0	15.0	3.0	15.0
Minimum Split (s)	32.0	32.0	12.0	21.5	9.0	33.0
Total Split (s)	38.0	38.0	26.0	82.0	10.0	66.0
Total Split (%)	29.2%	29.2%	20.0%	63.1%	7.7%	50.8%
Maximum Green (s)	33.0	33.0	21.0	76.0	5.0	60.0
Yellow Time (s)	3.0	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	Lead	Lag
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	C-Min	None	C-Min
Walk Time (s)	5.0	5.0				5.0
Flash Dont Walk (s)	20.0	20.0				20.0
Pedestrian Calls (#/hr)	0	0				0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 23 (18%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 14: Route 14(San Vitores) & Route 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1150	660	290	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	6.0		5.0	6.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	4715		1752	5036
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	4715		1752	5036
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	409	194	1237	710	312	946
RTOR Reduction (vph)	0	143	79	0	0	0
Lane Group Flow (vph)	409	51	1868	0	312	946
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		Prot			Prot	
Protected Phases	6	6	4		3	8
Permitted Phases						
Actuated Green, G (s)	34.0	34.0	53.0		27.0	85.0
Effective Green, g (s)	34.0	34.0	53.0		27.0	85.0
Actuated g/C Ratio	0.26	0.26	0.41		0.21	0.65
Clearance Time (s)	5.0	5.0	6.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	463	414	1922		364	3293
v/s Ratio Prot	c0.23	0.03	c0.40		c0.18	0.19
v/s Ratio Perm						
v/c Ratio	0.88	0.12	0.97		0.86	0.29
Uniform Delay, d1	46.1	36.6	37.8		49.6	9.6
Progression Factor	0.61	0.27	0.35		0.76	0.28
Incremental Delay, d2	17.7	0.5	5.3		7.8	0.1
Delay (s)	45.9	10.5	18.6		45.3	2.8
Level of Service	D	B	B		D	A
Approach Delay (s)	34.5		18.6			13.4
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	380	180	1150	660	290	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0		0	530	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25	25		25	25	
Right Turn on Red		Yes		Yes		
Link Speed (mph)	35		35			35
Link Distance (ft)	2026		2979			771
Travel Time (s)	39.5		58.0			15.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	409	194	1947	0	312	946
v/c Ratio	0.88	0.35	0.97		0.86	0.29
Control Delay	47.2	2.8	19.0		48.9	2.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	47.2	2.8	19.0		48.9	2.8
Queue Length 50th (ft)	327	16	178		256	47
Queue Length 95th (ft)	m#478	m3	m166		m251	m45
Internal Link Dist (ft)	1946		2899			691
Turn Bay Length (ft)	150				530	
Base Capacity (vph)	463	557	2001		364	3293
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.88	0.35	0.97		0.86	0.29

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Volume (vph)	380	180	1150	290	880
Turn Type		Prot		Prot	
Protected Phases	6	6	4	3	8
Permitted Phases					
Detector Phase	6	6	4	3	8
Switch Phase					
Minimum Initial (s)	5.0	5.0	15.0	5.0	15.0
Minimum Split (s)	33.0	33.0	33.0	13.5	33.0
Total Split (s)	39.0	39.0	59.0	32.0	91.0
Total Split (%)	30.0%	30.0%	45.4%	24.6%	70.0%
Maximum Green (s)	34.0	34.0	53.0	27.0	85.0
Yellow Time (s)	3.0	3.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	6.0
Lead/Lag			Lead	Lag	
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max	None	Max
Walk Time (s)	5.0	5.0	5.0		
Flash Dont Walk (s)	16.0	16.0	10.0		
Pedestrian Calls (#/hr)	0	0	0		

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 35 (27%), Referenced to phase 4:NBT, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 15: Route 27A/Fatima Rd & Route 16

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	930	90	180	690	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1752	4969		1752	5025		1770	1727		1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1752	4969		1752	5025		1770	1727		1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	316	979	95	189	726	11	105	211	200	21	179	158
RTOR Reduction (vph)	0	8	0	0	1	0	0	28	0	0	0	140
Lane Group Flow (vph)	316	1066	0	189	736	0	105	383	0	21	179	18
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Effective Green, g (s)	25.9	46.2		16.1	36.4		32.3	32.3		14.4	14.4	14.4
Actuated g/C Ratio	0.20	0.36		0.12	0.28		0.25	0.25		0.11	0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0		5.0	5.0		5.0	5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	349	1766		217	1407		440	429		196	206	175
v/s Ratio Prot	c0.18	c0.21		0.11	0.15		0.06	c0.22		0.01	c0.10	
v/s Ratio Perm												0.01
v/c Ratio	0.91	0.60		0.87	0.52		0.24	0.89		0.11	0.87	0.10
Uniform Delay, d1	50.9	34.4		55.9	39.5		39.0	47.2		52.0	56.9	52.0
Progression Factor	1.36	0.67		1.03	0.69		1.17	1.14		1.00	1.00	1.00
Incremental Delay, d2	24.4	1.5		27.4	1.3		0.0	8.3		0.1	29.0	0.1
Delay (s)	93.7	24.5		85.3	28.7		45.8	62.2		52.1	85.9	52.1
Level of Service	F	C		F	C		D	E		D	F	D
Approach Delay (s)		40.2			40.2			58.9			69.0	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	46.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	930	90	180	690	10	100	200	190	20	170	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	330		0	100		0	120		120
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1031			1721			1968			924	
Travel Time (s)		20.1			33.5			53.7			25.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	316	1074	0	189	737	0	105	411	0	21	179	158
v/c Ratio	0.91	0.60		0.87	0.52		0.24	0.90		0.11	0.87	0.50
Control Delay	96.8	25.3		91.3	30.0		44.6	58.5		53.0	92.7	13.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	96.8	25.3		91.3	30.0		44.6	58.5		53.0	92.7	13.7
Queue Length 50th (ft)	259	138		157	204		61	221		16	150	0
Queue Length 95th (ft)	#394	175		#282	273		m59	m212		43	#278	65
Internal Link Dist (ft)		951			1641			1888			844	
Turn Bay Length (ft)	300			330			100			120		120
Base Capacity (vph)	377	1776		229	1411		517	531		204	215	322
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.84	0.60		0.83	0.52		0.20	0.77		0.10	0.83	0.49

Intersection Summary

Area Type: Other

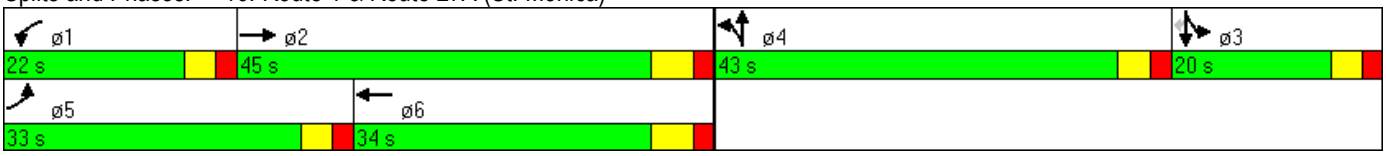
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	300	930	180	690	100	200	20	170	150
Turn Type	Prot		Prot		Split		Split		Perm
Protected Phases	5	2	1	6	4	4	3	3	
Permitted Phases									3
Detector Phase	5	2	1	6	4	4	3	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	12.0	31.0	33.0	33.0	15.0	15.0	15.0
Total Split (s)	33.0	45.0	22.0	34.0	43.0	43.0	20.0	20.0	20.0
Total Split (%)	25.4%	34.6%	16.9%	26.2%	33.1%	33.1%	15.4%	15.4%	15.4%
Maximum Green (s)	28.0	39.0	17.0	28.0	38.0	38.0	15.0	15.0	15.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0			
Flash Dont Walk (s)		20.0		20.0	20.0	20.0			
Pedestrian Calls (#/hr)		0		0	0	0			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 16: Route 1 & Route 27A (St. Monica)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	90	80	220	40	70	20	20	340	30	20	310	330
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Hourly flow rate (vph)	117	104	286	52	91	26	26	442	39	26	403	429

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	117	390	169	26	481	429	429
Volume Left (vph)	117	0	52	26	0	26	0
Volume Right (vph)	0	286	26	0	39	0	429
Hadj (s)	0.53	-0.48	0.00	0.53	-0.02	0.06	-0.67
Departure Headway (s)	9.1	8.1	9.4	9.3	8.7	8.4	7.6
Degree Utilization, x	0.29	0.87	0.44	0.07	1.16	0.99	0.91
Capacity (veh/h)	390	439	352	382	429	429	460
Control Delay (s)	14.6	44.4	19.6	11.7	123.2	70.0	48.2
Approach Delay (s)	37.6		19.6	117.4		59.1	
Approach LOS	E		C	F		F	

Intersection Summary			
Delay	65.0		
HCM Level of Service	F		
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1080	70	500	780	30	140	340	1090	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	0.88		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1752	4986		1752	5008		1770	1863	2745		1836	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (perm)	1752	4986		1752	5008		1770	1863	2745		1836	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	1149	74	532	830	32	149	362	1160	53	128	43
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	788	0	0	20
Lane Group Flow (vph)	106	1218	0	532	859	0	149	362	372	0	181	23
Confl. Peds. (#/hr)			2						2			
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases									4			3
Actuated Green, G (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Effective Green, g (s)	11.8	32.0		38.0	58.2		25.0	25.0	25.0		13.0	13.0
Actuated g/C Ratio	0.09	0.25		0.29	0.45		0.19	0.19	0.19		0.10	0.10
Clearance Time (s)	5.0	6.0		5.0	6.0		6.0	6.0	6.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	159	1227		512	2242		340	358	528		184	158
v/s Ratio Prot	0.06	c0.24		c0.30	0.17		0.08	c0.19			c0.10	
v/s Ratio Perm									0.14			0.01
v/c Ratio	0.67	0.99		1.04	0.38		0.44	1.01	0.70		0.98	0.15
Uniform Delay, d1	57.2	48.9		46.0	23.9		46.3	52.5	49.0		58.4	53.4
Progression Factor	1.25	0.58		1.45	0.80		0.84	0.85	0.97		1.00	1.00
Incremental Delay, d2	6.6	21.7		48.3	0.5		0.0	17.1	0.3		61.0	0.2
Delay (s)	78.4	50.2		114.8	19.7		38.8	61.6	47.7		119.4	53.6
Level of Service	E	D		F	B		D	E	D		F	D
Approach Delay (s)		52.5			56.0			49.9			106.8	
Approach LOS		D			E			D			F	

Intersection Summary			
HCM Average Control Delay	55.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	1080	70	500	780	30	140	340	1090	50	120	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	550		0	250		0	0		50
Storage Lanes	1		0	1		0	1		2	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			20	
Link Distance (ft)		1515			1401			4445			740	
Travel Time (s)		29.5			27.3			86.6			25.2	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	1223	0	532	862	0	149	362	1160	0	181	43
v/c Ratio	0.67	0.99		1.04	0.38		0.44	1.01	0.88		0.98	0.24
Control Delay	88.4	51.1		110.4	20.0		39.7	62.1	9.1		120.4	35.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	88.4	51.1		110.4	20.0		39.7	62.1	9.1		120.4	35.4
Queue Length 50th (ft)	94	372		~467	101		109	~309	153		155	16
Queue Length 95th (ft)	m153	#482		m#647	m119		m77	m203	m52		#307	55
Internal Link Dist (ft)		1435			1321			4365			660	
Turn Bay Length (ft)	350			550			250					50
Base Capacity (vph)	202	1233		512	2246		340	358	1316		184	178
Starvation Cap Reductn	0	0		0	0		0	0	0		0	0
Spillback Cap Reductn	0	0		0	0		0	0	0		0	0
Storage Cap Reductn	0	0		0	0		0	0	0		0	0
Reduced v/c Ratio	0.52	0.99		1.04	0.38		0.44	1.01	0.88		0.98	0.24

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations									
Volume (vph)	100	1080	500	780	140	340	1090	120	40
Turn Type	Prot		Prot		Split		Perm		Perm
Protected Phases	5	2	1	6	4	4		3	
Permitted Phases							4		3
Detector Phase	5	2	1	6	4	4	4	3	3
Switch Phase									
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	31.0	25.0	31.0	18.0	18.0	18.0	15.0	15.0
Total Split (s)	20.0	38.0	43.0	61.0	31.0	31.0	31.0	18.0	18.0
Total Split (%)	15.4%	29.2%	33.1%	46.9%	23.8%	23.8%	23.8%	13.8%	13.8%
Maximum Green (s)	15.0	32.0	38.0	55.0	25.0	25.0	25.0	13.0	13.0
Yellow Time (s)	3.0	4.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?									
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		20.0		20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0	0	0	0	0

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 18: Route 1 & Route 27

Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	530	580	1110	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.91		1.00	0.91	0.97	1.00
Frt	1.00	0.97		1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	4861		1752	5036	3433	1583
Flt Permitted	0.95	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	4861		1752	5036	3433	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	1872	564	617	1181	340	649
RTOR Reduction (vph)	0	43	0	0	0	0	430
Lane Group Flow (vph)	21	2393	0	617	1181	340	219
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Turn Type	Prot			Prot			Perm
Protected Phases	5	2		1	6	4	
Permitted Phases							4
Actuated Green, G (s)	3.0	56.0		43.0	97.0	13.0	13.0
Effective Green, g (s)	3.0	56.0		43.0	97.0	13.0	13.0
Actuated g/C Ratio	0.02	0.43		0.33	0.75	0.10	0.10
Clearance Time (s)	5.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	2094		580	3758	343	158
v/s Ratio Prot	0.01	c0.49		c0.35	0.23	0.10	
v/s Ratio Perm							c0.14
v/c Ratio	0.50	1.14		1.06	0.31	0.99	1.38
Uniform Delay, d1	62.8	37.0		43.5	5.5	58.4	58.5
Progression Factor	1.15	0.56		0.34	0.34	1.00	1.00
Incremental Delay, d2	1.4	67.0		43.3	0.1	46.0	207.4
Delay (s)	73.3	87.9		58.0	1.9	104.5	265.9
Level of Service	E	F		E	A	F	F
Approach Delay (s)		87.8			21.2	210.4	
Approach LOS		F			C	F	

Intersection Summary			
HCM Average Control Delay	88.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Volume (vph)	20	1760	530	580	1110	320	610
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	410		230	0
Storage Lanes	1		0	1		2	1
Taper Length (ft)	25		25	25		25	25
Right Turn on Red			Yes				Yes
Link Speed (mph)		35			35	35	
Link Distance (ft)		704			1121	1738	
Travel Time (s)		13.7			21.8	33.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	3%	3%	3%	2%	2%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	21	2436	0	617	1181	340	649
v/c Ratio	0.31	1.10		1.12	0.31	0.99	1.10
Control Delay	75.2	70.8		82.0	1.8	104.6	82.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	75.2	70.8		82.0	1.8	104.6	82.3
Queue Length 50th (ft)	18	~812		~588	34	150	~234
Queue Length 95th (ft)	m20	m#863		m#689	m53	#251	#473
Internal Link Dist (ft)		624			1041	1658	
Turn Bay Length (ft)	150			410		230	
Base Capacity (vph)	69	2210		553	3835	343	589
Starvation Cap Reductn	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	0.30	1.10		1.12	0.31	0.99	1.10

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

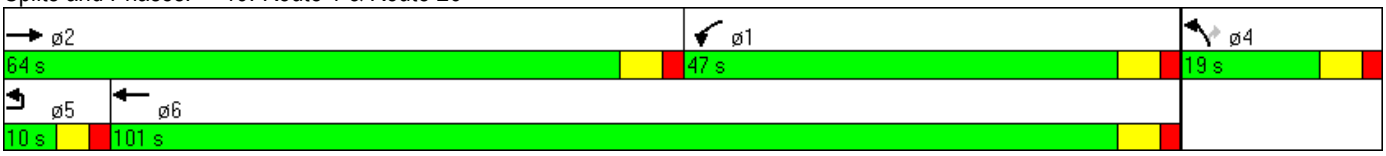
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBU	EBT	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	1760	580	1110	320	610
Turn Type	Prot		Prot			Perm
Protected Phases	5	2	1	6	4	
Permitted Phases						4
Detector Phase	5	2	1	6	4	4
Switch Phase						
Minimum Initial (s)	3.0	15.0	3.0	15.0	5.0	5.0
Minimum Split (s)	9.0	31.0	12.5	22.0	18.0	18.0
Total Split (s)	10.0	64.0	47.0	101.0	19.0	19.0
Total Split (%)	7.7%	49.2%	36.2%	77.7%	14.6%	14.6%
Maximum Green (s)	5.0	58.0	41.0	95.0	13.0	13.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	None
Walk Time (s)		5.0			5.0	5.0
Flash Dont Walk (s)		20.0			20.0	20.0
Pedestrian Calls (#/hr)		0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 41 (32%), Referenced to phase 2:EBT, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 19: Route 1 & Route 26



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1340	120	70	100	50	150	20	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1752	5036		1752	4974			1825	1583		1784	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1752	5036		1752	4974			1825	1583		1784	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	521	1883	0	21	1426	128	74	106	53	160	21	309
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	48	0	0	236
Lane Group Flow (vph)	521	1883	0	21	1546	0	0	180	5	0	181	73
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases									3			4
Actuated Green, G (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Effective Green, g (s)	38.0	78.0		4.0	44.0			13.0	13.0		14.0	14.0
Actuated g/C Ratio	0.29	0.60		0.03	0.34			0.10	0.10		0.11	0.11
Clearance Time (s)	5.0	6.0		5.0	6.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	512	3022		54	1684			183	158		192	170
v/s Ratio Prot	c0.30	0.37		0.01	c0.31			c0.10			c0.10	
v/s Ratio Perm									0.00			0.05
v/c Ratio	1.02	0.62		0.39	0.92			0.98	0.03		0.94	0.43
Uniform Delay, d1	46.0	16.6		61.8	41.3			58.4	52.8		57.6	54.2
Progression Factor	1.28	0.17		0.88	0.92			1.00	1.00		1.00	1.00
Incremental Delay, d2	16.6	0.1		1.6	8.9			61.2	0.0		48.0	0.6
Delay (s)	75.5	3.0		55.6	46.9			119.6	52.9		105.7	54.9
Level of Service	E	A		E	D			F	D		F	D
Approach Delay (s)		18.7			47.0			104.4			73.6	
Approach LOS		B			D			F			E	

Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1770	0	20	1340	120	70	100	50	150	20	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	415		0	100		0	0		0	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			20			25	
Link Distance (ft)		1121			400			423			1400	
Travel Time (s)		21.8			7.8			14.4			38.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	521	1883	0	21	1554	0	0	180	53	0	181	309
v/c Ratio	1.02	0.61		0.27	0.92			0.98	0.26		0.94	0.76
Control Delay	73.3	2.9		59.7	46.9			120.6	17.1		109.0	23.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	73.3	2.9		59.7	46.9			120.6	17.1		109.0	23.5
Queue Length 50th (ft)	~410	71		18	294			154	0		154	35
Queue Length 95th (ft)	m345	m66		m38	#528			#306	41		#299	#157
Internal Link Dist (ft)		1041			320			343			1320	
Turn Bay Length (ft)	415			100								100
Base Capacity (vph)	512	3100		94	1692			183	206		192	407
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	1.02	0.61		0.22	0.92			0.98	0.26		0.94	0.76

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Configurations								
Volume (vph)	490	1770	20	1340	100	50	20	290
Turn Type	Prot		Prot			Perm		Perm
Protected Phases	5	2	1	6	3		4	
Permitted Phases						3		4
Detector Phase	5	2	1	6	3	3	4	4
Switch Phase								
Minimum Initial (s)	3.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	26.0	12.0	31.0	15.0	15.0	18.0	18.0
Total Split (s)	43.0	81.0	12.0	50.0	18.0	18.0	19.0	19.0
Total Split (%)	33.1%	62.3%	9.2%	38.5%	13.8%	13.8%	14.6%	14.6%
Maximum Green (s)	38.0	75.0	7.0	44.0	13.0	13.0	14.0	14.0
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?								
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
Walk Time (s)				5.0			5.0	5.0
Flash Dont Walk (s)				20.0			20.0	20.0
Pedestrian Calls (#/hr)				0			0	0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 20: Route 1 & Route 28 (Sngsong)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	830	530	490	270	310	340	1140	830	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3332		3433	1863	1583	1736	3471	1553	1752	5002	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3332		3433	1863	1583	1736	3471	1553	1752	5002	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	337	874	558	516	284	326	358	1200	874	263	884	42
RTOR Reduction (vph)	0	79	0	0	0	245	0	0	242	0	4	0
Lane Group Flow (vph)	337	1353	0	516	284	81	358	1200	632	263	922	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	2	2		1	1		7	4		3	8	
Permitted Phases						1			4			
Actuated Green, G (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Effective Green, g (s)	37.0	37.0		21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0	
Actuated g/C Ratio	0.28	0.28		0.16	0.16	0.16	0.16	0.28	0.28	0.11	0.22	
Clearance Time (s)	5.0	5.0		6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	504	948		555	301	256	280	961	430	189	1116	
v/s Ratio Prot	0.19	c0.41		0.15	c0.15		c0.21	0.35		0.15	0.18	
v/s Ratio Perm						0.05			c0.41			
v/c Ratio	0.67	1.43		0.93	0.94	0.32	1.28	1.25	1.47	1.39	0.83	
Uniform Delay, d1	41.1	46.5		53.8	53.9	48.2	54.5	47.0	47.0	58.0	48.1	
Progression Factor	1.01	1.01		0.94	0.94	2.00	1.00	1.00	1.00	0.92	1.03	
Incremental Delay, d2	4.6	196.4		17.4	30.1	0.2	150.0	120.6	223.5	202.6	6.4	
Delay (s)	46.2	243.4		67.8	80.5	96.5	204.5	167.6	270.5	255.8	55.9	
Level of Service	D	F		E	F	F	F	F	F	F	E	
Approach Delay (s)		205.8			79.3			210.0			100.1	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	166.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	118.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	830	530	490	270	310	340	1140	830	250	840	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		0	350		0	370		0	450		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		3150			1269			820			2979	
Travel Time (s)		71.6			28.8			16.0			58.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	337	1432	0	516	284	326	358	1200	874	263	926	0
v/c Ratio	0.67	1.39		0.93	0.94	0.65	1.28	1.25	1.30	1.39	0.83	
Control Delay	47.0	214.3		70.4	83.4	21.7	193.5	160.3	170.6	242.3	55.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.0	214.3		70.4	83.4	21.7	193.5	160.3	170.6	242.3	55.9	
Queue Length 50th (ft)	237	~810		213	229	94	~381	~662	~728	~297	279	
Queue Length 95th (ft)	m265	m#846		m232	m#286	m113	#577	#801	#983	m#441	m321	
Internal Link Dist (ft)		3070			1189			740			2899	
Turn Bay Length (ft)	160			350			370			450		
Base Capacity (vph)	504	1028		555	301	501	280	961	672	189	1119	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.67	1.39		0.93	0.94	0.65	1.28	1.25	1.30	1.39	0.83	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

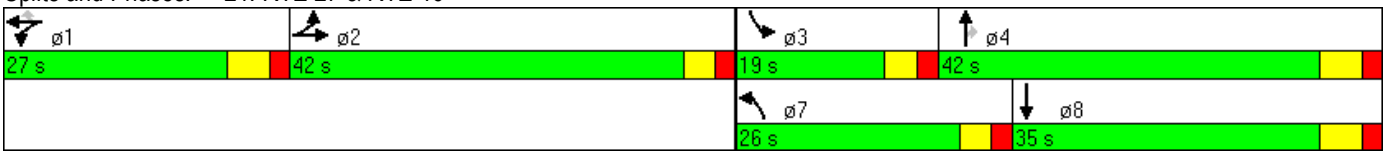
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	320	830	490	270	310	340	1140	830	250	840
Turn Type	Split		Split		Perm	Prot		Perm	Prot	
Protected Phases	2	2	1	1		7	4		3	8
Permitted Phases					1			4		
Detector Phase	2	2	1	1	1	7	4	4	3	8
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	27.0	27.0	26.0	26.0	26.0	20.0	33.0	33.0	13.0	33.0
Total Split (s)	42.0	42.0	27.0	27.0	27.0	26.0	42.0	42.0	19.0	35.0
Total Split (%)	32.3%	32.3%	20.8%	20.8%	20.8%	20.0%	32.3%	32.3%	14.6%	26.9%
Maximum Green (s)	37.0	37.0	21.0	21.0	21.0	21.0	36.0	36.0	14.0	29.0
Yellow Time (s)	3.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?										
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	None	None	None	None	C-Max	C-Max	None	C-Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	17.0	17.0	15.0	15.0	15.0		16.0	16.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 107 (82%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated

Splits and Phases: 21: RTE 27 & RTE 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	187	10	433	20	5	10	247	433	40	20	360	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.90		1.00	0.99		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1622		1770	1671		1736	3428		1752	3294	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1622		1770	1671		1736	3428		1752	3294	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	203	11	471	22	5	11	268	471	43	22	391	262
RTOR Reduction (vph)	0	381	0	0	11	0	0	7	0	0	119	0
Lane Group Flow (vph)	203	101	0	22	5	0	268	507	0	22	534	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.9	11.4		1.5	1.0		13.5	29.2		1.5	17.2	
Effective Green, g (s)	11.9	11.4		1.5	1.0		13.5	29.2		1.5	17.2	
Actuated g/C Ratio	0.20	0.19		0.03	0.02		0.23	0.49		0.03	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	360	310		45	28		393	1679		44	951	
v/s Ratio Prot	c0.11	c0.06		0.01	0.00		c0.15	0.15		0.01	c0.16	
v/s Ratio Perm												
v/c Ratio	0.56	0.33		0.49	0.19		0.68	0.30		0.50	0.56	
Uniform Delay, d1	21.5	20.8		28.7	28.9		21.1	9.1		28.7	18.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.2		3.0	1.2		3.9	0.0		3.2	0.5	
Delay (s)	22.7	21.0		31.7	30.1		24.9	9.1		31.9	18.5	
Level of Service	C	C		C	C		C	A		C	B	
Approach Delay (s)		21.5			31.0			14.6			18.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	187	10	433	20	5	10	247	433	40	20	360	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		415			486			2119			940	
Travel Time (s)		8.1			9.5			41.3			18.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	482	0	22	16	0	268	514	0	22	653	0
v/c Ratio	0.51	0.69		0.13	0.09		0.62	0.28		0.13	0.67	
Control Delay	26.8	9.2		32.8	21.7		27.6	9.2		32.9	18.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.8	9.2		32.8	21.7		27.6	9.2		32.9	18.5	
Queue Length 50th (ft)	53	3		6	1		68	27		6	62	
Queue Length 95th (ft)	162	86		34	21		197	117		34	174	
Internal Link Dist (ft)		335			406			2039			860	
Turn Bay Length (ft)	100			100			100			100		
Base Capacity (vph)	604	1105		181	553		744	2515		179	1508	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.34	0.44		0.12	0.03		0.36	0.20		0.12	0.43	

Intersection Summary

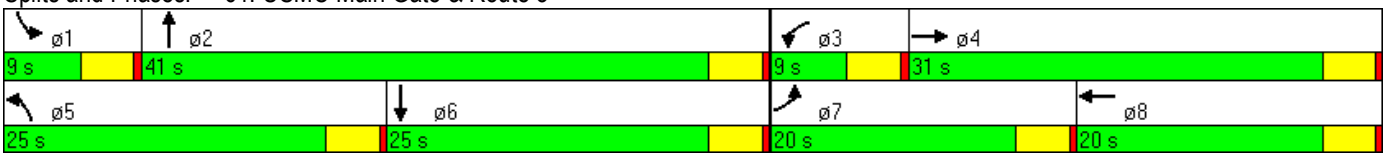
Area Type: Other

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	187	10	20	5	247	433	20	360
Turn Type	Prot		Prot		Prot		Prot	
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	8.0	20.0	8.0	20.0	8.0	20.0
Total Split (s)	20.0	31.0	9.0	20.0	25.0	41.0	9.0	25.0
Total Split (%)	22.2%	34.4%	10.0%	22.2%	27.8%	45.6%	10.0%	27.8%
Maximum Green (s)	16.0	27.0	5.0	16.0	21.0	37.0	5.0	21.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	Min	None	Min
Walk Time (s)		5.0		5.0		5.0		5.0
Flash Dont Walk (s)		11.0		11.0		11.0		11.0
Pedestrian Calls (#/hr)		0		0		0		0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 54.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 61: USMC Main Gate & Route 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	177	10	690	803	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1599	1736	3471	3492	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1787	1599	1736	3471	3492	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	192	11	750	873	22
RTOR Reduction (vph)	0	167	0	0	2	0
Lane Group Flow (vph)	33	25	11	750	893	0
Heavy Vehicles (%)	1%	1%	4%	4%	3%	3%
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	4.7	4.7	0.5	22.8	18.3	
Effective Green, g (s)	4.7	4.7	0.5	22.8	18.3	
Actuated g/C Ratio	0.13	0.13	0.01	0.64	0.52	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	237	212	24	2229	1800	
v/s Ratio Prot	c0.02		0.01	c0.22	c0.26	
v/s Ratio Perm		0.02				
v/c Ratio	0.14	0.12	0.46	0.34	0.50	
Uniform Delay, d1	13.6	13.6	17.4	2.9	5.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.1	5.0	0.0	0.1	
Delay (s)	13.7	13.7	22.3	2.9	5.7	
Level of Service	B	B	C	A	A	
Approach Delay (s)	13.7			3.2	5.7	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	5.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	35.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	30	177	10	690	803	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100	0	100			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	733			3691	653	
Travel Time (s)	14.3			71.9	12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	4%	4%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	192	11	750	895	0
v/c Ratio	0.10	0.42	0.05	0.33	0.42	
Control Delay	13.1	6.3	16.1	4.1	6.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	13.1	6.3	16.1	4.1	6.0	
Queue Length 50th (ft)	4	0	1	24	30	
Queue Length 95th (ft)	24	39	14	60	126	
Internal Link Dist (ft)	653			3611	573	
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	1016	992	232	3292	3097	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.03	0.19	0.05	0.23	0.29	

Intersection Summary

Area Type: Other

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Volume (vph)	30	177	10	690	803
Turn Type		Perm	Prot		
Protected Phases	4		5	2	6
Permitted Phases		4			
Detector Phase	4	4	5	2	6
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	21.0	8.0	39.0	31.0
Total Split (%)	35.0%	35.0%	13.3%	65.0%	51.7%
Maximum Green (s)	17.0	17.0	4.0	35.0	27.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0
Minimum Gap (s)	2.0	2.0	2.0	2.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	Min	Min
Walk Time (s)	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 31.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: USMC Secondary Gate & Route 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	5	360	390	5	5	180
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	391	424	5	5	196
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						12
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	429				829	427
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	429				829	427
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				98	69
cM capacity (veh/h)	1130				339	628

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	5	391	429	201
Volume Left	5	0	0	5
Volume Right	0	0	5	196
cSH	1130	1700	1700	645
Volume to Capacity	0.00	0.23	0.25	0.31
Queue Length 95th (ft)	0	0	0	33
Control Delay (s)	8.2	0.0	0.0	13.4
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	13.4
Approach LOS				B

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

Guam and CNMI Military Relocation
(2012 Roadmap Adjustments)

TRAFFIC OPERATIONS REPORT
SUPPLEMENTAL ANALYSES

Appendix D

CAL3QHC Input and Output Files

Site 1

```
'SITE 1 ROUTE 3 AND CHALAN SANTA ANITA'  60.0  0.1  0.0  0.0  38  1  0  0  'PPM'
''  896.17  981.21  1.8
''  958.39  990.32  1.8
''  933.51  987.89  1.8
''  1017.15  991.54  1.8
''  1114.65  978.41  1.8
''  1090.01  982.63  1.8
''  1065.37  986.84  1.8
''  1040.72  991.05  1.8
''  1043.37  1010.3  1.8
''  1068.05  1006.32  1.8
''  1092.74  1002.35  1.8
''  1008.81  1011.31  1.8
''  917.23  1004.85  1.8
''  942.08  1007.57  1.8
''  966.93  1010.29  1.8
''  859.08  992.84  1.8
''  883.57  997.88  1.8
'HOME SW'  1051.24  774.47  1.8
'HOME SW'  1044.25  798.47  1.8
'HOME SW'  1037.25  822.47  1.8
'HOME SW'  1030.26  846.47  1.8
'HOME SW'  1023.27  870.48  1.8
'HOME SW'  1016.27  894.48  1.8
'HOME SW'  1009.28  918.48  1.8
'HOME SW'  1002.28  942.48  1.8
''  995.29  966.48  1.8
''  988.3  990.48  1.8
''  1028.97  919.18  1.8
'HOME SE'  1036.1  895.22  1.8
'HOME SE'  1043.22  871.26  1.8
'HOME SE'  1050.35  847.29  1.8
'HOME SE'  1057.48  823.33  1.8
'HOME SE'  1064.6  799.37  1.8
'HOME SE'  1071.73  775.41  1.8
''  1011.41  978.56  1.8
''  1018.44  954.57  1.8
'HOME NW'  880.7  1014.9  1.8
'HOME SW'  872.1  968.7  1.8
'FINEGAYAN NWF AM 2021'  41  1  1  'C'
1  1
'001-002 RT3 EB AP1'  'AG'  665.5  890.5  756.6  936.7  841  3.8  0.0  10.0
1  1
'002-003 RT3 EB AP1'  'AG'  756.2  936.7  811.7  962.0  841  3.8  0.0  10.0
1  1
'003-004 RT3 EB AP2'  'AG'  811.7  962.0  861.0  981.2  425  3.8  0.0  10.0
1  1
'004-005 RT3 EB AP2'  'AG'  861.0  981.5  918.8  994.5  425  3.8  0.0  10.0
1  1
'005-006 RT3 EB AP2'  'AG'  918.8  994.5  982.5  1000.7  425  3.8  0.0  10.0
1  1
'006-007 RT3 EB AP3'  'AG'  982.5  1000.7  1042.4  998.7  425  3.8  0.0  10.0
1  1
'007-008 RT3 EB AP3'  'AG'  1041.7  999.0  1116.0  986.3  425  3.8  0.0  10.0
1  1
'009-010 RT3 EB AP3'  'AG'  1116.2  986.6  1187.1  963.4  425  3.8  0.0  10.0
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'010-011 RT9 EB DEP'  'AG'  1187.1  963.4  1239.8  937.4  490  3.8  0.0  10.0
1  1
'011-012 RT9 EB DEP'  'AG'  1239.1  937.6  1329.1  878.5  490  3.8  0.0  10.0
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'012-013 RT9 WB AP'  'AG'  1329.6  881.9  1230.5  947.1  990  3.8  0.0  10.0
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'013-014 RT3A WB DEP'  'AG'  1230.2  946.6  1082.7  1046.6  412  3.8  0.0  10.0
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'014-015 RT3A WB DEP'  'AG'  1082.4  1046.6  1019.1  1096.7  412  3.8  0.0  10.0
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'015-016 RT3A WB DEP'  'AG'  1019.5  1096.7  977.8  1145.4  412  3.8  0.0  10.0
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'016-017 RT3A WB DEP'  'AG'  977.5  1145.7  877.1  1280.6  412  3.8  0.0  10.0
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'017-018 RT3A EB AP'  'AG'  897.5  1247.7  993.0  1121.2  425  3.8  0.0  10.0
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'018-019 RT3A EB AP'  'AG'  992.0  1121.2  1018.2  1092.5  425  3.8  0.0  10.0
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'019-020 RT3A EB AP'  'AG'  1018.2  1092.5  1080.5  1043.4  425  3.8  0.0  10.0
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'020-021 RT3A EBAP'  'AG'  1080.5  1043.7  1227.3  944.3  425  3.8  0.0  10.0
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'021-022 RT9 WB AP2'  'AG'  1229.6  947.2  1188.6  966.9  598  3.8  0.0  10.0
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'022-023 RT9 WB AP2'  'AG'  1188.6  966.9  1116.3  990.5  598  3.8  0.0  10.0
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'023-024 RT9 WB AP2'  'AG'  1116.0  990.5  1042.1  1002.4  598  3.8  0.0  10.0
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'024-025 RT9 WB AP2'  'AG'  1041.7  1002.4  983.6  1004.0  598  3.8  0.0  10.0
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'025-026 RT3 WB AP3'  'AG'  983.0  1004.0  918.1  996.9  858  3.8  0.0  10.0
1  1
'026-027 RT3 WB AP3'  'AG'  918.4  996.9  860.7  985.0  858  3.8  0.0  10.0
1  1
```

```
'027-028 RT3 WB AP3'  'AG'  860.3  984.7  810.6  965.3  858  3.8  0.0  10.0
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'028-029 RT3 WB DEP'  'AG'  810.3  965.3  755.5  940.1  838  3.8  0.0  10.0
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'029-030 RT3 WB DEP'  'AG'  754.5  939.8  665.1  894.0  838  3.8  0.0  10.0
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'030-031 RT3A NB DEP'  'AG'  801.9  962.4  846.1  1008.9  476  3.8  0.0  10.0
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'031-032 RT3A NB DEP'  'AG'  845.5  1009.5  877.5  1061.2  476  3.8  0.0  10.0
1  1
'032-033 RT3A NB DEP'  'AG'  877.8  1061.7  895.9  1117.8  476  3.8  0.0  10.0
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'033-034 RT3A NB DEP'  'AG'  895.9  1117.8  900.0  1182.0  476  3.8  0.0  10.0
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'034-035 RT3A NB DEP'  'AG'  899.4  1181.7  883.9  1271.1  476  3.8  0.0  10.0
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'035-036 RT3A SB AP'  'AG'  881.0  1268.9  897.5  1181.7  46  3.8  0.0  10.0
1  1
'036-037 RT3A SB AP'  'AG'  897.1  1182.0  893.6  1118.8  46  3.8  0.0  10.0
1  1
'037-038 RT3A SB AP'  'AG'  893.6  1119.1  875.2  1063.3  46  3.8  0.0  10.0
1  1
'038-039 RT3A SB AP'  'AG'  875.2  1063.9  842.6  1012.0  46  3.8  0.0  10.0
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'039-040 RT3A SB AP'  'AG'  842.6  1012.3  799.7  964.2  46  3.8  0.0  10.0
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'040-041 CSA SB DEP'  'AG'  994.0  999.5  1086.9  680.7  60  4.1  0.0  10.0
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'041-042 CSA AP'  'AG'  1090.1  682.8  1063.3  774.3  588  4.1  0.0  10.0
1  1
'042-043 CSA APQ'  'AG'  1062.7  774.3  995.8  999.7  588  8.9  0.0  10.0
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 1\CO\SITE11.JPG" SITE11 3 UNKNOWN UNKNOWN 1 0 0
0 0 0 0 0 0 0 0 16777215 0 0 1 1 665.28 1329.05 680.5 1288.25
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 1\Site1_FNAM2021.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/13/2014 at 13:36:20

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

DATE : 06/13/ 0
TIME : 13:36:20

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	*	LINK COORDINATES (M)				*	LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
		*	X1	Y1	X2	Y2	*	(M)	(DEG)			(G/MI)	(M)	(M)		(VEH)
1.	001-002 RT3 EB AP1	*	665.5	890.5	756.6	936.7	*	102.	63.	AG	841.	3.8	0.0	10.0		
2.	002-003 RT3 EB AP1	*	756.2	936.7	811.7	962.0	*	61.	65.	AG	841.	3.8	0.0	10.0		
3.	003-004 RT3 EB AP2	*	811.7	962.0	861.0	981.2	*	53.	69.	AG	425.	3.8	0.0	10.0		
4.	004-005 RT3 EB AP2	*	861.0	981.5	918.8	994.5	*	59.	77.	AG	425.	3.8	0.0	10.0		
5.	005-006 RT3 EB AP2	*	918.8	994.5	982.5	1000.7	*	64.	84.	AG	425.	3.8	0.0	10.0		
6.	006-007 RT3 EB AP3	*	982.5	1000.7	1042.4	998.7	*	60.	92.	AG	425.	3.8	0.0	10.0		
7.	007-008 RT3 EB AP3	*	1041.7	999.0	1116.0	986.3	*	75.	100.	AG	425.	3.8	0.0	10.0		
8.	009-010 RT3 EB AP3	*	1116.2	986.6	1187.1	963.4	*	75.	108.	AG	425.	3.8	0.0	10.0		
9.	010-011 RT9 EB DEP	*	1187.1	963.4	1239.8	937.4	*	59.	116.	AG	490.	3.8	0.0	10.0		
10.	011-012 RT9 EB DEP	*	1239.1	937.6	1329.1	878.5	*	108.	123.	AG	490.	3.8	0.0	10.0		
11.	012-013 RT9 WB AP	*	1329.6	881.9	1230.5	947.1	*	119.	303.	AG	990.	3.8	0.0	10.0		
12.	013-014 RT3A WB DEP	*	1230.2	946.6	1082.7	1046.6	*	178.	304.	AG	412.	3.8	0.0	10.0		
13.	014-015 RT3A WB DEP	*	1082.4	1046.6	1019.1	1096.7	*	81.	308.	AG	412.	3.8	0.0	10.0		
14.	015-016 RT3A WB DEP	*	1019.5	1096.7	977.8	1145.4	*	64.	319.	AG	412.	3.8	0.0	10.0		
15.	016-017 RT3A WB DEP	*	977.5	1145.7	877.1	1280.6	*	168.	323.	AG	412.	3.8	0.0	10.0		
16.	017-018 RT3A EB AP	*	897.5	1247.7	993.0	1121.2	*	159.	143.	AG	425.	3.8	0.0	10.0		
17.	018-019 RT3A EB AP	*	992.0	1121.2	1018.2	1092.5	*	39.	138.	AG	425.	3.8	0.0	10.0		
18.	019-020 RT3A EB AP	*	1018.2	1092.5	1080.5	1043.4	*	79.	128.	AG	425.	3.8	0.0	10.0		
19.	020-021 RT3A EBAP	*	1080.5	1043.7	1227.3	944.3	*	177.	124.	AG	425.	3.8	0.0	10.0		
20.	021-022 RT9 WB AP2	*	1229.6	947.2	1188.6	966.9	*	45.	296.	AG	598.	3.8	0.0	10.0		
21.	022-023 RT9 WB AP2	*	1188.6	966.9	1116.3	990.5	*	76.	288.	AG	598.	3.8	0.0	10.0		
22.	023-024 RT9 WB AP2	*	1116.0	990.5	1042.1	1002.4	*	75.	279.	AG	598.	3.8	0.0	10.0		
23.	024-025 RT9 WB AP2	*	1041.7	1002.4	983.6	1004.0	*	58.	272.	AG	598.	3.8	0.0	10.0		
24.	025-026 RT3 WB AP3	*	983.0	1004.0	918.1	996.9	*	65.	264.	AG	858.	3.8	0.0	10.0		
25.	026-027 RT3 WB AP3	*	918.4	996.9	860.7	985.0	*	59.	258.	AG	858.	3.8	0.0	10.0		
26.	027-028 RT3 WB AP3	*	860.3	984.7	810.6	965.3	*	53.	249.	AG	858.	3.8	0.0	10.0		
27.	028-029 RT3 WB DEP	*	810.3	965.3	755.5	940.1	*	60.	245.	AG	838.	3.8	0.0	10.0		
28.	029-030 RT3 WB DEP	*	754.5	939.8	665.1	894.0	*	100.	243.	AG	838.	3.8	0.0	10.0		
29.	030-031 RT3A NB DEP	*	801.9	962.4	846.1	1008.9	*	64.	44.	AG	476.	3.8	0.0	10.0		
30.	031-032 RT3A NB DEP	*	845.5	1009.5	877.5	1061.2	*	61.	32.	AG	476.	3.8	0.0	10.0		
31.	032-033 RT3A NB DEP	*	877.8	1061.7	895.9	1117.8	*	59.	18.	AG	476.	3.8	0.0	10.0		
32.	033-034 RT3A NB DEP	*	895.9	1117.8	900.0	1182.0	*	64.	4.	AG	476.	3.8	0.0	10.0		
33.	034-035 RT3A NB DEP	*	899.4	1181.7	883.9	1271.1	*	91.	350.	AG	476.	3.8	0.0	10.0		
34.	035-036 RT3A SB AP	*	881.0	1268.9	897.5	1181.7	*	89.	169.	AG	46.	3.8	0.0	10.0		
35.	036-037 RT3A SB AP	*	897.1	1182.0	893.6	1118.8	*	63.	183.	AG	46.	3.8	0.0	10.0		
36.	037-038 RT3A SB AP	*	893.6	1119.1	875.2	1063.3	*	59.	198.	AG	46.	3.8	0.0	10.0		
37.	038-039 RT3A SB AP	*	875.2	1063.9	842.6	1012.0	*	61.	212.	AG	46.	3.8	0.0	10.0		
38.	039-040 RT3A SB AP	*	842.6	1012.3	799.7	964.2	*	64.	222.	AG	46.	3.8	0.0	10.0		
39.	040-041 CSA SB DEP	*	994.0	999.5	1086.9	680.7	*	332.	164.	AG	60.	4.1	0.0	10.0		
40.	041-042 CSA AP	*	1090.1	682.8	1063.3	774.3	*	95.	344.	AG	588.	4.1	0.0	10.0		
41.	042-043 CSA APQ	*	1062.7	774.3	995.8	999.7	*	235.	343.	AG	588.	8.9	0.0	10.0		

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JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

DATE : 06/13/ 0
TIME : 13:36:20

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1.	896.2	981.2	1.8
2.	958.4	990.3	1.8
3.	933.5	987.9	1.8
4.	1017.2	991.5	1.8

5.		*	1114.7	978.4	1.8 *
6.		*	1090.0	982.6	1.8 *
7.		*	1065.4	986.8	1.8 *
8.		*	1040.7	991.0	1.8 *
9.		*	1043.4	1010.3	1.8 *
10.		*	1068.1	1006.3	1.8 *
11.		*	1092.7	1002.3	1.8 *
12.		*	1008.8	1011.3	1.8 *
13.		*	917.2	1004.8	1.8 *
14.		*	942.1	1007.6	1.8 *
15.		*	966.9	1010.3	1.8 *
16.		*	859.1	992.8	1.8 *
17.		*	883.6	997.9	1.8 *
18.	HOME SW	*	1051.2	774.5	1.8 *
19.	HOME SW	*	1044.2	798.5	1.8 *
20.	HOME SW	*	1037.2	822.5	1.8 *
21.	HOME SW	*	1030.3	846.5	1.8 *
22.	HOME SW	*	1023.3	870.5	1.8 *
23.	HOME SW	*	1016.3	894.5	1.8 *
24.	HOME SW	*	1009.3	918.5	1.8 *
25.	HOME SW	*	1002.3	942.5	1.8 *
26.		*	995.3	966.5	1.8 *
27.		*	988.3	990.5	1.8 *
28.		*	1029.0	919.2	1.8 *
29.	HOME SE	*	1036.1	895.2	1.8 *
30.	HOME SE	*	1043.2	871.3	1.8 *
31.	HOME SE	*	1050.3	847.3	1.8 *
32.	HOME SE	*	1057.5	823.3	1.8 *
33.	HOME SE	*	1064.6	799.4	1.8 *
34.	HOME SE	*	1071.7	775.4	1.8 *
35.		*	1011.4	978.6	1.8 *
36.		*	1018.4	954.6	1.8 *
37.	HOME NW	*	880.7	1014.9	1.8 *
38.	HOME SW	*	872.1	968.7	1.8 *

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
10.	*	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
20.	*	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
30.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
40.	*	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
50.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
60.	*	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
70.	*	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
80.	*	0.0	0.3	0.1	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
90.	*	0.0	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.3	0.3	0.1	0.1	0.1
100.	*	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.3	0.2	0.1	0.1	0.1
110.	*	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.2	0.3	0.1	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.2	0.2
120.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.2	0.2
130.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2
140.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2
150.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1
170.	*	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0

0.0																				
190.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
200.	*	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
210.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
220.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.0
0.0																				
230.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.3	0.1	0.0	0.0
0.0																				
240.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.3	0.1	0.1	0.1	0.3	0.1	0.3	0.3	0.3	0.0	0.0
0.0																				
250.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.3	0.1	0.2	0.3	0.2	0.3	0.3	0.0	0.1	0.0	0.0
0.0																				
260.	*	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.3	0.0	0.1	0.2	0.0	0.0	0.0	0.0
0.0																				
270.	*	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
280.	*	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
290.	*	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
300.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
310.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
320.	*	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
330.	*	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
340.	*	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
350.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
0.3																				
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MAX	*	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.3																				
DEGR.	*	20	80	30	40	50	40	40	40	240	110	120	170	100	110	110	90	90	350	350
350																				

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
0.	*	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
20.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
40.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
50.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
60.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
110.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
120.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
140.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
150.	*	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
160.	*	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.2	0.1	0.1	0.3	0.3	0.1	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.3	0.3	0.1	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.2
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.0	0.1
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.0	0.1
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.0	0.1

310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.1
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.2	0.0	0.1
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.1	0.0	0.1
350.	*	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
MAX	*	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.2
DEGR.	*	0	150	150	150	150	150	50	170	170	180	170	330	330	330	170	170	100	260

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC27.

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

DATE : 06/13/ 0
TIME : 13:36:20

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

		CO/LINK (PPM)																	
		ANGLE (DEGREES)																	
	*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	*	20	80	30	40	50	40	40	40	240	110	120	170	100	110	110	90	90	350	350	350
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	*	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
6	*	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
24	*	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0
25	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0
26	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
40	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
41	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.3
0.3	0.3																		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

DATE : 06/13/ 0
TIME : 13:36:20

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

	*	CO/LINK (PPM)																	
	*	ANGLE (DEGREES)																	
	*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
LINK #	*	0	150	150	150	150	150	50	170	170	180	170	330	330	330	170	170	100	260
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
25	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
28	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	*	0.2	0.3	0.3	0.3	0.3	0.3	0.1	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.0

```
'SITE 1 ROUTE 3 AND CHALAN SANTA ANITA'  60.0  0.1  0.0  0.0  38  1  0  0  'PPM'
''  896.17  981.21  1.8
''  958.39  990.32  1.8
''  933.51  987.89  1.8
''  1017.15  991.54  1.8
''  1114.65  978.41  1.8
''  1090.01  982.63  1.8
''  1065.37  986.84  1.8
''  1040.72  991.05  1.8
''  1043.37  1010.3  1.8
''  1068.05  1006.32  1.8
''  1092.74  1002.35  1.8
''  1008.81  1011.31  1.8
''  917.23  1004.85  1.8
''  942.08  1007.57  1.8
''  966.93  1010.29  1.8
''  859.08  992.84  1.8
''  883.57  997.88  1.8
'HOME SW'  1051.24  774.47  1.8
'HOME SW'  1044.25  798.47  1.8
'HOME SW'  1037.25  822.47  1.8
'HOME SW'  1030.26  846.47  1.8
'HOME SW'  1023.27  870.48  1.8
'HOME SW'  1016.27  894.48  1.8
'HOME SW'  1009.28  918.48  1.8
'HOME SW'  1002.28  942.48  1.8
''  995.29  966.48  1.8
''  988.3  990.48  1.8
''  1028.97  919.18  1.8
'HOME SE'  1036.1  895.22  1.8
'HOME SE'  1043.22  871.26  1.8
'HOME SE'  1050.35  847.29  1.8
'HOME SE'  1057.48  823.33  1.8
'HOME SE'  1064.6  799.37  1.8
'HOME SE'  1071.73  775.41  1.8
''  1011.41  978.56  1.8
''  1018.44  954.57  1.8
'HOME NW'  880.7  1014.9  1.8
'HOME SW'  872.1  968.7  1.8
'FINEGAYAN NWF PM 2021'  41  1  1  'C'
1  1
'001-002 RT3 EB AP1'  'AG'  665.5  890.5  756.6  936.7  657  3.8  0.0  10.0
1  1
'002-003 RT3 EB AP1'  'AG'  756.2  936.7  811.7  962.0  657  3.8  0.0  10.0
1  1
'003-004 RT3 EB AP2'  'AG'  811.7  962.0  861.0  981.2  590  3.8  0.0  10.0
1  1
'004-005 RT3 EB AP2'  'AG'  861.0  981.5  918.8  994.5  590  3.8  0.0  10.0
1  1
'005-006 RT3 EB AP2'  'AG'  918.8  994.5  982.5  1000.7  590  3.8  0.0  10.0
1  1
'006-007 RT3 EB AP3'  'AG'  982.5  1000.7  1042.4  998.7  450  3.8  0.0  10.0
1  1
'007-008 RT3 EB AP3'  'AG'  1041.7  999.0  1116.0  986.3  450  3.8  0.0  10.0
1  1
'009-010 RT3 EB AP3'  'AG'  1116.2  986.6  1187.1  963.4  450  3.8  0.0  10.0
1  1
'010-011 RT9 EB DEP'  'AG'  1187.1  963.4  1239.8  937.4  840  3.8  0.0  10.0
1  1
'011-012 RT9 EB DEP'  'AG'  1239.1  937.6  1329.1  878.5  840  3.8  0.0  10.0
1  1
'012-013 RT9 WB AP'  'AG'  1329.6  881.9  1230.5  947.1  540  3.8  0.0  10.0
1  1
'013-014 RT3A WB DEP'  'AG'  1230.2  946.6  1082.7  1046.6  547  3.8  0.0  10.0
1  1
'014-015 RT3A WB DEP'  'AG'  1082.4  1046.6  1019.1  1096.7  547  3.8  0.0  10.0
1  1
'015-016 RT3A WB DEP'  'AG'  1019.5  1096.7  977.8  1145.4  547  3.8  0.0  10.0
1  1
'016-017 RT3A WB DEP'  'AG'  977.5  1145.7  877.1  1280.6  547  3.8  0.0  10.0
1  1
'017-018 RT3A EB AP'  'AG'  897.5  1247.7  993.0  1121.2  460  3.8  0.0  10.0
1  1
'018-019 RT3A EB AP'  'AG'  992.0  1121.2  1018.2  1092.5  460  3.8  0.0  10.0
1  1
'019-020 RT3A EB AP'  'AG'  1018.2  1092.5  1080.5  1043.4  460  3.8  0.0  10.0
1  1
'020-021 RT3A EBAP'  'AG'  1080.5  1043.7  1227.3  944.3  460  3.8  0.0  10.0
1  1
'021-022 RT9 WB AP2'  'AG'  1229.6  947.2  1188.6  966.9  443  3.8  0.0  10.0
1  1
'022-023 RT9 WB AP2'  'AG'  1188.6  966.9  1116.3  990.5  443  3.8  0.0  10.0
1  1
'023-024 RT9 WB AP2'  'AG'  1116.0  990.5  1042.1  1002.4  443  3.8  0.0  10.0
1  1
'024-025 RT9 WB AP2'  'AG'  1041.7  1002.4  983.6  1004.0  443  3.8  0.0  10.0
1  1
'025-026 RT3 WB AP3'  'AG'  983.0  1004.0  918.1  996.9  553  3.8  0.0  10.0
1  1
'026-027 RT3 WB AP3'  'AG'  918.4  996.9  860.7  985.0  553  3.8  0.0  10.0
1  1
```

```
'027-028 RT3 WB AP3'  'AG'  860.3  984.7  810.6  965.3  553  3.8  0.0  10.0
1  1
'028-029 RT3 WB DEP'  'AG'  810.3  965.3  755.5  940.1  563  3.8  0.0  10.0
1  1
'029-030 RT3 WB DEP'  'AG'  754.5  939.8  665.1  894.0  563  3.8  0.0  10.0
1  1
'030-031 RT3A NB DEP'  'AG'  801.9  962.4  846.1  1008.9  47  3.8  0.0  10.0
1  1
'031-032 RT3A NB DEP'  'AG'  845.5  1009.5  877.5  1061.2  47  3.8  0.0  10.0
1  1
'032-033 RT3A NB DEP'  'AG'  877.8  1061.7  895.9  1117.8  47  3.8  0.0  10.0
1  1
'033-034 RT3A NB DEP'  'AG'  895.9  1117.8  900.0  1182.0  47  3.8  0.0  10.0
1  1
'034-035 RT3A NB DEP'  'AG'  899.4  1181.7  883.9  1271.1  47  3.8  0.0  10.0
1  1
'035-036 RT3A SB AP'  'AG'  881.0  1268.9  897.5  1181.7  460  3.8  0.0  10.0
1  1
'036-037 RT3A SB AP'  'AG'  897.1  1182.0  893.6  1118.8  460  3.8  0.0  10.0
1  1
'037-038 RT3A SB AP'  'AG'  893.6  1119.1  875.2  1063.3  460  3.8  0.0  10.0
1  1
'038-039 RT3A SB AP'  'AG'  875.2  1063.9  842.6  1012.0  460  3.8  0.0  10.0
1  1
'039-040 RT3A SB AP'  'AG'  842.6  1012.3  799.7  964.2  460  3.8  0.0  10.0
1  1
'040-041 CSA SB DEP'  'AG'  994.0  999.5  1086.9  680.7  190  4.1  0.0  10.0
1  1
'041-042 CSA NB AP'  'AG'  1092.6  682.2  1000.4  986.0  473  4.1  0.0  10.0
1  1
'042-043 CSA NB Q'  'AG'  1000.4  985.4  995.4  1000.8  473  8.9  0.0  10.0
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 1\CO\SITE11.JPG" SITE11 3 UNKNOWN UNKNOWN 1 0 0
0 0 0 0 0 0 0 0 16777215 0 0 1 1 665.28 1329.05 680.5 1288.25
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 1\Site1_FNPM2021.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/13/2014 at 14:41:12

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

DATE : 06/13/ 0
TIME : 14:41:12

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1.	001-002 RT3 EB AP1	*	665.5	890.5	756.6	936.7	*	102.	63.	AG	657.	3.8	0.0	10.0		
2.	002-003 RT3 EB AP1	*	756.2	936.7	811.7	962.0	*	61.	65.	AG	657.	3.8	0.0	10.0		
3.	003-004 RT3 EB AP2	*	811.7	962.0	861.0	981.2	*	53.	69.	AG	590.	3.8	0.0	10.0		
4.	004-005 RT3 EB AP2	*	861.0	981.5	918.8	994.5	*	59.	77.	AG	590.	3.8	0.0	10.0		
5.	005-006 RT3 EB AP2	*	918.8	994.5	982.5	1000.7	*	64.	84.	AG	590.	3.8	0.0	10.0		
6.	006-007 RT3 EB AP3	*	982.5	1000.7	1042.4	998.7	*	60.	92.	AG	450.	3.8	0.0	10.0		
7.	007-008 RT3 EB AP3	*	1041.7	999.0	1116.0	986.3	*	75.	100.	AG	450.	3.8	0.0	10.0		
8.	009-010 RT3 EB AP3	*	1116.2	986.6	1187.1	963.4	*	75.	108.	AG	450.	3.8	0.0	10.0		
9.	010-011 RT9 EB DEP	*	1187.1	963.4	1239.8	937.4	*	59.	116.	AG	840.	3.8	0.0	10.0		
10.	011-012 RT9 EB DEP	*	1239.1	937.6	1329.1	878.5	*	108.	123.	AG	840.	3.8	0.0	10.0		
11.	012-013 RT9 WB AP	*	1329.6	881.9	1230.5	947.1	*	119.	303.	AG	540.	3.8	0.0	10.0		
12.	013-014 RT3A WB DEP	*	1230.2	946.6	1082.7	1046.6	*	178.	304.	AG	547.	3.8	0.0	10.0		
13.	014-015 RT3A WB DEP	*	1082.4	1046.6	1019.1	1096.7	*	81.	308.	AG	547.	3.8	0.0	10.0		
14.	015-016 RT3A WB DEP	*	1019.5	1096.7	977.8	1145.4	*	64.	319.	AG	547.	3.8	0.0	10.0		
15.	016-017 RT3A WB DEP	*	977.5	1145.7	877.1	1280.6	*	168.	323.	AG	547.	3.8	0.0	10.0		
16.	017-018 RT3A EB AP	*	897.5	1247.7	993.0	1121.2	*	159.	143.	AG	460.	3.8	0.0	10.0		
17.	018-019 RT3A EB AP	*	992.0	1121.2	1018.2	1092.5	*	39.	138.	AG	460.	3.8	0.0	10.0		
18.	019-020 RT3A EB AP	*	1018.2	1092.5	1080.5	1043.4	*	79.	128.	AG	460.	3.8	0.0	10.0		
19.	020-021 RT3A EBAP	*	1080.5	1043.7	1227.3	944.3	*	177.	124.	AG	460.	3.8	0.0	10.0		
20.	021-022 RT9 WB AP2	*	1229.6	947.2	1188.6	966.9	*	45.	296.	AG	443.	3.8	0.0	10.0		
21.	022-023 RT9 WB AP2	*	1188.6	966.9	1116.3	990.5	*	76.	288.	AG	443.	3.8	0.0	10.0		
22.	023-024 RT9 WB AP2	*	1116.0	990.5	1042.1	1002.4	*	75.	279.	AG	443.	3.8	0.0	10.0		
23.	024-025 RT9 WB AP2	*	1041.7	1002.4	983.6	1004.0	*	58.	272.	AG	443.	3.8	0.0	10.0		
24.	025-026 RT3 WB AP3	*	983.0	1004.0	918.1	996.9	*	65.	264.	AG	553.	3.8	0.0	10.0		
25.	026-027 RT3 WB AP3	*	918.4	996.9	860.7	985.0	*	59.	258.	AG	553.	3.8	0.0	10.0		
26.	027-028 RT3 WB AP3	*	860.3	984.7	810.6	965.3	*	53.	249.	AG	553.	3.8	0.0	10.0		
27.	028-029 RT3 WB DEP	*	810.3	965.3	755.5	940.1	*	60.	245.	AG	563.	3.8	0.0	10.0		
28.	029-030 RT3 WB DEP	*	754.5	939.8	665.1	894.0	*	100.	243.	AG	563.	3.8	0.0	10.0		
29.	030-031 RT3A NB DEP	*	801.9	962.4	846.1	1008.9	*	64.	44.	AG	47.	3.8	0.0	10.0		
30.	031-032 RT3A NB DEP	*	845.5	1009.5	877.5	1061.2	*	61.	32.	AG	47.	3.8	0.0	10.0		
31.	032-033 RT3A NB DEP	*	877.8	1061.7	895.9	1117.8	*	59.	18.	AG	47.	3.8	0.0	10.0		
32.	033-034 RT3A NB DEP	*	895.9	1117.8	900.0	1182.0	*	64.	4.	AG	47.	3.8	0.0	10.0		
33.	034-035 RT3A NB DEP	*	899.4	1181.7	883.9	1271.1	*	91.	350.	AG	47.	3.8	0.0	10.0		
34.	035-036 RT3A SB AP	*	881.0	1268.9	897.5	1181.7	*	89.	169.	AG	460.	3.8	0.0	10.0		
35.	036-037 RT3A SB AP	*	897.1	1182.0	893.6	1118.8	*	63.	183.	AG	460.	3.8	0.0	10.0		
36.	037-038 RT3A SB AP	*	893.6	1119.1	875.2	1063.3	*	59.	198.	AG	460.	3.8	0.0	10.0		
37.	038-039 RT3A SB AP	*	875.2	1063.9	842.6	1012.0	*	61.	212.	AG	460.	3.8	0.0	10.0		
38.	039-040 RT3A SB AP	*	842.6	1012.3	799.7	964.2	*	64.	222.	AG	460.	3.8	0.0	10.0		
39.	040-041 CSA SB DEP	*	994.0	999.5	1086.9	680.7	*	332.	164.	AG	190.	4.1	0.0	10.0		
40.	041-042 CSA NB AP	*	1092.6	682.2	1000.4	986.0	*	317.	343.	AG	473.	4.1	0.0	10.0		
41.	042-043 CSA NB Q	*	1000.4	985.4	995.4	1000.8	*	16.	342.	AG	473.	8.9	0.0	10.0		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

DATE : 06/13/ 0
TIME : 14:41:12

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z	*
1.	*	896.2	981.2	1.8	*
2.	*	958.4	990.3	1.8	*
3.	*	933.5	987.9	1.8	*
4.	*	1017.2	991.5	1.8	*

5.		*	1114.7	978.4	1.8 *
6.		*	1090.0	982.6	1.8 *
7.		*	1065.4	986.8	1.8 *
8.		*	1040.7	991.0	1.8 *
9.		*	1043.4	1010.3	1.8 *
10.		*	1068.1	1006.3	1.8 *
11.		*	1092.7	1002.3	1.8 *
12.		*	1008.8	1011.3	1.8 *
13.		*	917.2	1004.8	1.8 *
14.		*	942.1	1007.6	1.8 *
15.		*	966.9	1010.3	1.8 *
16.		*	859.1	992.8	1.8 *
17.		*	883.6	997.9	1.8 *
18.	HOME SW	*	1051.2	774.5	1.8 *
19.	HOME SW	*	1044.2	798.5	1.8 *
20.	HOME SW	*	1037.2	822.5	1.8 *
21.	HOME SW	*	1030.3	846.5	1.8 *
22.	HOME SW	*	1023.3	870.5	1.8 *
23.	HOME SW	*	1016.3	894.5	1.8 *
24.	HOME SW	*	1009.3	918.5	1.8 *
25.	HOME SW	*	1002.3	942.5	1.8 *
26.		*	995.3	966.5	1.8 *
27.		*	988.3	990.5	1.8 *
28.		*	1029.0	919.2	1.8 *
29.	HOME SE	*	1036.1	895.2	1.8 *
30.	HOME SE	*	1043.2	871.3	1.8 *
31.	HOME SE	*	1050.3	847.3	1.8 *
32.	HOME SE	*	1057.5	823.3	1.8 *
33.	HOME SE	*	1064.6	799.4	1.8 *
34.	HOME SE	*	1071.7	775.4	1.8 *
35.		*	1011.4	978.6	1.8 *
36.		*	1018.4	954.6	1.8 *
37.	HOME NW	*	880.7	1014.9	1.8 *
38.	HOME SW	*	872.1	968.7	1.8 *

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
10.	*	0.2	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
20.	*	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
30.	*	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
40.	*	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
50.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.0	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.3	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.1	0.1
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.0	0.2	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0

0.0																				
190.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.0	0.0
0.0																				
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.1	0.2	0.3	0.0	0.1	0.0	0.0
0.0																				
260.	*	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
270.	*	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
280.	*	0.2	0.2	0.2	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
290.	*	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
300.	*	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
310.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
320.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
330.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
340.	*	0.2	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
350.	*	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
0.2																				
------	*	----------																		

MAX	*	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2
0.2																				
DEGR.	*	0	0	0	280	70	90	60	60	110	110	120	110	100	100	150	240	90	350	350
350																				

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
0.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
20.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
40.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
50.	*	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0

310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
350.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.2
DEGR.	*	0	0	0	0	160	160	60	170	170	170	170	170	170	170	300	330	0	40

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC27.

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

DATE : 06/13/ 0
TIME : 14:41:12

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	0	0	0	280	70	90	60	60	110	110	120	110	100	100	150	240	90	350	350	350
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
25	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.1	0.1																		
40	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
0.1	0.1																		
41	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

DATE : 06/13/ 0
TIME : 14:41:12

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

LINK #	*	REC21 0	REC22 0	REC23 0	REC24 0	REC25 160	REC26 160	REC27 60	REC28 170	REC29 170	REC30 170	REC31 170	REC32 170	REC33 170	REC34 170	REC35 300	REC36 330	REC37 0	REC38 40
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
41	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0

```
'SITE 1 ROUTE 3 AND CHALAN SANTA ANITA'  60.0  0.1  0.0  0.0  38  1  0  0  'PPM'
''  896.17  981.21  1.8
''  958.39  990.32  1.8
''  933.51  987.89  1.8
''  1017.15  991.54  1.8
''  1114.65  978.41  1.8
''  1090.01  982.63  1.8
''  1065.37  986.84  1.8
''  1040.72  991.05  1.8
''  1043.37  1010.3  1.8
''  1068.05  1006.32  1.8
''  1092.74  1002.35  1.8
''  1008.81  1011.31  1.8
''  917.23  1004.85  1.8
''  942.08  1007.57  1.8
''  966.93  1010.29  1.8
''  859.08  992.84  1.8
''  883.57  997.88  1.8
'HOME SW'  1051.24  774.47  1.8
'HOME SW'  1044.25  798.47  1.8
'HOME SW'  1037.25  822.47  1.8
'HOME SW'  1030.26  846.47  1.8
'HOME SW'  1023.27  870.48  1.8
'HOME SW'  1016.27  894.48  1.8
'HOME SW'  1009.28  918.48  1.8
'HOME SW'  1002.28  942.48  1.8
''  995.29  966.48  1.8
''  988.3  990.48  1.8
''  1028.97  919.18  1.8
'HOME SE'  1036.1  895.22  1.8
'HOME SE'  1043.22  871.26  1.8
'HOME SE'  1050.35  847.29  1.8
'HOME SE'  1057.48  823.33  1.8
'HOME SE'  1064.6  799.37  1.8
'HOME SE'  1071.73  775.41  1.8
''  1011.41  978.56  1.8
''  1018.44  954.57  1.8
'HOME NW'  880.7  1014.9  1.8
'HOME SW'  872.1  968.7  1.8
'FINEGAYAN NWF AM 2030'  41  1  1  'C'
1  1
'001-002 RT3 EB AP1'  'AG'  665.5  890.5  756.6  936.7  516  3.6  0.0  10.0
1  1
'002-003 RT3 EB AP1'  'AG'  756.2  936.7  811.7  962.0  516  3.6  0.0  10.0
1  1
'003-004 RT3 EB AP2'  'AG'  811.7  962.0  861.0  981.2  491  3.6  0.0  10.0
1  1
'004-005 RT3 EB AP2'  'AG'  861.0  981.5  918.8  994.5  491  3.6  0.0  10.0
1  1
'005-006 RT3 EB AP2'  'AG'  918.8  994.5  982.5  1000.7  491  3.6  0.0  10.0
1  1
'006-007 RT3 EB AP3'  'AG'  982.5  1000.7  1042.4  998.7  501  3.6  0.0  10.0
1  1
'007-008 RT3 EB AP3'  'AG'  1041.7  999.0  1116.0  986.3  501  3.6  0.0  10.0
1  1
'009-010 RT3 EB AP3'  'AG'  1116.2  986.6  1187.1  963.4  501  3.6  0.0  10.0
1  1
'010-011 RT9 EB DEP'  'AG'  1187.1  963.4  1239.8  937.4  520  3.6  0.0  10.0
1  1
'011-012 RT9 EB DEP'  'AG'  1239.1  937.6  1329.1  878.5  520  3.6  0.0  10.0
1  1
'012-013 RT9 WB AP'  'AG'  1329.6  881.9  1230.5  947.1  780  3.6  0.0  10.0
1  1
'013-014 RT3A WB DEP'  'AG'  1230.2  946.6  1082.7  1046.6  82  3.6  0.0  10.0
1  1
'014-015 RT3A WB DEP'  'AG'  1082.4  1046.6  1019.1  1096.7  82  3.6  0.0  10.0
1  1
'015-016 RT3A WB DEP'  'AG'  1019.5  1096.7  977.8  1145.4  82  3.6  0.0  10.0
1  1
'016-017 RT3A WB DEP'  'AG'  977.5  1145.7  877.1  1280.6  82  3.6  0.0  10.0
1  1
'017-018 RT3A EB AP'  'AG'  897.5  1247.7  993.0  1121.2  511  3.6  0.0  10.0
1  1
'018-019 RT3A EB AP'  'AG'  992.0  1121.2  1018.2  1092.5  511  3.6  0.0  10.0
1  1
'019-020 RT3A EB AP'  'AG'  1018.2  1092.5  1080.5  1043.4  511  3.6  0.0  10.0
1  1
'020-021 RT3A EBAP'  'AG'  1080.5  1043.7  1227.3  944.3  511  3.6  0.0  10.0
1  1
'021-022 RT9 WB AP2'  'AG'  1229.6  947.2  1188.6  966.9  708  3.6  0.0  10.0
1  1
'022-023 RT9 WB AP2'  'AG'  1188.6  966.9  1116.3  990.5  708  3.6  0.0  10.0
1  1
'023-024 RT9 WB AP2'  'AG'  1116.0  990.5  1042.1  1002.4  708  3.6  0.0  10.0
1  1
'024-025 RT9 WB AP2'  'AG'  1041.7  1002.4  983.6  1004.0  708  3.6  0.0  10.0
1  1
'025-026 RT3 WB AP3'  'AG'  983.0  1004.0  918.1  996.9  938  3.6  0.0  10.0
1  1
'026-027 RT3 WB AP3'  'AG'  918.4  996.9  860.7  985.0  938  3.6  0.0  10.0
1  1
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'027-028 RT3 WB AP3'  'AG'  860.3  984.7  810.6  965.3  938  3.6  0.0  10.0
1  1
'028-029 RT3 WB DEP'  'AG'  810.3  965.3  755.5  940.1  938  3.6  0.0  10.0
1  1
'029-030 RT3 WB DEP'  'AG'  754.5  939.8  665.1  894.0  938  3.6  0.0  10.0
1  1
'030-031 RT3A NB DEP'  'AG'  801.9  962.4  846.1  1008.9  55  3.6  0.0  10.0
1  1
'031-032 RT3A NB DEP'  'AG'  845.5  1009.5  877.5  1061.2  55  3.6  0.0  10.0
1  1
'032-033 RT3A NB DEP'  'AG'  877.8  1061.7  895.9  1117.8  55  3.6  0.0  10.0
1  1
'033-034 RT3A NB DEP'  'AG'  895.9  1117.8  900.0  1182.0  55  3.6  0.0  10.0
1  1
'034-035 RT3A NB DEP'  'AG'  899.4  1181.7  883.9  1271.1  55  3.6  0.0  10.0
1  1
'035-036 RT3A SB AP'  'AG'  881.0  1268.9  897.5  1181.7  28  3.6  0.0  10.0
1  1
'036-037 RT3A SB AP'  'AG'  897.1  1182.0  893.6  1118.8  28  3.6  0.0  10.0
1  1
'037-038 RT3A SB AP'  'AG'  893.6  1119.1  875.2  1063.3  28  3.6  0.0  10.0
1  1
'038-039 RT3A SB AP'  'AG'  875.2  1063.9  842.6  1012.0  28  3.6  0.0  10.0
1  1
'039-040 RT3A SB AP'  'AG'  842.6  1012.3  799.7  964.2  28  3.6  0.0  10.0
1  1
'040-041 CSA SB DEP'  'AG'  994.0  999.5  1086.9  680.7  60  3.8  0.0  10.0
1  1
'041-042 CSA NB AP'  'AG'  1090.9  682.3  1048.7  822.8  718  3.8  0.0  10.0
1  1
'042-043 CSA NB Q'  'AG'  1048.7  822.8  995.7  1000.5  718  8.1  0.0  10.0
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 1\CO\SITE11.JPG" SITE11 3 UNKNOWN UNKNOWN 1 0 0
0 0 0 0 0 0 0 0 16777215 0 0 1 1 665.28 1329.05 680.5 1288.25
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 1\Site1_FNAM2030.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/13/2014 at 15:13:22

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

DATE : 06/13/ 0
TIME : 15:13:22

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1.	001-002 RT3 EB AP1	665.5	890.5	756.6	936.7	102.	63.	AG	516.	3.6	0.0	10.0		
2.	002-003 RT3 EB AP1	756.2	936.7	811.7	962.0	61.	65.	AG	516.	3.6	0.0	10.0		
3.	003-004 RT3 EB AP2	811.7	962.0	861.0	981.2	53.	69.	AG	491.	3.6	0.0	10.0		
4.	004-005 RT3 EB AP2	861.0	981.5	918.8	994.5	59.	77.	AG	491.	3.6	0.0	10.0		
5.	005-006 RT3 EB AP2	918.8	994.5	982.5	1000.7	64.	84.	AG	491.	3.6	0.0	10.0		
6.	006-007 RT3 EB AP3	982.5	1000.7	1042.4	998.7	60.	92.	AG	501.	3.6	0.0	10.0		
7.	007-008 RT3 EB AP3	1041.7	999.0	1116.0	986.3	75.	100.	AG	501.	3.6	0.0	10.0		
8.	009-010 RT3 EB AP3	1116.2	986.6	1187.1	963.4	75.	108.	AG	501.	3.6	0.0	10.0		
9.	010-011 RT9 EB DEP	1187.1	963.4	1239.8	937.4	59.	116.	AG	520.	3.6	0.0	10.0		
10.	011-012 RT9 EB DEP	1239.1	937.6	1329.1	878.5	108.	123.	AG	520.	3.6	0.0	10.0		
11.	012-013 RT9 WB AP	1329.6	881.9	1230.5	947.1	119.	303.	AG	780.	3.6	0.0	10.0		
12.	013-014 RT3A WB DEP	1230.2	946.6	1082.7	1046.6	178.	304.	AG	82.	3.6	0.0	10.0		
13.	014-015 RT3A WB DEP	1082.4	1046.6	1019.1	1096.7	81.	308.	AG	82.	3.6	0.0	10.0		
14.	015-016 RT3A WB DEP	1019.5	1096.7	977.8	1145.4	64.	319.	AG	82.	3.6	0.0	10.0		
15.	016-017 RT3A WB DEP	977.5	1145.7	877.1	1280.6	168.	323.	AG	82.	3.6	0.0	10.0		
16.	017-018 RT3A EB AP	897.5	1247.7	993.0	1121.2	159.	143.	AG	511.	3.6	0.0	10.0		
17.	018-019 RT3A EB AP	992.0	1121.2	1018.2	1092.5	39.	138.	AG	511.	3.6	0.0	10.0		
18.	019-020 RT3A EB AP	1018.2	1092.5	1080.5	1043.4	79.	128.	AG	511.	3.6	0.0	10.0		
19.	020-021 RT3A EBAP	1080.5	1043.7	1227.3	944.3	177.	124.	AG	511.	3.6	0.0	10.0		
20.	021-022 RT9 WB AP2	1229.6	947.2	1188.6	966.9	45.	296.	AG	708.	3.6	0.0	10.0		
21.	022-023 RT9 WB AP2	1188.6	966.9	1116.3	990.5	76.	288.	AG	708.	3.6	0.0	10.0		
22.	023-024 RT9 WB AP2	1116.0	990.5	1042.1	1002.4	75.	279.	AG	708.	3.6	0.0	10.0		
23.	024-025 RT9 WB AP2	1041.7	1002.4	983.6	1004.0	58.	272.	AG	708.	3.6	0.0	10.0		
24.	025-026 RT3 WB AP3	983.0	1004.0	918.1	996.9	65.	264.	AG	938.	3.6	0.0	10.0		
25.	026-027 RT3 WB AP3	918.4	996.9	860.7	985.0	59.	258.	AG	938.	3.6	0.0	10.0		
26.	027-028 RT3 WB AP3	860.3	984.7	810.6	965.3	53.	249.	AG	938.	3.6	0.0	10.0		
27.	028-029 RT3 WB DEP	810.3	965.3	755.5	940.1	60.	245.	AG	938.	3.6	0.0	10.0		
28.	029-030 RT3 WB DEP	754.5	939.8	665.1	894.0	100.	243.	AG	938.	3.6	0.0	10.0		
29.	030-031 RT3A NB DEP	801.9	962.4	846.1	1008.9	64.	44.	AG	55.	3.6	0.0	10.0		
30.	031-032 RT3A NB DEP	845.5	1009.5	877.5	1061.2	61.	32.	AG	55.	3.6	0.0	10.0		
31.	032-033 RT3A NB DEP	877.8	1061.7	895.9	1117.8	59.	18.	AG	55.	3.6	0.0	10.0		
32.	033-034 RT3A NB DEP	895.9	1117.8	900.0	1182.0	64.	4.	AG	55.	3.6	0.0	10.0		
33.	034-035 RT3A NB DEP	899.4	1181.7	883.9	1271.1	91.	350.	AG	55.	3.6	0.0	10.0		
34.	035-036 RT3A SB AP	881.0	1268.9	897.5	1181.7	89.	169.	AG	28.	3.6	0.0	10.0		
35.	036-037 RT3A SB AP	897.1	1182.0	893.6	1118.8	63.	183.	AG	28.	3.6	0.0	10.0		
36.	037-038 RT3A SB AP	893.6	1119.1	875.2	1063.3	59.	198.	AG	28.	3.6	0.0	10.0		
37.	038-039 RT3A SB AP	875.2	1063.9	842.6	1012.0	61.	212.	AG	28.	3.6	0.0	10.0		
38.	039-040 RT3A SB AP	842.6	1012.3	799.7	964.2	64.	222.	AG	28.	3.6	0.0	10.0		
39.	040-041 CSA SB DEP	994.0	999.5	1086.9	680.7	332.	164.	AG	60.	3.8	0.0	10.0		
40.	041-042 CSA NB AP	1090.9	682.3	1048.7	822.8	147.	343.	AG	718.	3.8	0.0	10.0		
41.	042-043 CSA NB Q	1048.7	822.8	995.7	1000.5	185.	343.	AG	718.	8.1	0.0	10.0		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

DATE : 06/13/ 0
TIME : 15:13:22

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1.	896.2	981.2	1.8
2.	958.4	990.3	1.8
3.	933.5	987.9	1.8
4.	1017.2	991.5	1.8

5.		*	1114.7	978.4	1.8 *
6.		*	1090.0	982.6	1.8 *
7.		*	1065.4	986.8	1.8 *
8.		*	1040.7	991.0	1.8 *
9.		*	1043.4	1010.3	1.8 *
10.		*	1068.1	1006.3	1.8 *
11.		*	1092.7	1002.3	1.8 *
12.		*	1008.8	1011.3	1.8 *
13.		*	917.2	1004.8	1.8 *
14.		*	942.1	1007.6	1.8 *
15.		*	966.9	1010.3	1.8 *
16.		*	859.1	992.8	1.8 *
17.		*	883.6	997.9	1.8 *
18.	HOME SW	*	1051.2	774.5	1.8 *
19.	HOME SW	*	1044.2	798.5	1.8 *
20.	HOME SW	*	1037.2	822.5	1.8 *
21.	HOME SW	*	1030.3	846.5	1.8 *
22.	HOME SW	*	1023.3	870.5	1.8 *
23.	HOME SW	*	1016.3	894.5	1.8 *
24.	HOME SW	*	1009.3	918.5	1.8 *
25.	HOME SW	*	1002.3	942.5	1.8 *
26.		*	995.3	966.5	1.8 *
27.		*	988.3	990.5	1.8 *
28.		*	1029.0	919.2	1.8 *
29.	HOME SE	*	1036.1	895.2	1.8 *
30.	HOME SE	*	1043.2	871.3	1.8 *
31.	HOME SE	*	1050.3	847.3	1.8 *
32.	HOME SE	*	1057.5	823.3	1.8 *
33.	HOME SE	*	1064.6	799.4	1.8 *
34.	HOME SE	*	1071.7	775.4	1.8 *
35.		*	1011.4	978.6	1.8 *
36.		*	1018.4	954.6	1.8 *
37.	HOME NW	*	880.7	1014.9	1.8 *
38.	HOME SW	*	872.1	968.7	1.8 *

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3
10.	*	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2
20.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
30.	*	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
40.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
50.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
60.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
70.	*	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
80.	*	0.0	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1
90.	*	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.4	0.3	0.1	0.1	0.1
100.	*	0.0	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.2	0.3	0.3	0.1	0.1	0.1
110.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.4	0.4	0.4	0.2	0.2	0.1	0.1	0.1
120.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1
130.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1
140.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1
150.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1
170.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	

0.0																				
190.	*	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
200.	*	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
210.	*	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
220.	*	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.3	0.2	0.1	0.3	0.2	0.2	0.1	0.2	0.2	0.0	0.0
0.0																				
230.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.3	0.3	0.1	0.3	0.2	0.2	0.2	0.3	0.1	0.0	0.0
0.0																				
240.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.3	0.2	0.2	0.2	0.3	0.1	0.3	0.2	0.3	0.0	0.0
0.0																				
250.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.3	0.2	0.2	0.3	0.2	0.3	0.4	0.0	0.1	0.0	0.0
0.0																				
260.	*	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.3	0.3	0.2	0.4	0.0	0.1	0.2	0.0	0.0	0.0	0.0
0.0																				
270.	*	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
280.	*	0.2	0.2	0.2	0.3	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
290.	*	0.2	0.2	0.1	0.3	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
300.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
310.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
320.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
330.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
340.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
350.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
0.3																				
------	*	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
----																				
MAX	*	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
0.3																				
DEGR.	*	10	80	0	280	20	0	0	0	220	110	120	260	110	110	110	90	90	350	350
0																				

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
0.	*	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
20.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
40.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
50.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
60.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
110.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
120.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
130.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
140.	*	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
150.	*	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
160.	*	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.3	0.3	0.1	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.3	0.3	0.1	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.1
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.2
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.1
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.2	0.0	0.1
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.2	0.0	0.1

310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.0	0.1
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.3	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.1	0.3	0.0	0.1
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.0	0.1	0.0	0.1
350.	*	0.3	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
MAX	*	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.1	0.2
DEGR.	*	0	0	0	0	150	150	50	170	170	180	320	320	330	330	170	170	100	50

THE HIGHEST CONCENTRATION OF 0.40 PPM OCCURRED AT RECEPTOR REC27.

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

DATE : 06/13/ 0
TIME : 15:13:22

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

	* CO/LINK (PPM)																	
	* ANGLE (DEGREES)																	
	* REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18
REC19 REC20																		
LINK # *	10	80	0	280	20	0	0	0	220	110	120	260	110	110	110	90	90	350
350 0																		
1 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
2 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
3 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
4 *	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
0.0 0.0																		
5 *	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0
0.0 0.0																		
6 *	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
0.0 0.0																		
7 *	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
8 *	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
9 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
10 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
11 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
12 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
13 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
14 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
15 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
16 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
17 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
18 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
19 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
20 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
21 *	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
22 *	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
23 *	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
0.0 0.0																		
24 *	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.0
0.0 0.0																		
25 *	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0
0.0 0.0																		
26 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
27 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
28 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
29 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
30 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
31 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		

32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
40	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
41	*	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.3
0.3	0.3																		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

DATE : 06/13/ 0
TIME : 15:13:22

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

LINK #	*	REC21 0	REC22 0	REC23 0	REC24 0	REC25 150	REC26 150	REC27 50	REC28 170	REC29 170	REC30 180	REC31 320	REC32 320	REC33 330	REC34 330	REC35 170	REC36 170	REC37 100	REC38 50
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
25	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
41	*	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.1	0.3	0.3	0.0	0.0

```
'SITE 1 ROUTE 3 AND CHALAN SANTA ANITA'  60.0  0.1  0.0  0.0  38  1  0  0  'PPM'
''  896.17  981.21  1.8
''  958.39  990.32  1.8
''  933.51  987.89  1.8
''  1017.15  991.54  1.8
''  1114.65  978.41  1.8
''  1090.01  982.63  1.8
''  1065.37  986.84  1.8
''  1040.72  991.05  1.8
''  1043.37  1010.3  1.8
''  1068.05  1006.32  1.8
''  1092.74  1002.35  1.8
''  1008.81  1011.31  1.8
''  917.23  1004.85  1.8
''  942.08  1007.57  1.8
''  966.93  1010.29  1.8
''  859.08  992.84  1.8
''  883.57  997.88  1.8
'HOME SW'  1051.24  774.47  1.8
'HOME SW'  1044.25  798.47  1.8
'HOME SW'  1037.25  822.47  1.8
'HOME SW'  1030.26  846.47  1.8
'HOME SW'  1023.27  870.48  1.8
'HOME SW'  1016.27  894.48  1.8
'HOME SW'  1009.28  918.48  1.8
'HOME SW'  1002.28  942.48  1.8
''  995.29  966.48  1.8
''  988.3  990.48  1.8
''  1028.97  919.18  1.8
'HOME SE'  1036.1  895.22  1.8
'HOME SE'  1043.22  871.26  1.8
'HOME SE'  1050.35  847.29  1.8
'HOME SE'  1057.48  823.33  1.8
'HOME SE'  1064.6  799.37  1.8
'HOME SE'  1071.73  775.41  1.8
''  1011.41  978.56  1.8
''  1018.44  954.57  1.8
'HOME NW'  880.7  1014.9  1.8
'HOME SW'  872.1  968.7  1.8
'FINEGAYAN NWF PM 2030'  41  1  1  'C'
1  1
'001-002 RT3 EB AP1'  'AG'  665.5  890.5  756.6  936.7  727  3.6  0.0  10.0
1  1
'002-003 RT3 EB AP1'  'AG'  756.2  936.7  811.7  962.0  727  3.6  0.0  10.0
1  1
'003-004 RT3 EB AP2'  'AG'  811.7  962.0  861.0  981.2  669  3.6  0.0  10.0
1  1
'004-005 RT3 EB AP2'  'AG'  861.0  981.5  918.8  994.5  669  3.6  0.0  10.0
1  1
'005-006 RT3 EB AP2'  'AG'  918.8  994.5  982.5  1000.7  669  3.6  0.0  10.0
1  1
'006-007 RT3 EB AP3'  'AG'  982.5  1000.7  1042.4  998.7  569  3.6  0.0  10.0
1  1
'007-008 RT3 EB AP3'  'AG'  1041.7  999.0  1116.0  986.3  569  3.6  0.0  10.0
1  1
'009-010 RT3 EB AP3'  'AG'  1116.2  986.6  1187.1  963.4  569  3.6  0.0  10.0
1  1
'010-011 RT9 EB DEP'  'AG'  1187.1  963.4  1239.8  937.4  640  3.6  0.0  10.0
1  1
'011-012 RT9 EB DEP'  'AG'  1239.1  937.6  1329.1  878.5  640  3.6  0.0  10.0
1  1
'012-013 RT9 WB AP'  'AG'  1329.6  881.9  1230.5  947.1  570  3.6  0.0  10.0
1  1
'013-014 RT3A WB DEP'  'AG'  1230.2  946.6  1082.7  1046.6  60  3.6  0.0  10.0
1  1
'014-015 RT3A WB DEP'  'AG'  1082.4  1046.6  1019.1  1096.7  60  3.6  0.0  10.0
1  1
'015-016 RT3A WB DEP'  'AG'  1019.5  1096.7  977.8  1145.4  60  3.6  0.0  10.0
1  1
'016-017 RT3A WB DEP'  'AG'  977.5  1145.7  877.1  1280.6  60  3.6  0.0  10.0
1  1
'017-018 RT3A EB AP'  'AG'  897.5  1247.7  993.0  1121.2  579  3.6  0.0  10.0
1  1
'018-019 RT3A EB AP'  'AG'  992.0  1121.2  1018.2  1092.5  579  3.6  0.0  10.0
1  1
'019-020 RT3A EB AP'  'AG'  1018.2  1092.5  1080.5  1043.4  579  3.6  0.0  10.0
1  1
'020-021 RT3A EBAP'  'AG'  1080.5  1043.7  1227.3  944.3  579  3.6  0.0  10.0
1  1
'021-022 RT9 WB AP2'  'AG'  1229.6  947.2  1188.6  966.9  520  3.6  0.0  10.0
1  1
'022-023 RT9 WB AP2'  'AG'  1188.6  966.9  1116.3  990.5  520  3.6  0.0  10.0
1  1
'023-024 RT9 WB AP2'  'AG'  1116.0  990.5  1042.1  1002.4  520  3.6  0.0  10.0
1  1
'024-025 RT9 WB AP2'  'AG'  1041.7  1002.4  983.6  1004.0  520  3.6  0.0  10.0
1  1
'025-026 RT3 WB AP3'  'AG'  983.0  1004.0  918.1  996.9  620  3.6  0.0  10.0
1  1
'026-027 RT3 WB AP3'  'AG'  918.4  996.9  860.7  985.0  620  3.6  0.0  10.0
1  1
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'027-028 RT3 WB AP3'  'AG'  860.3  984.7  810.6  965.3  620  3.6  0.0  10.0
1  1
'028-029 RT3 WB DEP'  'AG'  810.3  965.3  755.5  940.1  620  3.6  0.0  10.0
1  1
'029-030 RT3 WB DEP'  'AG'  754.5  939.8  665.1  894.0  620  3.6  0.0  10.0
1  1
'030-031 RT3A NB DEP'  'AG'  801.9  962.4  846.1  1008.9  28  3.6  0.0  10.0
1  1
'031-032 RT3A NB DEP'  'AG'  845.5  1009.5  877.5  1061.2  28  3.6  0.0  10.0
1  1
'032-033 RT3A NB DEP'  'AG'  877.8  1061.7  895.9  1117.8  28  3.6  0.0  10.0
1  1
'033-034 RT3A NB DEP'  'AG'  895.9  1117.8  900.0  1182.0  28  3.6  0.0  10.0
1  1
'034-035 RT3A NB DEP'  'AG'  899.4  1181.7  883.9  1271.1  28  3.6  0.0  10.0
1  1
'035-036 RT3A SB AP'  'AG'  881.0  1268.9  897.5  1181.7  55  3.6  0.0  10.0
1  1
'036-037 RT3A SB AP'  'AG'  897.1  1182.0  893.6  1118.8  55  3.6  0.0  10.0
1  1
'037-038 RT3A SB AP'  'AG'  893.6  1119.1  875.2  1063.3  55  3.6  0.0  10.0
1  1
'038-039 RT3A SB AP'  'AG'  875.2  1063.9  842.6  1012.0  55  3.6  0.0  10.0
1  1
'039-040 RT3A SB AP'  'AG'  842.6  1012.3  799.7  964.2  55  3.6  0.0  10.0
1  1
'040-041 CSA SB DEP'  'AG'  994.0  999.5  1086.9  680.7  160  3.8  0.0  10.0
1  1
'041-042 CSA NB AP'  'AG'  1092.6  682.2  1000.4  986.0  540  3.8  0.0  10.0
1  1
'042-043 CSA NB Q'  'AG'  1000.4  985.4  995.4  1000.8  540  8.1  0.0  10.0
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 1\CO\SITE11.JPG" SITE11 3 UNKNOWN UNKNOWN 1 0 0
0 0 0 0 0 0 0 0 16777215 0 0 1 1 665.28 1329.05 680.5 1288.25
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 1\Site1_FNPM2030.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/13/2014 at 15:25:55

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

DATE : 06/13/ 0
TIME : 15:25:55

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1.	001-002 RT3 EB AP1	665.5	890.5	756.6	936.7	102.	63.	AG	727.	3.6	0.0	10.0		
2.	002-003 RT3 EB AP1	756.2	936.7	811.7	962.0	61.	65.	AG	727.	3.6	0.0	10.0		
3.	003-004 RT3 EB AP2	811.7	962.0	861.0	981.2	53.	69.	AG	669.	3.6	0.0	10.0		
4.	004-005 RT3 EB AP2	861.0	981.5	918.8	994.5	59.	77.	AG	669.	3.6	0.0	10.0		
5.	005-006 RT3 EB AP2	918.8	994.5	982.5	1000.7	64.	84.	AG	669.	3.6	0.0	10.0		
6.	006-007 RT3 EB AP3	982.5	1000.7	1042.4	998.7	60.	92.	AG	569.	3.6	0.0	10.0		
7.	007-008 RT3 EB AP3	1041.7	999.0	1116.0	986.3	75.	100.	AG	569.	3.6	0.0	10.0		
8.	009-010 RT3 EB AP3	1116.2	986.6	1187.1	963.4	75.	108.	AG	569.	3.6	0.0	10.0		
9.	010-011 RT9 EB DEP	1187.1	963.4	1239.8	937.4	59.	116.	AG	640.	3.6	0.0	10.0		
10.	011-012 RT9 EB DEP	1239.1	937.6	1329.1	878.5	108.	123.	AG	640.	3.6	0.0	10.0		
11.	012-013 RT9 WB AP	1329.6	881.9	1230.5	947.1	119.	303.	AG	570.	3.6	0.0	10.0		
12.	013-014 RT3A WB DEP	1230.2	946.6	1082.7	1046.6	178.	304.	AG	60.	3.6	0.0	10.0		
13.	014-015 RT3A WB DEP	1082.4	1046.6	1019.1	1096.7	81.	308.	AG	60.	3.6	0.0	10.0		
14.	015-016 RT3A WB DEP	1019.5	1096.7	977.8	1145.4	64.	319.	AG	60.	3.6	0.0	10.0		
15.	016-017 RT3A WB DEP	977.5	1145.7	877.1	1280.6	168.	323.	AG	60.	3.6	0.0	10.0		
16.	017-018 RT3A EB AP	897.5	1247.7	993.0	1121.2	159.	143.	AG	579.	3.6	0.0	10.0		
17.	018-019 RT3A EB AP	992.0	1121.2	1018.2	1092.5	39.	138.	AG	579.	3.6	0.0	10.0		
18.	019-020 RT3A EB AP	1018.2	1092.5	1080.5	1043.4	79.	128.	AG	579.	3.6	0.0	10.0		
19.	020-021 RT3A EBAP	1080.5	1043.7	1227.3	944.3	177.	124.	AG	579.	3.6	0.0	10.0		
20.	021-022 RT9 WB AP2	1229.6	947.2	1188.6	966.9	45.	296.	AG	520.	3.6	0.0	10.0		
21.	022-023 RT9 WB AP2	1188.6	966.9	1116.3	990.5	76.	288.	AG	520.	3.6	0.0	10.0		
22.	023-024 RT9 WB AP2	1116.0	990.5	1042.1	1002.4	75.	279.	AG	520.	3.6	0.0	10.0		
23.	024-025 RT9 WB AP2	1041.7	1002.4	983.6	1004.0	58.	272.	AG	520.	3.6	0.0	10.0		
24.	025-026 RT3 WB AP3	983.0	1004.0	918.1	996.9	65.	264.	AG	620.	3.6	0.0	10.0		
25.	026-027 RT3 WB AP3	918.4	996.9	860.7	985.0	59.	258.	AG	620.	3.6	0.0	10.0		
26.	027-028 RT3 WB AP3	860.3	984.7	810.6	965.3	53.	249.	AG	620.	3.6	0.0	10.0		
27.	028-029 RT3 WB DEP	810.3	965.3	755.5	940.1	60.	245.	AG	620.	3.6	0.0	10.0		
28.	029-030 RT3 WB DEP	754.5	939.8	665.1	894.0	100.	243.	AG	620.	3.6	0.0	10.0		
29.	030-031 RT3A NB DEP	801.9	962.4	846.1	1008.9	64.	44.	AG	28.	3.6	0.0	10.0		
30.	031-032 RT3A NB DEP	845.5	1009.5	877.5	1061.2	61.	32.	AG	28.	3.6	0.0	10.0		
31.	032-033 RT3A NB DEP	877.8	1061.7	895.9	1117.8	59.	18.	AG	28.	3.6	0.0	10.0		
32.	033-034 RT3A NB DEP	895.9	1117.8	900.0	1182.0	64.	4.	AG	28.	3.6	0.0	10.0		
33.	034-035 RT3A NB DEP	899.4	1181.7	883.9	1271.1	91.	350.	AG	28.	3.6	0.0	10.0		
34.	035-036 RT3A SB AP	881.0	1268.9	897.5	1181.7	89.	169.	AG	55.	3.6	0.0	10.0		
35.	036-037 RT3A SB AP	897.1	1182.0	893.6	1118.8	63.	183.	AG	55.	3.6	0.0	10.0		
36.	037-038 RT3A SB AP	893.6	1119.1	875.2	1063.3	59.	198.	AG	55.	3.6	0.0	10.0		
37.	038-039 RT3A SB AP	875.2	1063.9	842.6	1012.0	61.	212.	AG	55.	3.6	0.0	10.0		
38.	039-040 RT3A SB AP	842.6	1012.3	799.7	964.2	64.	222.	AG	55.	3.6	0.0	10.0		
39.	040-041 CSA SB DEP	994.0	999.5	1086.9	680.7	332.	164.	AG	160.	3.8	0.0	10.0		
40.	041-042 CSA NB AP	1092.6	682.2	1000.4	986.0	317.	343.	AG	540.	3.8	0.0	10.0		
41.	042-043 CSA NB Q	1000.4	985.4	995.4	1000.8	16.	342.	AG	540.	8.1	0.0	10.0		

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1.	896.2	981.2	1.8
2.	958.4	990.3	1.8
3.	933.5	987.9	1.8
4.	1017.2	991.5	1.8

5.		*	1114.7	978.4	1.8 *
6.		*	1090.0	982.6	1.8 *
7.		*	1065.4	986.8	1.8 *
8.		*	1040.7	991.0	1.8 *
9.		*	1043.4	1010.3	1.8 *
10.		*	1068.1	1006.3	1.8 *
11.		*	1092.7	1002.3	1.8 *
12.		*	1008.8	1011.3	1.8 *
13.		*	917.2	1004.8	1.8 *
14.		*	942.1	1007.6	1.8 *
15.		*	966.9	1010.3	1.8 *
16.		*	859.1	992.8	1.8 *
17.		*	883.6	997.9	1.8 *
18.	HOME SW	*	1051.2	774.5	1.8 *
19.	HOME SW	*	1044.2	798.5	1.8 *
20.	HOME SW	*	1037.2	822.5	1.8 *
21.	HOME SW	*	1030.3	846.5	1.8 *
22.	HOME SW	*	1023.3	870.5	1.8 *
23.	HOME SW	*	1016.3	894.5	1.8 *
24.	HOME SW	*	1009.3	918.5	1.8 *
25.	HOME SW	*	1002.3	942.5	1.8 *
26.		*	995.3	966.5	1.8 *
27.		*	988.3	990.5	1.8 *
28.		*	1029.0	919.2	1.8 *
29.	HOME SE	*	1036.1	895.2	1.8 *
30.	HOME SE	*	1043.2	871.3	1.8 *
31.	HOME SE	*	1050.3	847.3	1.8 *
32.	HOME SE	*	1057.5	823.3	1.8 *
33.	HOME SE	*	1064.6	799.4	1.8 *
34.	HOME SE	*	1071.7	775.4	1.8 *
35.		*	1011.4	978.6	1.8 *
36.		*	1018.4	954.6	1.8 *
37.	HOME NW	*	880.7	1014.9	1.8 *
38.	HOME SW	*	872.1	968.7	1.8 *

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
10.	*	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
20.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
30.	*	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
40.	*	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
50.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
60.	*	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.1	0.0	0.1	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.3	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.2	0.2	0.0	0.2	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0

0.0																				
190.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
200.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.0	0.0
0.0																				
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.0	0.1	0.0	0.0
0.0																				
260.	*	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
270.	*	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
280.	*	0.2	0.2	0.2	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
290.	*	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
300.	*	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
310.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
320.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
330.	*	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
340.	*	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
350.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
0.1																				
------	*	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
----																				
MAX	*	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.1	0.1
0.1																				
DEGR.	*	0	0	290	280	50	40	40	40	260	110	120	180	100	100	110	90	90	0	0
0																				

♀ PAGE 4

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
0.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
20.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
40.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
50.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
60.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
70.	*	0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
110.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.2
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0

310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.1
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
350.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
MAX	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2
DEGR.	*	0	0	0	0	0	0	50	170	170	170	170	170	170	170	290	330	100	40

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC27.

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

DATE : 06/13/ 0
TIME : 15:25:55

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

LINK #	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	0	0	290	280	50	40	40	40	260	110	120	180	100	100	110	90	90	0	0	0
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
5	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
24	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
25	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
40	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
0.1	0.1																		
41	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

DATE : 06/13/ 0
TIME : 15:25:55

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

LINK #	*	REC21 0	REC22 0	REC23 0	REC24 0	REC25 0	REC26 0	REC27 50	REC28 170	REC29 170	REC30 170	REC31 170	REC32 170	REC33 170	REC34 170	REC35 290	REC36 330	REC37 100	REC38 40
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
25	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
41	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

```
'SITE 1 ROUTE 3 AND CHALAN SANTA ANITA'  60.0  0.1  0.0  0.0  38  1  0  0  'PPM'
''  896.17  981.21  1.8
''  958.39  990.32  1.8
''  933.51  987.89  1.8
''  1017.15  991.54  1.8
''  1114.65  978.41  1.8
''  1090.01  982.63  1.8
''  1065.37  986.84  1.8
''  1040.72  991.05  1.8
''  1043.37  1010.3  1.8
''  1068.05  1006.32  1.8
''  1092.74  1002.35  1.8
''  1008.81  1011.31  1.8
''  917.23  1004.85  1.8
''  942.08  1007.57  1.8
''  966.93  1010.29  1.8
''  859.08  992.84  1.8
''  883.57  997.88  1.8
'HOME SW'  1051.24  774.47  1.8
'HOME SW'  1044.25  798.47  1.8
'HOME SW'  1037.25  822.47  1.8
'HOME SW'  1030.26  846.47  1.8
'HOME SW'  1023.27  870.48  1.8
'HOME SW'  1016.27  894.48  1.8
'HOME SW'  1009.28  918.48  1.8
'HOME SW'  1002.28  942.48  1.8
''  995.29  966.48  1.8
''  988.3  990.48  1.8
''  1028.97  919.18  1.8
'HOME SE'  1036.1  895.22  1.8
'HOME SE'  1043.22  871.26  1.8
'HOME SE'  1050.35  847.29  1.8
'HOME SE'  1057.48  823.33  1.8
'HOME SE'  1064.6  799.37  1.8
'HOME SE'  1071.73  775.41  1.8
''  1011.41  978.56  1.8
''  1018.44  954.57  1.8
'HOME NW'  880.7  1014.9  1.8
'HOME SW'  872.1  968.7  1.8
'FINEGAYAN NWF AM 2021'  41  1  1  'C'
1  1
'001-002 RT3 EB AP1'  'AG'  665.5  890.5  756.6  936.7  954  3.8  0.0  10.0
1  1
'002-003 RT3 EB AP1'  'AG'  756.2  936.7  811.7  962.0  954  3.8  0.0  10.0
1  1
'003-004 RT3 EB AP2'  'AG'  811.7  962.0  861.0  981.2  397  3.8  0.0  10.0
1  1
'004-005 RT3 EB AP2'  'AG'  861.0  981.5  918.8  994.5  397  3.8  0.0  10.0
1  1
'005-006 RT3 EB AP2'  'AG'  918.8  994.5  982.5  1000.7  397  3.8  0.0  10.0
1  1
'006-007 RT3 EB AP3'  'AG'  982.5  1000.7  1042.4  998.7  397  3.8  0.0  10.0
1  1
'007-008 RT3 EB AP3'  'AG'  1041.7  999.0  1116.0  986.3  397  3.8  0.0  10.0
1  1
'009-010 RT3 EB AP3'  'AG'  1116.2  986.6  1187.1  963.4  397  3.8  0.0  10.0
1  1
'010-011 RT9 EB DEP'  'AG'  1187.1  963.4  1239.8  937.4  510  3.8  0.0  10.0
1  1
'011-012 RT9 EB DEP'  'AG'  1239.1  937.6  1329.1  878.5  510  3.8  0.0  10.0
1  1
'012-013 RT9 WB AP'  'AG'  1329.6  881.9  1230.5  947.1  890  3.8  0.0  10.0
1  1
'013-014 RT3A WB DEP'  'AG'  1230.2  946.6  1082.7  1046.6  374  3.8  0.0  10.0
1  1
'014-015 RT3A WB DEP'  'AG'  1082.4  1046.6  1019.1  1096.7  374  3.8  0.0  10.0
1  1
'015-016 RT3A WB DEP'  'AG'  1019.5  1096.7  977.8  1145.4  374  3.8  0.0  10.0
1  1
'016-017 RT3A WB DEP'  'AG'  977.5  1145.7  877.1  1280.6  374  3.8  0.0  10.0
1  1
'017-018 RT3A EB AP'  'AG'  897.5  1247.7  993.0  1121.2  397  3.8  0.0  10.0
1  1
'018-019 RT3A EB AP'  'AG'  992.0  1121.2  1018.2  1092.5  397  3.8  0.0  10.0
1  1
'019-020 RT3A EB AP'  'AG'  1018.2  1092.5  1080.5  1043.4  397  3.8  0.0  10.0
1  1
'020-021 RT3A EBAP'  'AG'  1080.5  1043.7  1227.3  944.3  397  3.8  0.0  10.0
1  1
'021-022 RT9 WB AP2'  'AG'  1229.6  947.2  1188.6  966.9  536  3.8  0.0  10.0
1  1
'022-023 RT9 WB AP2'  'AG'  1188.6  966.9  1116.3  990.5  536  3.8  0.0  10.0
1  1
'023-024 RT9 WB AP2'  'AG'  1116.0  990.5  1042.1  1002.4  536  3.8  0.0  10.0
1  1
'024-025 RT9 WB AP2'  'AG'  1041.7  1002.4  983.6  1004.0  536  3.8  0.0  10.0
1  1
'025-026 RT3 WB AP3'  'AG'  983.0  1004.0  918.1  996.9  816  3.8  0.0  10.0
1  1
'026-027 RT3 WB AP3'  'AG'  918.4  996.9  860.7  985.0  816  3.8  0.0  10.0
1  1
```

```
'027-028 RT3 WB AP3'  'AG'  860.3  984.7  810.6  965.3  816  3.8  0.0  10.0
1  1
'028-029 RT3 WB DEP'  'AG'  810.3  965.3  755.5  940.1  816  3.8  0.0  10.0
1  1
'029-030 RT3 WB DEP'  'AG'  754.5  939.8  665.1  894.0  816  3.8  0.0  10.0
1  1
'030-031 RT3A NB DEP'  'AG'  801.9  962.4  846.1  1008.9  587  3.8  0.0  10.0
1  1
'031-032 RT3A NB DEP'  'AG'  845.5  1009.5  877.5  1061.2  587  3.8  0.0  10.0
1  1
'032-033 RT3A NB DEP'  'AG'  877.8  1061.7  895.9  1117.8  587  3.8  0.0  10.0
1  1
'033-034 RT3A NB DEP'  'AG'  895.9  1117.8  900.0  1182.0  587  3.8  0.0  10.0
1  1
'034-035 RT3A NB DEP'  'AG'  899.4  1181.7  883.9  1271.1  587  3.8  0.0  10.0
1  1
'035-036 RT3A SB AP'  'AG'  881.0  1268.9  897.5  1181.7  61  3.8  0.0  10.0
1  1
'036-037 RT3A SB AP'  'AG'  897.1  1182.0  893.6  1118.8  61  3.8  0.0  10.0
1  1
'037-038 RT3A SB AP'  'AG'  893.6  1119.1  875.2  1063.3  61  3.8  0.0  10.0
1  1
'038-039 RT3A SB AP'  'AG'  875.2  1063.9  842.6  1012.0  61  3.8  0.0  10.0
1  1
'039-040 RT3A SB AP'  'AG'  842.6  1012.3  799.7  964.2  61  3.8  0.0  10.0
1  1
'040-041 CSA SB DEP'  'AG'  994.0  999.5  1086.9  680.7  60  4.1  0.0  10.0
1  1
'041-042 CSA AP'  'AG'  1090.1  682.8  1063.3  774.3  536  4.1  0.0  10.0
1  1
'042-043 CSA APQ'  'AG'  1062.7  774.3  995.8  999.7  536  8.9  0.0  10.0
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 1\CO\SITE11.JPG" SITE11 3 UNKNOWN UNKNOWN 1 0 0
0 0 0 0 0 0 0 0 16777215 0 0 1 1 665.28 1329.05 680.5 1288.25
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 1_Fin NWF_Other Alternative\Site1_FNAM2021_Alt.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/13/2014 at 15:44:48

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

DATE : 06/13/ 0
TIME : 15:44:48

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1.	001-002 RT3 EB AP1	665.5	890.5	756.6	936.7	102.	63.	AG	954.	3.8	0.0	10.0		
2.	002-003 RT3 EB AP1	756.2	936.7	811.7	962.0	61.	65.	AG	954.	3.8	0.0	10.0		
3.	003-004 RT3 EB AP2	811.7	962.0	861.0	981.2	53.	69.	AG	397.	3.8	0.0	10.0		
4.	004-005 RT3 EB AP2	861.0	981.5	918.8	994.5	59.	77.	AG	397.	3.8	0.0	10.0		
5.	005-006 RT3 EB AP2	918.8	994.5	982.5	1000.7	64.	84.	AG	397.	3.8	0.0	10.0		
6.	006-007 RT3 EB AP3	982.5	1000.7	1042.4	998.7	60.	92.	AG	397.	3.8	0.0	10.0		
7.	007-008 RT3 EB AP3	1041.7	999.0	1116.0	986.3	75.	100.	AG	397.	3.8	0.0	10.0		
8.	009-010 RT3 EB AP3	1116.2	986.6	1187.1	963.4	75.	108.	AG	397.	3.8	0.0	10.0		
9.	010-011 RT9 EB DEP	1187.1	963.4	1239.8	937.4	59.	116.	AG	510.	3.8	0.0	10.0		
10.	011-012 RT9 EB DEP	1239.1	937.6	1329.1	878.5	108.	123.	AG	510.	3.8	0.0	10.0		
11.	012-013 RT9 WB AP	1329.6	881.9	1230.5	947.1	119.	303.	AG	890.	3.8	0.0	10.0		
12.	013-014 RT3A WB DEP	1230.2	946.6	1082.7	1046.6	178.	304.	AG	374.	3.8	0.0	10.0		
13.	014-015 RT3A WB DEP	1082.4	1046.6	1019.1	1096.7	81.	308.	AG	374.	3.8	0.0	10.0		
14.	015-016 RT3A WB DEP	1019.5	1096.7	977.8	1145.4	64.	319.	AG	374.	3.8	0.0	10.0		
15.	016-017 RT3A WB DEP	977.5	1145.7	877.1	1280.6	168.	323.	AG	374.	3.8	0.0	10.0		
16.	017-018 RT3A EB AP	897.5	1247.7	993.0	1121.2	159.	143.	AG	397.	3.8	0.0	10.0		
17.	018-019 RT3A EB AP	992.0	1121.2	1018.2	1092.5	39.	138.	AG	397.	3.8	0.0	10.0		
18.	019-020 RT3A EB AP	1018.2	1092.5	1080.5	1043.4	79.	128.	AG	397.	3.8	0.0	10.0		
19.	020-021 RT3A EBAP	1080.5	1043.7	1227.3	944.3	177.	124.	AG	397.	3.8	0.0	10.0		
20.	021-022 RT9 WB AP2	1229.6	947.2	1188.6	966.9	45.	296.	AG	536.	3.8	0.0	10.0		
21.	022-023 RT9 WB AP2	1188.6	966.9	1116.3	990.5	76.	288.	AG	536.	3.8	0.0	10.0		
22.	023-024 RT9 WB AP2	1116.0	990.5	1042.1	1002.4	75.	279.	AG	536.	3.8	0.0	10.0		
23.	024-025 RT9 WB AP2	1041.7	1002.4	983.6	1004.0	58.	272.	AG	536.	3.8	0.0	10.0		
24.	025-026 RT3 WB AP3	983.0	1004.0	918.1	996.9	65.	264.	AG	816.	3.8	0.0	10.0		
25.	026-027 RT3 WB AP3	918.4	996.9	860.7	985.0	59.	258.	AG	816.	3.8	0.0	10.0		
26.	027-028 RT3 WB AP3	860.3	984.7	810.6	965.3	53.	249.	AG	816.	3.8	0.0	10.0		
27.	028-029 RT3 WB DEP	810.3	965.3	755.5	940.1	60.	245.	AG	816.	3.8	0.0	10.0		
28.	029-030 RT3 WB DEP	754.5	939.8	665.1	894.0	100.	243.	AG	816.	3.8	0.0	10.0		
29.	030-031 RT3A NB DEP	801.9	962.4	846.1	1008.9	64.	44.	AG	587.	3.8	0.0	10.0		
30.	031-032 RT3A NB DEP	845.5	1009.5	877.5	1061.2	61.	32.	AG	587.	3.8	0.0	10.0		
31.	032-033 RT3A NB DEP	877.8	1061.7	895.9	1117.8	59.	18.	AG	587.	3.8	0.0	10.0		
32.	033-034 RT3A NB DEP	895.9	1117.8	900.0	1182.0	64.	4.	AG	587.	3.8	0.0	10.0		
33.	034-035 RT3A NB DEP	899.4	1181.7	883.9	1271.1	91.	350.	AG	587.	3.8	0.0	10.0		
34.	035-036 RT3A SB AP	881.0	1268.9	897.5	1181.7	89.	169.	AG	61.	3.8	0.0	10.0		
35.	036-037 RT3A SB AP	897.1	1182.0	893.6	1118.8	63.	183.	AG	61.	3.8	0.0	10.0		
36.	037-038 RT3A SB AP	893.6	1119.1	875.2	1063.3	59.	198.	AG	61.	3.8	0.0	10.0		
37.	038-039 RT3A SB AP	875.2	1063.9	842.6	1012.0	61.	212.	AG	61.	3.8	0.0	10.0		
38.	039-040 RT3A SB AP	842.6	1012.3	799.7	964.2	64.	222.	AG	61.	3.8	0.0	10.0		
39.	040-041 CSA SB DEP	994.0	999.5	1086.9	680.7	332.	164.	AG	60.	4.1	0.0	10.0		
40.	041-042 CSA AP	1090.1	682.8	1063.3	774.3	95.	344.	AG	536.	4.1	0.0	10.0		
41.	042-043 CSA APQ	1062.7	774.3	995.8	999.7	235.	343.	AG	536.	8.9	0.0	10.0		

♀ PAGE 2

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

DATE : 06/13/ 0
TIME : 15:44:48

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1.	896.2	981.2	1.8
2.	958.4	990.3	1.8
3.	933.5	987.9	1.8
4.	1017.2	991.5	1.8

5.		*	1114.7	978.4	1.8 *
6.		*	1090.0	982.6	1.8 *
7.		*	1065.4	986.8	1.8 *
8.		*	1040.7	991.0	1.8 *
9.		*	1043.4	1010.3	1.8 *
10.		*	1068.1	1006.3	1.8 *
11.		*	1092.7	1002.3	1.8 *
12.		*	1008.8	1011.3	1.8 *
13.		*	917.2	1004.8	1.8 *
14.		*	942.1	1007.6	1.8 *
15.		*	966.9	1010.3	1.8 *
16.		*	859.1	992.8	1.8 *
17.		*	883.6	997.9	1.8 *
18.	HOME SW	*	1051.2	774.5	1.8 *
19.	HOME SW	*	1044.2	798.5	1.8 *
20.	HOME SW	*	1037.2	822.5	1.8 *
21.	HOME SW	*	1030.3	846.5	1.8 *
22.	HOME SW	*	1023.3	870.5	1.8 *
23.	HOME SW	*	1016.3	894.5	1.8 *
24.	HOME SW	*	1009.3	918.5	1.8 *
25.	HOME SW	*	1002.3	942.5	1.8 *
26.		*	995.3	966.5	1.8 *
27.		*	988.3	990.5	1.8 *
28.		*	1029.0	919.2	1.8 *
29.	HOME SE	*	1036.1	895.2	1.8 *
30.	HOME SE	*	1043.2	871.3	1.8 *
31.	HOME SE	*	1050.3	847.3	1.8 *
32.	HOME SE	*	1057.5	823.3	1.8 *
33.	HOME SE	*	1064.6	799.4	1.8 *
34.	HOME SE	*	1071.7	775.4	1.8 *
35.		*	1011.4	978.6	1.8 *
36.		*	1018.4	954.6	1.8 *
37.	HOME NW	*	880.7	1014.9	1.8 *
38.	HOME SW	*	872.1	968.7	1.8 *

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.2
10.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.2
20.	*	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
30.	*	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
40.	*	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
50.	*	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
60.	*	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
70.	*	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
80.	*	0.0	0.2	0.0	0.1	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
90.	*	0.0	0.1	0.0	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.3	0.3	0.1	0.1	0.1
100.	*	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.2	0.3	0.1	0.0	0.1	0.1
110.	*	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1
120.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1
130.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2
140.	*	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2
150.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1
170.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0

0.0																				
190.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
200.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
210.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
220.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.0	0.0
0.0																				
230.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.1	0.0	0.0
0.0																				
240.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.3	0.1	0.2	0.4	0.3	0.0	0.0
0.0																				
250.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.0	0.0
0.0																				
260.	*	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.0
0.0																				
270.	*	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
280.	*	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
290.	*	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
300.	*	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
310.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
320.	*	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
330.	*	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
340.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
350.	*	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
0.2																				
------	*	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
----																				
MAX	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.2
0.2																				
DEGR.	*	30	30	30	40	60	50	50	50	110	260	120	170	100	110	110	240	90	0	0
0																				

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
0.	*	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
20.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30.	*	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
40.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
50.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
60.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
110.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
120.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
140.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
160.	*	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.2	0.1	0.1	0.3	0.3	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.1	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.2
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.0	0.1
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.0	0.1

310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.1
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.2	0.0	0.1
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.1	0.0	0.1
350.	*	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
MAX	*	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.2
DEGR.	*	0	0	0	0	150	150	60	170	330	330	170	330	330	330	170	170	100	260

THE HIGHEST CONCENTRATION OF 0.40 PPM OCCURRED AT RECEPTOR REC16.

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

DATE : 06/13/ 0
TIME : 15:44:48

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

	* CO/LINK (PPM)																	
	* ANGLE (DEGREES)																	
	* REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	* 30	30	30	40	60	50	50	50	110	260	120	170	100	110	110	240	90	0	0	0
1	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
2	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
6	* 0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
7	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	* 0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	* 0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	* 0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
24	* 0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0
25	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
26	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
27	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
28	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

32 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
33 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
34 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
35 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
36 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
37 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
38 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
39 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
40 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
41 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.2	
0.2	0.2																		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2021

DATE : 06/13/ 0
TIME : 15:44:48

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

LINK #	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
	0	0	0	0	150	150	60	170	330	330	170	330	330	330	170	170	100	260
1 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 *	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 *	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
25 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
28 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41 *	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.0

```
'SITE 1 ROUTE 3 AND CHALAN SANTA ANITA'  60.0  0.1  0.0  0.0  38  1  0  0  'PPM'
''  896.17  981.21  1.8
''  958.39  990.32  1.8
''  933.51  987.89  1.8
''  1017.15  991.54  1.8
''  1114.65  978.41  1.8
''  1090.01  982.63  1.8
''  1065.37  986.84  1.8
''  1040.72  991.05  1.8
''  1043.37  1010.3  1.8
''  1068.05  1006.32  1.8
''  1092.74  1002.35  1.8
''  1008.81  1011.31  1.8
''  917.23  1004.85  1.8
''  942.08  1007.57  1.8
''  966.93  1010.29  1.8
''  859.08  992.84  1.8
''  883.57  997.88  1.8
'HOME SW'  1051.24  774.47  1.8
'HOME SW'  1044.25  798.47  1.8
'HOME SW'  1037.25  822.47  1.8
'HOME SW'  1030.26  846.47  1.8
'HOME SW'  1023.27  870.48  1.8
'HOME SW'  1016.27  894.48  1.8
'HOME SW'  1009.28  918.48  1.8
'HOME SW'  1002.28  942.48  1.8
''  995.29  966.48  1.8
''  988.3  990.48  1.8
''  1028.97  919.18  1.8
'HOME SE'  1036.1  895.22  1.8
'HOME SE'  1043.22  871.26  1.8
'HOME SE'  1050.35  847.29  1.8
'HOME SE'  1057.48  823.33  1.8
'HOME SE'  1064.6  799.37  1.8
'HOME SE'  1071.73  775.41  1.8
''  1011.41  978.56  1.8
''  1018.44  954.57  1.8
'HOME NW'  880.7  1014.9  1.8
'HOME SW'  872.1  968.7  1.8
'FINEGAYAN NWF PM 2021'  41  1  1  'C'
1  1
'001-002 RT3 EB AP1'  'AG'  665.5  890.5  756.6  936.7  664  3.8  0.0  10.0
1  1
'002-003 RT3 EB AP1'  'AG'  756.2  936.7  811.7  962.0  664  3.8  0.0  10.0
1  1
'003-004 RT3 EB AP2'  'AG'  811.7  962.0  861.0  981.2  585  3.8  0.0  10.0
1  1
'004-005 RT3 EB AP2'  'AG'  861.0  981.5  918.8  994.5  585  3.8  0.0  10.0
1  1
'005-006 RT3 EB AP2'  'AG'  918.8  994.5  982.5  1000.7  585  3.8  0.0  10.0
1  1
'006-007 RT3 EB AP3'  'AG'  982.5  1000.7  1042.4  998.7  435  3.8  0.0  10.0
1  1
'007-008 RT3 EB AP3'  'AG'  1041.7  999.0  1116.0  986.3  435  3.8  0.0  10.0
1  1
'009-010 RT3 EB AP3'  'AG'  1116.2  986.6  1187.1  963.4  435  3.8  0.0  10.0
1  1
'010-011 RT9 EB DEP'  'AG'  1187.1  963.4  1239.8  937.4  740  3.8  0.0  10.0
1  1
'011-012 RT9 EB DEP'  'AG'  1239.1  937.6  1329.1  878.5  740  3.8  0.0  10.0
1  1
'012-013 RT9 WB AP'  'AG'  1329.6  881.9  1230.5  947.1  550  3.8  0.0  10.0
1  1
'013-014 RT3A WB DEP'  'AG'  1230.2  946.6  1082.7  1046.6  154  3.8  0.0  10.0
1  1
'014-015 RT3A WB DEP'  'AG'  1082.4  1046.6  1019.1  1096.7  154  3.8  0.0  10.0
1  1
'015-016 RT3A WB DEP'  'AG'  1019.5  1096.7  977.8  1145.4  154  3.8  0.0  10.0
1  1
'016-017 RT3A WB DEP'  'AG'  977.5  1145.7  877.1  1280.6  154  3.8  0.0  10.0
1  1
'017-018 RT3A EB AP'  'AG'  897.5  1247.7  993.0  1121.2  435  3.8  0.0  10.0
1  1
'018-019 RT3A EB AP'  'AG'  992.0  1121.2  1018.2  1092.5  435  3.8  0.0  10.0
1  1
'019-020 RT3A EB AP'  'AG'  1018.2  1092.5  1080.5  1043.4  435  3.8  0.0  10.0
1  1
'020-021 RT3A EBAP'  'AG'  1080.5  1043.7  1227.3  944.3  435  3.8  0.0  10.0
1  1
'021-022 RT9 WB AP2'  'AG'  1229.6  947.2  1188.6  966.9  406  3.8  0.0  10.0
1  1
'022-023 RT9 WB AP2'  'AG'  1188.6  966.9  1116.3  990.5  406  3.8  0.0  10.0
1  1
'023-024 RT9 WB AP2'  'AG'  1116.0  990.5  1042.1  1002.4  406  3.8  0.0  10.0
1  1
'024-025 RT9 WB AP2'  'AG'  1041.7  1002.4  983.6  1004.0  406  3.8  0.0  10.0
1  1
'025-026 RT3 WB AP3'  'AG'  983.0  1004.0  918.1  996.9  526  3.8  0.0  10.0
1  1
'026-027 RT3 WB AP3'  'AG'  918.4  996.9  860.7  985.0  526  3.8  0.0  10.0
1  1
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'027-028 RT3 WB AP3'  'AG'  860.3  984.7  810.6  965.3  526  3.8  0.0  10.0
1  1
'028-029 RT3 WB DEP'  'AG'  810.3  965.3  755.5  940.1  526  3.8  0.0  10.0
1  1
'029-030 RT3 WB DEP'  'AG'  754.5  939.8  665.1  894.0  526  3.8  0.0  10.0
1  1
'030-031 RT3A NB DEP'  'AG'  801.9  962.4  846.1  1008.9  59  3.8  0.0  10.0
1  1
'031-032 RT3A NB DEP'  'AG'  845.5  1009.5  877.5  1061.2  59  3.8  0.0  10.0
1  1
'032-033 RT3A NB DEP'  'AG'  877.8  1061.7  895.9  1117.8  59  3.8  0.0  10.0
1  1
'033-034 RT3A NB DEP'  'AG'  895.9  1117.8  900.0  1182.0  59  3.8  0.0  10.0
1  1
'034-035 RT3A NB DEP'  'AG'  899.4  1181.7  883.9  1271.1  59  3.8  0.0  10.0
1  1
'035-036 RT3A SB AP'  'AG'  881.0  1268.9  897.5  1181.7  577  3.8  0.0  10.0
1  1
'036-037 RT3A SB AP'  'AG'  897.1  1182.0  893.6  1118.8  577  3.8  0.0  10.0
1  1
'037-038 RT3A SB AP'  'AG'  893.6  1119.1  875.2  1063.3  577  3.8  0.0  10.0
1  1
'038-039 RT3A SB AP'  'AG'  875.2  1063.9  842.6  1012.0  577  3.8  0.0  10.0
1  1
'039-040 RT3A SB AP'  'AG'  842.6  1012.3  799.7  964.2  577  3.8  0.0  10.0
1  1
'040-041 CSA SB DEP'  'AG'  994.0  999.5  1086.9  680.7  200  4.1  0.0  10.0
1  1
'041-042 CSA NB AP'  'AG'  1092.6  682.2  1000.4  986.0  436  4.1  0.0  10.0
1  1
'042-043 CSA NB Q'  'AG'  1000.4  985.4  995.4  1000.8  436  8.9  0.0  10.0
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 1\CO\SITE11.JPG" SITE11 3 UNKNOWN UNKNOWN 1 0 0
0 0 0 0 0 0 0 0 16777215 0 0 1 1 665.28 1329.05 680.5 1288.25
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 1_Fin NWF_Other Alternative\Site1_FNPM2021_Alt.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/13/2014 at 15:56:58

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

DATE : 06/13/ 0
TIME : 15:56:58

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1.	001-002 RT3 EB AP1	665.5	890.5	756.6	936.7	102.	63.	AG	664.	3.8	0.0	10.0		
2.	002-003 RT3 EB AP1	756.2	936.7	811.7	962.0	61.	65.	AG	664.	3.8	0.0	10.0		
3.	003-004 RT3 EB AP2	811.7	962.0	861.0	981.2	53.	69.	AG	585.	3.8	0.0	10.0		
4.	004-005 RT3 EB AP2	861.0	981.5	918.8	994.5	59.	77.	AG	585.	3.8	0.0	10.0		
5.	005-006 RT3 EB AP2	918.8	994.5	982.5	1000.7	64.	84.	AG	585.	3.8	0.0	10.0		
6.	006-007 RT3 EB AP3	982.5	1000.7	1042.4	998.7	60.	92.	AG	435.	3.8	0.0	10.0		
7.	007-008 RT3 EB AP3	1041.7	999.0	1116.0	986.3	75.	100.	AG	435.	3.8	0.0	10.0		
8.	009-010 RT3 EB AP3	1116.2	986.6	1187.1	963.4	75.	108.	AG	435.	3.8	0.0	10.0		
9.	010-011 RT9 EB DEP	1187.1	963.4	1239.8	937.4	59.	116.	AG	740.	3.8	0.0	10.0		
10.	011-012 RT9 EB DEP	1239.1	937.6	1329.1	878.5	108.	123.	AG	740.	3.8	0.0	10.0		
11.	012-013 RT9 WB AP	1329.6	881.9	1230.5	947.1	119.	303.	AG	550.	3.8	0.0	10.0		
12.	013-014 RT3A WB DEP	1230.2	946.6	1082.7	1046.6	178.	304.	AG	154.	3.8	0.0	10.0		
13.	014-015 RT3A WB DEP	1082.4	1046.6	1019.1	1096.7	81.	308.	AG	154.	3.8	0.0	10.0		
14.	015-016 RT3A WB DEP	1019.5	1096.7	977.8	1145.4	64.	319.	AG	154.	3.8	0.0	10.0		
15.	016-017 RT3A WB DEP	977.5	1145.7	877.1	1280.6	168.	323.	AG	154.	3.8	0.0	10.0		
16.	017-018 RT3A EB AP	897.5	1247.7	993.0	1121.2	159.	143.	AG	435.	3.8	0.0	10.0		
17.	018-019 RT3A EB AP	992.0	1121.2	1018.2	1092.5	39.	138.	AG	435.	3.8	0.0	10.0		
18.	019-020 RT3A EB AP	1018.2	1092.5	1080.5	1043.4	79.	128.	AG	435.	3.8	0.0	10.0		
19.	020-021 RT3A EBAP	1080.5	1043.7	1227.3	944.3	177.	124.	AG	435.	3.8	0.0	10.0		
20.	021-022 RT9 WB AP2	1229.6	947.2	1188.6	966.9	45.	296.	AG	406.	3.8	0.0	10.0		
21.	022-023 RT9 WB AP2	1188.6	966.9	1116.3	990.5	76.	288.	AG	406.	3.8	0.0	10.0		
22.	023-024 RT9 WB AP2	1116.0	990.5	1042.1	1002.4	75.	279.	AG	406.	3.8	0.0	10.0		
23.	024-025 RT9 WB AP2	1041.7	1002.4	983.6	1004.0	58.	272.	AG	406.	3.8	0.0	10.0		
24.	025-026 RT3 WB AP3	983.0	1004.0	918.1	996.9	65.	264.	AG	526.	3.8	0.0	10.0		
25.	026-027 RT3 WB AP3	918.4	996.9	860.7	985.0	59.	258.	AG	526.	3.8	0.0	10.0		
26.	027-028 RT3 WB AP3	860.3	984.7	810.6	965.3	53.	249.	AG	526.	3.8	0.0	10.0		
27.	028-029 RT3 WB DEP	810.3	965.3	755.5	940.1	60.	245.	AG	526.	3.8	0.0	10.0		
28.	029-030 RT3 WB DEP	754.5	939.8	665.1	894.0	100.	243.	AG	526.	3.8	0.0	10.0		
29.	030-031 RT3A NB DEP	801.9	962.4	846.1	1008.9	64.	44.	AG	59.	3.8	0.0	10.0		
30.	031-032 RT3A NB DEP	845.5	1009.5	877.5	1061.2	61.	32.	AG	59.	3.8	0.0	10.0		
31.	032-033 RT3A NB DEP	877.8	1061.7	895.9	1117.8	59.	18.	AG	59.	3.8	0.0	10.0		
32.	033-034 RT3A NB DEP	895.9	1117.8	900.0	1182.0	64.	4.	AG	59.	3.8	0.0	10.0		
33.	034-035 RT3A NB DEP	899.4	1181.7	883.9	1271.1	91.	350.	AG	59.	3.8	0.0	10.0		
34.	035-036 RT3A SB AP	881.0	1268.9	897.5	1181.7	89.	169.	AG	577.	3.8	0.0	10.0		
35.	036-037 RT3A SB AP	897.1	1182.0	893.6	1118.8	63.	183.	AG	577.	3.8	0.0	10.0		
36.	037-038 RT3A SB AP	893.6	1119.1	875.2	1063.3	59.	198.	AG	577.	3.8	0.0	10.0		
37.	038-039 RT3A SB AP	875.2	1063.9	842.6	1012.0	61.	212.	AG	577.	3.8	0.0	10.0		
38.	039-040 RT3A SB AP	842.6	1012.3	799.7	964.2	64.	222.	AG	577.	3.8	0.0	10.0		
39.	040-041 CSA SB DEP	994.0	999.5	1086.9	680.7	332.	164.	AG	200.	4.1	0.0	10.0		
40.	041-042 CSA NB AP	1092.6	682.2	1000.4	986.0	317.	343.	AG	436.	4.1	0.0	10.0		
41.	042-043 CSA NB Q	1000.4	985.4	995.4	1000.8	16.	342.	AG	436.	8.9	0.0	10.0		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

DATE : 06/13/ 0
TIME : 15:56:58

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1.	896.2	981.2	1.8
2.	958.4	990.3	1.8
3.	933.5	987.9	1.8
4.	1017.2	991.5	1.8

5.		*	1114.7	978.4	1.8 *
6.		*	1090.0	982.6	1.8 *
7.		*	1065.4	986.8	1.8 *
8.		*	1040.7	991.0	1.8 *
9.		*	1043.4	1010.3	1.8 *
10.		*	1068.1	1006.3	1.8 *
11.		*	1092.7	1002.3	1.8 *
12.		*	1008.8	1011.3	1.8 *
13.		*	917.2	1004.8	1.8 *
14.		*	942.1	1007.6	1.8 *
15.		*	966.9	1010.3	1.8 *
16.		*	859.1	992.8	1.8 *
17.		*	883.6	997.9	1.8 *
18.	HOME SW	*	1051.2	774.5	1.8 *
19.	HOME SW	*	1044.2	798.5	1.8 *
20.	HOME SW	*	1037.2	822.5	1.8 *
21.	HOME SW	*	1030.3	846.5	1.8 *
22.	HOME SW	*	1023.3	870.5	1.8 *
23.	HOME SW	*	1016.3	894.5	1.8 *
24.	HOME SW	*	1009.3	918.5	1.8 *
25.	HOME SW	*	1002.3	942.5	1.8 *
26.		*	995.3	966.5	1.8 *
27.		*	988.3	990.5	1.8 *
28.		*	1029.0	919.2	1.8 *
29.	HOME SE	*	1036.1	895.2	1.8 *
30.	HOME SE	*	1043.2	871.3	1.8 *
31.	HOME SE	*	1050.3	847.3	1.8 *
32.	HOME SE	*	1057.5	823.3	1.8 *
33.	HOME SE	*	1064.6	799.4	1.8 *
34.	HOME SE	*	1071.7	775.4	1.8 *
35.		*	1011.4	978.6	1.8 *
36.		*	1018.4	954.6	1.8 *
37.	HOME NW	*	880.7	1014.9	1.8 *
38.	HOME SW	*	872.1	968.7	1.8 *

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
10.	*	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
20.	*	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
30.	*	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	*	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60.	*	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.1	0.0	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.3	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.0	0.2	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.0	0.2	0.0	0.0	0.0

0.0																				
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.0	0.0
0.0																				
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.1	0.2	0.3	0.0	0.1	0.0	0.0
0.0																				
260.	*	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
270.	*	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
280.	*	0.2	0.2	0.2	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
290.	*	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
300.	*	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
310.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
320.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
330.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
340.	*	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
350.	*	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
0.2																				
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----																				
MAX	*	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2
0.2																				
DEGR.	*	10	10	10	280	80	90	70	70	110	110	120	110	100	100	150	90	90	350	350
350																				

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
0.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
10.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
20.	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
40.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
50.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
60.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110.	*	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0

310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
350.	*	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1
DEGR.	*	150	150	150	150	150	150	40	170	170	170	170	170	170	170	170	330	0	10

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC17.

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

DATE : 06/13/ 0
TIME : 15:56:58

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

	* CO/LINK (PPM)																	
	* ANGLE (DEGREES)																	
	* REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	* 10	10	10	280	80	90	70	70	110	110	120	110	100	100	150	90	90	350	350	350
1	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
5	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
6	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	* 0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	* 0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	* 0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	* 0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
25	* 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
26	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.1	0.1																		
40	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
0.1	0.1																		
41	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2021

DATE : 06/13/ 0
TIME : 15:56:58

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

	*	CO/LINK (PPM)																	
	*	ANGLE (DEGREES)																	
	*	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
LINK #	*	150	150	150	150	150	150	40	170	170	170	170	170	170	170	170	330	0	10
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
41	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

```
'SITE 1 ROUTE 3 AND CHALAN SANTA ANITA'  60.0  0.1  0.0  0.0  38  1  0  0  'PPM'
''  896.17  981.21  1.8
''  958.39  990.32  1.8
''  933.51  987.89  1.8
''  1017.15  991.54  1.8
''  1114.65  978.41  1.8
''  1090.01  982.63  1.8
''  1065.37  986.84  1.8
''  1040.72  991.05  1.8
''  1043.37  1010.3  1.8
''  1068.05  1006.32  1.8
''  1092.74  1002.35  1.8
''  1008.81  1011.31  1.8
''  917.23  1004.85  1.8
''  942.08  1007.57  1.8
''  966.93  1010.29  1.8
''  859.08  992.84  1.8
''  883.57  997.88  1.8
'HOME SW'  1051.24  774.47  1.8
'HOME SW'  1044.25  798.47  1.8
'HOME SW'  1037.25  822.47  1.8
'HOME SW'  1030.26  846.47  1.8
'HOME SW'  1023.27  870.48  1.8
'HOME SW'  1016.27  894.48  1.8
'HOME SW'  1009.28  918.48  1.8
'HOME SW'  1002.28  942.48  1.8
''  995.29  966.48  1.8
''  988.3  990.48  1.8
''  1028.97  919.18  1.8
'HOME SE'  1036.1  895.22  1.8
'HOME SE'  1043.22  871.26  1.8
'HOME SE'  1050.35  847.29  1.8
'HOME SE'  1057.48  823.33  1.8
'HOME SE'  1064.6  799.37  1.8
'HOME SE'  1071.73  775.41  1.8
''  1011.41  978.56  1.8
''  1018.44  954.57  1.8
'HOME NW'  880.7  1014.9  1.8
'HOME SW'  872.1  968.7  1.8
'FINEGAYAN NWF AM 2030'  41  1  1  'C'
1  1
'001-002 RT3 EB AP1'  'AG'  665.5  890.5  756.6  936.7  531  3.6  0.0  10.0
1  1
'002-003 RT3 EB AP1'  'AG'  756.2  936.7  811.7  962.0  531  3.6  0.0  10.0
1  1
'003-004 RT3 EB AP2'  'AG'  811.7  962.0  861.0  981.2  495  3.6  0.0  10.0
1  1
'004-005 RT3 EB AP2'  'AG'  861.0  981.5  918.8  994.5  495  3.6  0.0  10.0
1  1
'005-006 RT3 EB AP2'  'AG'  918.8  994.5  982.5  1000.7  495  3.6  0.0  10.0
1  1
'006-007 RT3 EB AP3'  'AG'  982.5  1000.7  1042.4  998.7  505  3.6  0.0  10.0
1  1
'007-008 RT3 EB AP3'  'AG'  1041.7  999.0  1116.0  986.3  505  3.6  0.0  10.0
1  1
'009-010 RT3 EB AP3'  'AG'  1116.2  986.6  1187.1  963.4  505  3.6  0.0  10.0
1  1
'010-011 RT9 EB DEP'  'AG'  1187.1  963.4  1239.8  937.4  530  3.6  0.0  10.0
1  1
'011-012 RT9 EB DEP'  'AG'  1239.1  937.6  1329.1  878.5  530  3.6  0.0  10.0
1  1
'012-013 RT9 WB AP'  'AG'  1329.6  881.9  1230.5  947.1  550  3.6  0.0  10.0
1  1
'013-014 RT3A WB DEP'  'AG'  1230.2  946.6  1082.7  1046.6  55  3.6  0.0  10.0
1  1
'014-015 RT3A WB DEP'  'AG'  1082.4  1046.6  1019.1  1096.7  55  3.6  0.0  10.0
1  1
'015-016 RT3A WB DEP'  'AG'  1019.5  1096.7  977.8  1145.4  55  3.6  0.0  10.0
1  1
'016-017 RT3A WB DEP'  'AG'  977.5  1145.7  877.1  1280.6  55  3.6  0.0  10.0
1  1
'017-018 RT3A EB AP'  'AG'  897.5  1247.7  993.0  1121.2  515  3.6  0.0  10.0
1  1
'018-019 RT3A EB AP'  'AG'  992.0  1121.2  1018.2  1092.5  515  3.6  0.0  10.0
1  1
'019-020 RT3A EB AP'  'AG'  1018.2  1092.5  1080.5  1043.4  515  3.6  0.0  10.0
1  1
'020-021 RT3A EBAP'  'AG'  1080.5  1043.7  1227.3  944.3  515  3.6  0.0  10.0
1  1
'021-022 RT9 WB AP2'  'AG'  1229.6  947.2  1188.6  966.9  505  3.6  0.0  10.0
1  1
'022-023 RT9 WB AP2'  'AG'  1188.6  966.9  1116.3  990.5  505  3.6  0.0  10.0
1  1
'023-024 RT9 WB AP2'  'AG'  1116.0  990.5  1042.1  1002.4  505  3.6  0.0  10.0
1  1
'024-025 RT9 WB AP2'  'AG'  1041.7  1002.4  983.6  1004.0  505  3.6  0.0  10.0
1  1
'025-026 RT3 WB AP3'  'AG'  983.0  1004.0  918.1  996.9  725  3.6  0.0  10.0
1  1
'026-027 RT3 WB AP3'  'AG'  918.4  996.9  860.7  985.0  725  3.6  0.0  10.0
1  1
```

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'027-028 RT3 WB AP3'  'AG'  860.3  984.7  810.6  965.3  725  3.6  0.0  10.0
1  1
'028-029 RT3 WB DEP'  'AG'  810.3  965.3  755.5  940.1  725  3.6  0.0  10.0
1  1
'029-030 RT3 WB DEP'  'AG'  754.5  939.8  665.1  894.0  725  3.6  0.0  10.0
1  1
'030-031 RT3A NB DEP'  'AG'  801.9  962.4  846.1  1008.9  56  3.6  0.0  10.0
1  1
'031-032 RT3A NB DEP'  'AG'  845.5  1009.5  877.5  1061.2  56  3.6  0.0  10.0
1  1
'032-033 RT3A NB DEP'  'AG'  877.8  1061.7  895.9  1117.8  56  3.6  0.0  10.0
1  1
'033-034 RT3A NB DEP'  'AG'  895.9  1117.8  900.0  1182.0  56  3.6  0.0  10.0
1  1
'034-035 RT3A NB DEP'  'AG'  899.4  1181.7  883.9  1271.1  56  3.6  0.0  10.0
1  1
'035-036 RT3A SB AP'  'AG'  881.0  1268.9  897.5  1181.7  35  3.6  0.0  10.0
1  1
'036-037 RT3A SB AP'  'AG'  897.1  1182.0  893.6  1118.8  35  3.6  0.0  10.0
1  1
'037-038 RT3A SB AP'  'AG'  893.6  1119.1  875.2  1063.3  35  3.6  0.0  10.0
1  1
'038-039 RT3A SB AP'  'AG'  875.2  1063.9  842.6  1012.0  35  3.6  0.0  10.0
1  1
'039-040 RT3A SB AP'  'AG'  842.6  1012.3  799.7  964.2  35  3.6  0.0  10.0
1  1
'040-041 CSA SB DEP'  'AG'  994.0  999.5  1086.9  680.7  60  3.8  0.0  10.0
1  1
'041-042 CSA NB AP'  'AG'  1090.9  682.3  1048.7  822.8  505  3.8  0.0  10.0
1  1
'042-043 CSA NB Q'  'AG'  1048.7  822.8  995.7  1000.5  505  8.1  0.0  10.0
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 1\CO\SITE11.JPG" SITE11 3 UNKNOWN UNKNOWN 1 0 0
0 0 0 0 0 0 0 0 16777215 0 0 1 1 665.28 1329.05 680.5 1288.25
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 1_Fin NWF_Other Alternative\Site1_FNAM2030_Alt.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/13/2014 at 16:05:41

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

DATE : 06/13/ 0
TIME : 16:05:41

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1.	001-002 RT3 EB AP1	665.5	890.5	756.6	936.7	102.	63.	AG	531.	3.6	0.0	10.0		
2.	002-003 RT3 EB AP1	756.2	936.7	811.7	962.0	61.	65.	AG	531.	3.6	0.0	10.0		
3.	003-004 RT3 EB AP2	811.7	962.0	861.0	981.2	53.	69.	AG	495.	3.6	0.0	10.0		
4.	004-005 RT3 EB AP2	861.0	981.5	918.8	994.5	59.	77.	AG	495.	3.6	0.0	10.0		
5.	005-006 RT3 EB AP2	918.8	994.5	982.5	1000.7	64.	84.	AG	495.	3.6	0.0	10.0		
6.	006-007 RT3 EB AP3	982.5	1000.7	1042.4	998.7	60.	92.	AG	505.	3.6	0.0	10.0		
7.	007-008 RT3 EB AP3	1041.7	999.0	1116.0	986.3	75.	100.	AG	505.	3.6	0.0	10.0		
8.	009-010 RT3 EB AP3	1116.2	986.6	1187.1	963.4	75.	108.	AG	505.	3.6	0.0	10.0		
9.	010-011 RT9 EB DEP	1187.1	963.4	1239.8	937.4	59.	116.	AG	530.	3.6	0.0	10.0		
10.	011-012 RT9 EB DEP	1239.1	937.6	1329.1	878.5	108.	123.	AG	530.	3.6	0.0	10.0		
11.	012-013 RT9 WB AP	1329.6	881.9	1230.5	947.1	119.	303.	AG	550.	3.6	0.0	10.0		
12.	013-014 RT3A WB DEP	1230.2	946.6	1082.7	1046.6	178.	304.	AG	55.	3.6	0.0	10.0		
13.	014-015 RT3A WB DEP	1082.4	1046.6	1019.1	1096.7	81.	308.	AG	55.	3.6	0.0	10.0		
14.	015-016 RT3A WB DEP	1019.5	1096.7	977.8	1145.4	64.	319.	AG	55.	3.6	0.0	10.0		
15.	016-017 RT3A WB DEP	977.5	1145.7	877.1	1280.6	168.	323.	AG	55.	3.6	0.0	10.0		
16.	017-018 RT3A EB AP	897.5	1247.7	993.0	1121.2	159.	143.	AG	515.	3.6	0.0	10.0		
17.	018-019 RT3A EB AP	992.0	1121.2	1018.2	1092.5	39.	138.	AG	515.	3.6	0.0	10.0		
18.	019-020 RT3A EB AP	1018.2	1092.5	1080.5	1043.4	79.	128.	AG	515.	3.6	0.0	10.0		
19.	020-021 RT3A EBAP	1080.5	1043.7	1227.3	944.3	177.	124.	AG	515.	3.6	0.0	10.0		
20.	021-022 RT9 WB AP2	1229.6	947.2	1188.6	966.9	45.	296.	AG	505.	3.6	0.0	10.0		
21.	022-023 RT9 WB AP2	1188.6	966.9	1116.3	990.5	76.	288.	AG	505.	3.6	0.0	10.0		
22.	023-024 RT9 WB AP2	1116.0	990.5	1042.1	1002.4	75.	279.	AG	505.	3.6	0.0	10.0		
23.	024-025 RT9 WB AP2	1041.7	1002.4	983.6	1004.0	58.	272.	AG	505.	3.6	0.0	10.0		
24.	025-026 RT3 WB AP3	983.0	1004.0	918.1	996.9	65.	264.	AG	725.	3.6	0.0	10.0		
25.	026-027 RT3 WB AP3	918.4	996.9	860.7	985.0	59.	258.	AG	725.	3.6	0.0	10.0		
26.	027-028 RT3 WB AP3	860.3	984.7	810.6	965.3	53.	249.	AG	725.	3.6	0.0	10.0		
27.	028-029 RT3 WB DEP	810.3	965.3	755.5	940.1	60.	245.	AG	725.	3.6	0.0	10.0		
28.	029-030 RT3 WB DEP	754.5	939.8	665.1	894.0	100.	243.	AG	725.	3.6	0.0	10.0		
29.	030-031 RT3A NB DEP	801.9	962.4	846.1	1008.9	64.	44.	AG	56.	3.6	0.0	10.0		
30.	031-032 RT3A NB DEP	845.5	1009.5	877.5	1061.2	61.	32.	AG	56.	3.6	0.0	10.0		
31.	032-033 RT3A NB DEP	877.8	1061.7	895.9	1117.8	59.	18.	AG	56.	3.6	0.0	10.0		
32.	033-034 RT3A NB DEP	895.9	1117.8	900.0	1182.0	64.	4.	AG	56.	3.6	0.0	10.0		
33.	034-035 RT3A NB DEP	899.4	1181.7	883.9	1271.1	91.	350.	AG	56.	3.6	0.0	10.0		
34.	035-036 RT3A SB AP	881.0	1268.9	897.5	1181.7	89.	169.	AG	35.	3.6	0.0	10.0		
35.	036-037 RT3A SB AP	897.1	1182.0	893.6	1118.8	63.	183.	AG	35.	3.6	0.0	10.0		
36.	037-038 RT3A SB AP	893.6	1119.1	875.2	1063.3	59.	198.	AG	35.	3.6	0.0	10.0		
37.	038-039 RT3A SB AP	875.2	1063.9	842.6	1012.0	61.	212.	AG	35.	3.6	0.0	10.0		
38.	039-040 RT3A SB AP	842.6	1012.3	799.7	964.2	64.	222.	AG	35.	3.6	0.0	10.0		
39.	040-041 CSA SB DEP	994.0	999.5	1086.9	680.7	332.	164.	AG	60.	3.8	0.0	10.0		
40.	041-042 CSA NB AP	1090.9	682.3	1048.7	822.8	147.	343.	AG	505.	3.8	0.0	10.0		
41.	042-043 CSA NB Q	1048.7	822.8	995.7	1000.5	185.	343.	AG	505.	8.1	0.0	10.0		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

DATE : 06/13/ 0
TIME : 16:05:41

ADDITIONAL QUEUE LINK PARAMETERS

	LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

	RECEPTOR	COORDINATES (M) X	Y	Z
1.		896.2	981.2	1.8
2.		958.4	990.3	1.8
3.		933.5	987.9	1.8
4.		1017.2	991.5	1.8

5.		*	1114.7	978.4	1.8 *
6.		*	1090.0	982.6	1.8 *
7.		*	1065.4	986.8	1.8 *
8.		*	1040.7	991.0	1.8 *
9.		*	1043.4	1010.3	1.8 *
10.		*	1068.1	1006.3	1.8 *
11.		*	1092.7	1002.3	1.8 *
12.		*	1008.8	1011.3	1.8 *
13.		*	917.2	1004.8	1.8 *
14.		*	942.1	1007.6	1.8 *
15.		*	966.9	1010.3	1.8 *
16.		*	859.1	992.8	1.8 *
17.		*	883.6	997.9	1.8 *
18.	HOME SW	*	1051.2	774.5	1.8 *
19.	HOME SW	*	1044.2	798.5	1.8 *
20.	HOME SW	*	1037.2	822.5	1.8 *
21.	HOME SW	*	1030.3	846.5	1.8 *
22.	HOME SW	*	1023.3	870.5	1.8 *
23.	HOME SW	*	1016.3	894.5	1.8 *
24.	HOME SW	*	1009.3	918.5	1.8 *
25.	HOME SW	*	1002.3	942.5	1.8 *
26.		*	995.3	966.5	1.8 *
27.		*	988.3	990.5	1.8 *
28.		*	1029.0	919.2	1.8 *
29.	HOME SE	*	1036.1	895.2	1.8 *
30.	HOME SE	*	1043.2	871.3	1.8 *
31.	HOME SE	*	1050.3	847.3	1.8 *
32.	HOME SE	*	1057.5	823.3	1.8 *
33.	HOME SE	*	1064.6	799.4	1.8 *
34.	HOME SE	*	1071.7	775.4	1.8 *
35.		*	1011.4	978.6	1.8 *
36.		*	1018.4	954.6	1.8 *
37.	HOME NW	*	880.7	1014.9	1.8 *
38.	HOME SW	*	872.1	968.7	1.8 *

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2
10.	*	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
20.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
30.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
40.	*	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
50.	*	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
60.	*	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
70.	*	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.0	0.1	0.0	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
90.	*	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.3	0.0	0.0	0.0
100.	*	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0
110.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1
120.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
130.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1
140.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.1
150.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
170.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0

0.0																				
190.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
200.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0
0.0																				
210.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
220.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.0	0.0
0.0																				
230.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0
0.0																				
240.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.0	0.0
0.0																				
250.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.3	0.2	0.3	0.2	0.0	0.1	0.0	0.0
0.0																				
260.	*	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0
0.0																				
270.	*	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
280.	*	0.2	0.2	0.2	0.3	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
290.	*	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
300.	*	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
310.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
320.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
330.	*	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
340.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
350.	*	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
0.2																				
------	*	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
----																				
MAX	*	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.2
0.2																				
DEGR.	*	0	0	0	280	70	60	50	40	110	110	110	220	100	130	110	90	90	0	0
0																				

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
0.	*	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
10.	*	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
20.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
30.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
40.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
50.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
60.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
110.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.2
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0

310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
350.	*	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
MAX	*	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2
DEGR.	*	0	0	0	0	0	140	60	170	170	170	180	310	330	330	170	170	100	50

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC27.

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

DATE : 06/13/ 0
TIME : 16:05:41

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

	* CO/LINK (PPM)																	
	* ANGLE (DEGREES)																	
	* REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18
REC19 REC20																		
LINK # *	0	0	0	280	70	60	50	40	110	110	110	220	100	130	110	90	90	0
0 0																		
1 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
2 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
3 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
4 *	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
0.0 0.0																		
5 *	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0
0.0 0.0																		
6 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
0.0 0.0																		
7 *	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
8 *	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
9 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
10 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
11 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
12 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
13 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
14 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
15 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
16 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
17 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
18 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
19 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
20 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
21 *	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
22 *	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
23 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
0.0 0.0																		
24 *	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0
0.0 0.0																		
25 *	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
0.0 0.0																		
26 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
27 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
28 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
29 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
30 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		
31 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0 0.0																		

32 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
33 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
34 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
35 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
36 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
37 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
38 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
39 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
40 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
0.0	0.0																		
41 *	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	
0.2	0.2																		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF AM 2030

DATE : 06/13/ 0
TIME : 16:05:41

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

LINK #	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
	0	0	0	0	0	140	60	170	170	170	180	310	330	330	170	170	100	50
1 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6 *	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23 *	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
25 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40 *	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
41 *	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.0	0.0

```
'SITE 1 ROUTE 3 AND CHALAN SANTA ANITA'  60.0  0.1  0.0  0.0  38  1  0  0  'PPM'
''  896.17  981.21  1.8
''  958.39  990.32  1.8
''  933.51  987.89  1.8
''  1017.15  991.54  1.8
''  1114.65  978.41  1.8
''  1090.01  982.63  1.8
''  1065.37  986.84  1.8
''  1040.72  991.05  1.8
''  1043.37  1010.3  1.8
''  1068.05  1006.32  1.8
''  1092.74  1002.35  1.8
''  1008.81  1011.31  1.8
''  917.23  1004.85  1.8
''  942.08  1007.57  1.8
''  966.93  1010.29  1.8
''  859.08  992.84  1.8
''  883.57  997.88  1.8
'HOME SW'  1051.24  774.47  1.8
'HOME SW'  1044.25  798.47  1.8
'HOME SW'  1037.25  822.47  1.8
'HOME SW'  1030.26  846.47  1.8
'HOME SW'  1023.27  870.48  1.8
'HOME SW'  1016.27  894.48  1.8
'HOME SW'  1009.28  918.48  1.8
'HOME SW'  1002.28  942.48  1.8
''  995.29  966.48  1.8
''  988.3  990.48  1.8
''  1028.97  919.18  1.8
'HOME SE'  1036.1  895.22  1.8
'HOME SE'  1043.22  871.26  1.8
'HOME SE'  1050.35  847.29  1.8
'HOME SE'  1057.48  823.33  1.8
'HOME SE'  1064.6  799.37  1.8
'HOME SE'  1071.73  775.41  1.8
''  1011.41  978.56  1.8
''  1018.44  954.57  1.8
'HOME NW'  880.7  1014.9  1.8
'HOME SW'  872.1  968.7  1.8
'FINEGAYAN NWF PM 2030'  41  1  1  'C'
1  1
'001-002 RT3 EB AP1'  'AG'  665.5  890.5  756.6  936.7  538  3.6  0.0  10.0
1  1
'002-003 RT3 EB AP1'  'AG'  756.2  936.7  811.7  962.0  538  3.6  0.0  10.0
1  1
'003-004 RT3 EB AP2'  'AG'  811.7  962.0  861.0  981.2  477  3.6  0.0  10.0
1  1
'004-005 RT3 EB AP2'  'AG'  861.0  981.5  918.8  994.5  477  3.6  0.0  10.0
1  1
'005-006 RT3 EB AP2'  'AG'  918.8  994.5  982.5  1000.7  477  3.6  0.0  10.0
1  1
'006-007 RT3 EB AP3'  'AG'  982.5  1000.7  1042.4  998.7  377  3.6  0.0  10.0
1  1
'007-008 RT3 EB AP3'  'AG'  1041.7  999.0  1116.0  986.3  377  3.6  0.0  10.0
1  1
'009-010 RT3 EB AP3'  'AG'  1116.2  986.6  1187.1  963.4  377  3.6  0.0  10.0
1  1
'010-011 RT9 EB DEP'  'AG'  1187.1  963.4  1239.8  937.4  440  3.6  0.0  10.0
1  1
'011-012 RT9 EB DEP'  'AG'  1239.1  937.6  1329.1  878.5  440  3.6  0.0  10.0
1  1
'012-013 RT9 WB AP'  'AG'  1329.6  881.9  1230.5  947.1  570  3.6  0.0  10.0
1  1
'013-014 RT3A WB DEP'  'AG'  1230.2  946.6  1082.7  1046.6  64  3.6  0.0  10.0
1  1
'014-015 RT3A WB DEP'  'AG'  1082.4  1046.6  1019.1  1096.7  64  3.6  0.0  10.0
1  1
'015-016 RT3A WB DEP'  'AG'  1019.5  1096.7  977.8  1145.4  64  3.6  0.0  10.0
1  1
'016-017 RT3A WB DEP'  'AG'  977.5  1145.7  877.1  1280.6  64  3.6  0.0  10.0
1  1
'017-018 RT3A EB AP'  'AG'  897.5  1247.7  993.0  1121.2  387  3.6  0.0  10.0
1  1
'018-019 RT3A EB AP'  'AG'  992.0  1121.2  1018.2  1092.5  387  3.6  0.0  10.0
1  1
'019-020 RT3A EB AP'  'AG'  1018.2  1092.5  1080.5  1043.4  387  3.6  0.0  10.0
1  1
'020-021 RT3A EBAP'  'AG'  1080.5  1043.7  1227.3  944.3  387  3.6  0.0  10.0
1  1
'021-022 RT9 WB AP2'  'AG'  1229.6  947.2  1188.6  966.9  516  3.6  0.0  10.0
1  1
'022-023 RT9 WB AP2'  'AG'  1188.6  966.9  1116.3  990.5  516  3.6  0.0  10.0
1  1
'023-024 RT9 WB AP2'  'AG'  1116.0  990.5  1042.1  1002.4  516  3.6  0.0  10.0
1  1
'024-025 RT9 WB AP2'  'AG'  1041.7  1002.4  983.6  1004.0  516  3.6  0.0  10.0
1  1
'025-026 RT3 WB AP3'  'AG'  983.0  1004.0  918.1  996.9  626  3.6  0.0  10.0
1  1
'026-027 RT3 WB AP3'  'AG'  918.4  996.9  860.7  985.0  626  3.6  0.0  10.0
1  1
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'027-028 RT3 WB AP3'  'AG'  860.3  984.7  810.6  965.3  626  3.6  0.0  10.0
1  1
'028-029 RT3 WB DEP'  'AG'  810.3  965.3  755.5  940.1  626  3.6  0.0  10.0
1  1
'029-030 RT3 WB DEP'  'AG'  754.5  939.8  665.1  894.0  626  3.6  0.0  10.0
1  1
'030-031 RT3A NB DEP'  'AG'  801.9  962.4  846.1  1008.9  31  3.6  0.0  10.0
1  1
'031-032 RT3A NB DEP'  'AG'  845.5  1009.5  877.5  1061.2  31  3.6  0.0  10.0
1  1
'032-033 RT3A NB DEP'  'AG'  877.8  1061.7  895.9  1117.8  31  3.6  0.0  10.0
1  1
'033-034 RT3A NB DEP'  'AG'  895.9  1117.8  900.0  1182.0  31  3.6  0.0  10.0
1  1
'034-035 RT3A NB DEP'  'AG'  899.4  1181.7  883.9  1271.1  31  3.6  0.0  10.0
1  1
'035-036 RT3A SB AP'  'AG'  881.0  1268.9  897.5  1181.7  55  3.6  0.0  10.0
1  1
'036-037 RT3A SB AP'  'AG'  897.1  1182.0  893.6  1118.8  55  3.6  0.0  10.0
1  1
'037-038 RT3A SB AP'  'AG'  893.6  1119.1  875.2  1063.3  55  3.6  0.0  10.0
1  1
'038-039 RT3A SB AP'  'AG'  875.2  1063.9  842.6  1012.0  55  3.6  0.0  10.0
1  1
'039-040 RT3A SB AP'  'AG'  842.6  1012.3  799.7  964.2  55  3.6  0.0  10.0
1  1
'040-041 CSA SB DEP'  'AG'  994.0  999.5  1086.9  680.7  170  3.8  0.0  10.0
1  1
'041-042 CSA NB AP'  'AG'  1092.6  682.2  1000.4  986.0  546  3.8  0.0  10.0
1  1
'042-043 CSA NB Q'  'AG'  1000.4  985.4  995.4  1000.8  546  8.1  0.0  10.0
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 1\CO\SITE11.JPG" SITE11 3 UNKNOWN UNKNOWN 1 0 0
0 0 0 0 0 0 0 0 16777215 0 0 1 1 665.28 1329.05 680.5 1288.25
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 1_Fin NWF_Other Alternative\Site1_FNPM2030_Alt.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/13/2014 at 16:14:41

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

DATE : 06/13/ 0
TIME : 16:14:41

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

	LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1.	001-002 RT3 EB AP1	*	665.5	890.5	756.6	936.7	*	102.	63.	AG	538.	3.6	0.0	10.0		
2.	002-003 RT3 EB AP1	*	756.2	936.7	811.7	962.0	*	61.	65.	AG	538.	3.6	0.0	10.0		
3.	003-004 RT3 EB AP2	*	811.7	962.0	861.0	981.2	*	53.	69.	AG	477.	3.6	0.0	10.0		
4.	004-005 RT3 EB AP2	*	861.0	981.5	918.8	994.5	*	59.	77.	AG	477.	3.6	0.0	10.0		
5.	005-006 RT3 EB AP2	*	918.8	994.5	982.5	1000.7	*	64.	84.	AG	477.	3.6	0.0	10.0		
6.	006-007 RT3 EB AP3	*	982.5	1000.7	1042.4	998.7	*	60.	92.	AG	377.	3.6	0.0	10.0		
7.	007-008 RT3 EB AP3	*	1041.7	999.0	1116.0	986.3	*	75.	100.	AG	377.	3.6	0.0	10.0		
8.	009-010 RT3 EB AP3	*	1116.2	986.6	1187.1	963.4	*	75.	108.	AG	377.	3.6	0.0	10.0		
9.	010-011 RT9 EB DEP	*	1187.1	963.4	1239.8	937.4	*	59.	116.	AG	440.	3.6	0.0	10.0		
10.	011-012 RT9 EB DEP	*	1239.1	937.6	1329.1	878.5	*	108.	123.	AG	440.	3.6	0.0	10.0		
11.	012-013 RT9 WB AP	*	1329.6	881.9	1230.5	947.1	*	119.	303.	AG	570.	3.6	0.0	10.0		
12.	013-014 RT3A WB DEP	*	1230.2	946.6	1082.7	1046.6	*	178.	304.	AG	64.	3.6	0.0	10.0		
13.	014-015 RT3A WB DEP	*	1082.4	1046.6	1019.1	1096.7	*	81.	308.	AG	64.	3.6	0.0	10.0		
14.	015-016 RT3A WB DEP	*	1019.5	1096.7	977.8	1145.4	*	64.	319.	AG	64.	3.6	0.0	10.0		
15.	016-017 RT3A WB DEP	*	977.5	1145.7	877.1	1280.6	*	168.	323.	AG	64.	3.6	0.0	10.0		
16.	017-018 RT3A EB AP	*	897.5	1247.7	993.0	1121.2	*	159.	143.	AG	387.	3.6	0.0	10.0		
17.	018-019 RT3A EB AP	*	992.0	1121.2	1018.2	1092.5	*	39.	138.	AG	387.	3.6	0.0	10.0		
18.	019-020 RT3A EB AP	*	1018.2	1092.5	1080.5	1043.4	*	79.	128.	AG	387.	3.6	0.0	10.0		
19.	020-021 RT3A EBAP	*	1080.5	1043.7	1227.3	944.3	*	177.	124.	AG	387.	3.6	0.0	10.0		
20.	021-022 RT9 WB AP2	*	1229.6	947.2	1188.6	966.9	*	45.	296.	AG	516.	3.6	0.0	10.0		
21.	022-023 RT9 WB AP2	*	1188.6	966.9	1116.3	990.5	*	76.	288.	AG	516.	3.6	0.0	10.0		
22.	023-024 RT9 WB AP2	*	1116.0	990.5	1042.1	1002.4	*	75.	279.	AG	516.	3.6	0.0	10.0		
23.	024-025 RT9 WB AP2	*	1041.7	1002.4	983.6	1004.0	*	58.	272.	AG	516.	3.6	0.0	10.0		
24.	025-026 RT3 WB AP3	*	983.0	1004.0	918.1	996.9	*	65.	264.	AG	626.	3.6	0.0	10.0		
25.	026-027 RT3 WB AP3	*	918.4	996.9	860.7	985.0	*	59.	258.	AG	626.	3.6	0.0	10.0		
26.	027-028 RT3 WB AP3	*	860.3	984.7	810.6	965.3	*	53.	249.	AG	626.	3.6	0.0	10.0		
27.	028-029 RT3 WB DEP	*	810.3	965.3	755.5	940.1	*	60.	245.	AG	626.	3.6	0.0	10.0		
28.	029-030 RT3 WB DEP	*	754.5	939.8	665.1	894.0	*	100.	243.	AG	626.	3.6	0.0	10.0		
29.	030-031 RT3A NB DEP	*	801.9	962.4	846.1	1008.9	*	64.	44.	AG	31.	3.6	0.0	10.0		
30.	031-032 RT3A NB DEP	*	845.5	1009.5	877.5	1061.2	*	61.	32.	AG	31.	3.6	0.0	10.0		
31.	032-033 RT3A NB DEP	*	877.8	1061.7	895.9	1117.8	*	59.	18.	AG	31.	3.6	0.0	10.0		
32.	033-034 RT3A NB DEP	*	895.9	1117.8	900.0	1182.0	*	64.	4.	AG	31.	3.6	0.0	10.0		
33.	034-035 RT3A NB DEP	*	899.4	1181.7	883.9	1271.1	*	91.	350.	AG	31.	3.6	0.0	10.0		
34.	035-036 RT3A SB AP	*	881.0	1268.9	897.5	1181.7	*	89.	169.	AG	55.	3.6	0.0	10.0		
35.	036-037 RT3A SB AP	*	897.1	1182.0	893.6	1118.8	*	63.	183.	AG	55.	3.6	0.0	10.0		
36.	037-038 RT3A SB AP	*	893.6	1119.1	875.2	1063.3	*	59.	198.	AG	55.	3.6	0.0	10.0		
37.	038-039 RT3A SB AP	*	875.2	1063.9	842.6	1012.0	*	61.	212.	AG	55.	3.6	0.0	10.0		
38.	039-040 RT3A SB AP	*	842.6	1012.3	799.7	964.2	*	64.	222.	AG	55.	3.6	0.0	10.0		
39.	040-041 CSA SB DEP	*	994.0	999.5	1086.9	680.7	*	332.	164.	AG	170.	3.8	0.0	10.0		
40.	041-042 CSA NB AP	*	1092.6	682.2	1000.4	986.0	*	317.	343.	AG	546.	3.8	0.0	10.0		
41.	042-043 CSA NB Q	*	1000.4	985.4	995.4	1000.8	*	16.	342.	AG	546.	8.1	0.0	10.0		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

DATE : 06/13/ 0
TIME : 16:14:41

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z	*
1.	*	896.2	981.2	1.8	*
2.	*	958.4	990.3	1.8	*
3.	*	933.5	987.9	1.8	*
4.	*	1017.2	991.5	1.8	*

5.		*	1114.7	978.4	1.8 *
6.		*	1090.0	982.6	1.8 *
7.		*	1065.4	986.8	1.8 *
8.		*	1040.7	991.0	1.8 *
9.		*	1043.4	1010.3	1.8 *
10.		*	1068.1	1006.3	1.8 *
11.		*	1092.7	1002.3	1.8 *
12.		*	1008.8	1011.3	1.8 *
13.		*	917.2	1004.8	1.8 *
14.		*	942.1	1007.6	1.8 *
15.		*	966.9	1010.3	1.8 *
16.		*	859.1	992.8	1.8 *
17.		*	883.6	997.9	1.8 *
18.	HOME SW	*	1051.2	774.5	1.8 *
19.	HOME SW	*	1044.2	798.5	1.8 *
20.	HOME SW	*	1037.2	822.5	1.8 *
21.	HOME SW	*	1030.3	846.5	1.8 *
22.	HOME SW	*	1023.3	870.5	1.8 *
23.	HOME SW	*	1016.3	894.5	1.8 *
24.	HOME SW	*	1009.3	918.5	1.8 *
25.	HOME SW	*	1002.3	942.5	1.8 *
26.		*	995.3	966.5	1.8 *
27.		*	988.3	990.5	1.8 *
28.		*	1029.0	919.2	1.8 *
29.	HOME SE	*	1036.1	895.2	1.8 *
30.	HOME SE	*	1043.2	871.3	1.8 *
31.	HOME SE	*	1050.3	847.3	1.8 *
32.	HOME SE	*	1057.5	823.3	1.8 *
33.	HOME SE	*	1064.6	799.4	1.8 *
34.	HOME SE	*	1071.7	775.4	1.8 *
35.		*	1011.4	978.6	1.8 *
36.		*	1018.4	954.6	1.8 *
37.	HOME NW	*	880.7	1014.9	1.8 *
38.	HOME SW	*	872.1	968.7	1.8 *

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
10.	*	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
20.	*	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
30.	*	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
40.	*	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
50.	*	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
60.	*	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.2	0.1	0.2	0.0	0.2	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.2	0.0	0.1	0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.0	0.1	0.0	0.1	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.3	0.0	0.0	0.0
100.	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1
110.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1
120.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0
180.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0

0.0																				
190.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
200.	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
0.0																				
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.0
0.0																				
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.0	0.0
0.0																				
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0
0.0																				
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.0	0.0
0.0																				
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.2	0.3	0.2	0.0	0.1	0.0	0.0
0.0																				
260.	*	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
270.	*	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
280.	*	0.2	0.2	0.2	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
290.	*	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
300.	*	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
310.	*	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
320.	*	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
330.	*	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
340.	*	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0																				
350.	*	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
0.1																				
------	*	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
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MAX	*	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.1	0.1
0.1																				
DEGR.	*	10	20	20	280	70	60	60	60	120	260	120	170	100	250	110	90	90	0	0
0																				

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38
0.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
50.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
60.	*	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70.	*	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.	*	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
110.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160.	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
250.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
260.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
270.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
280.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
290.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
300.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0

310.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
320.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
330.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0
340.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
350.	*	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAX	*	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1
DEGR.	*	0	0	0	0	0	0	70	170	170	170	170	170	170	170	300	330	100	40

THE HIGHEST CONCENTRATION OF 0.30 PPM OCCURRED AT RECEPTOR REC27.

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

DATE : 06/13/ 0
TIME : 16:14:41

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

		CO/LINK (PPM)																	
		ANGLE (DEGREES)																	
		REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
LINK #	*	10	20	20	280	70	60	60	60	120	260	120	170	100	250	110	90	90	0	0	0
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
5	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
24	*	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
25	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0
26	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		
40	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
0.1	0.1																		
41	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0																		

JOB: SITE 1 ROUTE 3 AND CHALAN SANTA ANITA RUN: FINEGAYAN NWF PM 2030

DATE : 06/13/ 0
TIME : 16:14:41

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

LINK #	*	REC21 0	REC22 0	REC23 0	REC24 0	REC25 0	REC26 0	REC27 70	REC28 170	REC29 170	REC30 170	REC31 170	REC32 170	REC33 170	REC34 170	REC35 300	REC36 330	REC37 100	REC38 40
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
25	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	*	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
41	*	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0

Site 2

```
'SITE 2 ROUTE 1 AND ROUTE 3'  60.0  0.1  0.0  0.0  39  1  0  0  'PPM'
''  662.84  893.97  1.8
''  903.43  976.07  1.8
''  935.65  979.57  1.8
''  969.16  979.58  1.8
''  1061.25  962.75  1.8
''  1036.99  968.78  1.8
''  1012.73  974.81  1.8
''  1081.54  953.46  1.8
''  1240.37  844.14  1.8
''  1248.1  886.8  1.8
''  1076.26  999.27  1.8
''  1099.22  989.38  1.8
''  1025.88  1012.11  1.8
''  1050.15  1006.11  1.8
''  932.3  1016.8  1.8
''  957.3  1016.8  1.8
''  982.3  1016.8  1.8
''  888.67  1011.09  1.8
''  663.01  934.36  1.8
''  1138.12  1213.39  1.8
''  1062.07  1084.09  1.8
''  1049.4  1062.55  1.8
''  1036.72  1041.0  1.8
''  1024.05  1019.45  1.8
''  1101.44  1206.62  1.8
''  995.52  1036.48  1.8
''  1008.6  1057.78  1.8
''  1021.69  1079.09  1.8
'HOME SE'  998.5  955.8  1.8
'HOME SE'  1033.5  949.7  1.8
'HOME SW'  938.0  952.0  1.8
'HOME SW'  875.5  948.2  1.8
'HOME SW'  818.0  934.5  1.8
'HOME SW'  740.7  902.2  1.8
'HOME SW'  682.8  882.3  1.8
'HOME SW'  610.1  856.1  1.8
'HOME NE'  1336.3  839.3  1.8
'HOME NE'  1358.7  818.4  1.8
'HOME SE'  1240.3  817.1  1.8
'FINEGAYAN NWF 2021 AM'  28  1  1  'C'
1  1
'001-002 RT1 EB APRCH'  'AG'  552.5  866.4  682.3  913.6  1150  3.8  0.0  17.0
1  1
'002-003 RT1 EB THRU'  'AG'  681.8  913.4  851.6  974.8  440  3.8  0.0  17.0
1  1
'003-004 RT1 EB THRU'  'AG'  851.3  974.9  900.5  987.5  440  3.8  0.0  17.0
1  1
'004-005 RT1 EB THRU'  'AG'  900.5  987.7  934.4  991.3  440  3.8  0.0  17.0
1  1
'005-006 RT1 EB THRU'  'AG'  934.4  991.5  994.2  991.3  440  3.8  0.0  17.0
2  1
'006-007 RT1 EB THRUQ'  'AG'  974.1  991.5  936.0  991.7  0.0  10.0  3
120  48  2  440  15.6  1663  1  3
1  1
'007-008 RT1 EB LEFT'  'AG'  679.2  919.2  859.5  984.2  710  3.8  0.0  10.0
1  1
'008-009 RT1 EB LEFT'  'AG'  859.5  984.2  898.8  993.8  710  3.8  0.0  10.0
1  1
'009-010 RT1 EB LEFT'  'AG'  898.4  993.6  934.4  997.6  710  3.8  0.0  10.0
1  1
'010-011 RT1 EB LEFT'  'AG'  934.6  997.6  994.2  997.3  710  3.8  0.0  10.0
2  1
'011-012 RT1 EB LEFTQ'  'AG'  973.9  997.6  935.8  997.6  0.0  3.0  1
120  94  2  710  15.6  1736  1  3
1  1
'012-013 RT1 EB DEPAR'  'AG'  994.5  991.5  1064.1  974.2  740  3.8  0.0  17.0
1  1
'013-014 RT1 EB DEPAR'  'AG'  1064.1  974.2  1132.0  943.8  740  3.8  0.0  17.0
1  1
'014-015 RT1 EB DEPAR'  'AG'  1131.5  944.2  1197.9  894.7  740  3.8  0.0  17.0
1  1
'015-016 RT1 EB DEPAR'  'AG'  1197.4  894.7  1383.1  742.2  740  3.8  0.0  17.0
1  1
'016-017 RT1 WB APRCH'  'AG'  1390.0  755.3  1182.6  925.2  2130  3.8  0.0  17.0
1  1
'017-018 RT1 WB APRCH'  'AG'  1182.2  925.2  1138.1  956.8  2130  3.8  0.0  17.0
1  1
'018-019 RT1 WB APRCH'  'AG'  1138.1  957.6  1070.8  986.6  2130  3.8  0.0  21.0
1  1
'019-020 RT1 WB APRCH'  'AG'  1070.8  986.8  998.3  1004.7  2130  3.8  0.0  21.0
2  1
'020-021 RT1 WB APQ'  'AG'  1024.4  997.9  1076.7  983.5  0.0  15.0  4
120  79  2  2130  15.6  1642  1  3
1  1
'021-022 RT1 WB DEPAR'  'AG'  998.3  1005.0  932.3  1005.0  3650  3.8  0.0  17.0
1  1
'022-023 RT1 WB DEPAR'  'AG'  932.5  1005.3  890.3  999.4  3650  3.8  0.0  17.0
1  1
'023-024 RT1 WB DEPAR'  'AG'  890.6  999.7  846.8  987.9  3650  3.8  0.0  17.0
1  1
```

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'024-025 RT1 WB DEPAR'  'AG'  846.3  988.2  549.5  880.7  3650  3.8  0.0  17.0
1  1
'025-026 RT3 NB DEPAR'  'AG'  1007.0  1009.8  1167.7  1283.0  1020  3.8  0.0  13.0
1  1
'026-027 RT3 SB APRCH'  'AG'  1158.3  1281.7  1032.2  1073.2  2130  3.8  0.0  13.0
1  1
'027-028 RT3 SB APRCH'  'AG'  1032.1  1073.5  992.5  1009.0  2130  3.8  0.0  17.0
2  1
'028-029 SB APRCHQ'  'AG'  1001.2  1022.0  1037.2  1081.2  0.0  11.0  3
120  84  2  2130  15.6  1491  1  3
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2 - ROUTE 1-ROUTE 3\CO\SITE21.JPG" SITE21 3
UNKNOWN UNKNOWN 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 543.11 1475.35 738.92 1282.84
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2 - ROUTE 1-ROUTE 3\CO\SITE211.JPG" SITE211 3
UNKNOWN UNKNOWN 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 543.11 1475.35 738.92 1282.84
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2\CO\SITE2111.JPG" SITE2111 3 UNKNOWN UNKNOWN 1
0 0 0 0 0 0 0 0 0 0 16777215 0 0 1 1 543.11 1475.35 738.92 1282.84
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 2\Site2_FNAM21.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/11/2014 at 11:35:11

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2021 AM

DATE : 06/11/ 0
TIME : 11:35:11

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
1. 001-002 RT1 EB APRCH	*	552.5	866.4	682.3	913.6	*	138.	70.	AG	1150.	3.8	0.0	17.0		
2. 002-003 RT1 EB THRU	*	681.8	913.4	851.6	974.8	*	181.	70.	AG	440.	3.8	0.0	17.0		
3. 003-004 RT1 EB THRU	*	851.3	974.9	900.5	987.5	*	51.	76.	AG	440.	3.8	0.0	17.0		
4. 004-005 RT1 EB THRU	*	900.5	987.7	934.4	991.3	*	34.	84.	AG	440.	3.8	0.0	17.0		
5. 005-006 RT1 EB THRU	*	934.4	991.5	994.2	991.3	*	60.	90.	AG	440.	3.8	0.0	17.0		
6. 006-007 RT1 EB THRUQ	*	974.1	991.5	962.4	991.6	*	12.	270.	AG	50.	100.0	0.0	10.0	0.15	1.9
7. 007-008 RT1 EB LEFT	*	679.2	919.2	859.5	984.2	*	192.	70.	AG	710.	3.8	0.0	10.0		
8. 008-009 RT1 EB LEFT	*	859.5	984.2	898.8	993.8	*	40.	76.	AG	710.	3.8	0.0	10.0		
9. 009-010 RT1 EB LEFT	*	898.4	993.6	934.4	997.6	*	36.	84.	AG	710.	3.8	0.0	10.0		
10. 010-011 RT1 EB LEFT	*	934.6	997.6	994.2	997.3	*	60.	90.	AG	710.	3.8	0.0	10.0		
11. 011-012 RT1 EB LEFTQ	*	973.9	997.6	-372.4	997.6	*	1346.	270.	AG	33.	100.0	0.0	3.0	2.23	224.4
12. 012-013 RT1 EB DEPAR	*	994.5	991.5	1064.1	974.2	*	72.	104.	AG	740.	3.8	0.0	17.0		
13. 013-014 RT1 EB DEPAR	*	1064.1	974.2	1132.0	943.8	*	74.	114.	AG	740.	3.8	0.0	17.0		
14. 014-015 RT1 EB DEPAR	*	1131.5	944.2	1197.9	894.7	*	83.	127.	AG	740.	3.8	0.0	17.0		
15. 015-016 RT1 EB DEPAR	*	1197.4	894.7	1383.1	742.2	*	240.	129.	AG	740.	3.8	0.0	17.0		
16. 016-017 RT1 WB APRCH	*	1390.0	755.3	1182.6	925.2	*	268.	309.	AG	2130.	3.8	0.0	17.0		
17. 017-018 RT1 WB APRCH	*	1182.2	925.2	1138.1	956.8	*	54.	306.	AG	2130.	3.8	0.0	17.0		
18. 018-019 RT1 WB APRCH	*	1138.1	957.6	1070.8	986.6	*	73.	293.	AG	2130.	3.8	0.0	21.0		
19. 019-020 RT1 WB APRCH	*	1070.8	986.8	998.3	1004.7	*	75.	284.	AG	2130.	3.8	0.0	21.0		
20. 020-021 RT1 WB APQ	*	1024.4	997.9	1200.9	949.3	*	183.	105.	AG	110.	100.0	0.0	15.0	1.05	30.5
21. 021-022 RT1 WB DEPAR	*	998.3	1005.0	932.3	1005.0	*	66.	270.	AG	3650.	3.8	0.0	17.0		
22. 022-023 RT1 WB DEPAR	*	932.5	1005.3	890.3	999.4	*	43.	262.	AG	3650.	3.8	0.0	17.0		
23. 023-024 RT1 WB DEPAR	*	890.6	999.7	846.8	987.9	*	45.	255.	AG	3650.	3.8	0.0	17.0		
24. 024-025 RT1 WB DEPAR	*	846.3	988.2	549.5	880.7	*	316.	250.	AG	3650.	3.8	0.0	17.0		
25. 025-026 RT3 NB DEPAR	*	1007.0	1009.8	1167.7	1283.0	*	317.	30.	AG	1020.	3.8	0.0	13.0		
26. 026-027 RT3 SB APRCH	*	1158.3	1281.7	1032.2	1073.2	*	244.	211.	AG	2130.	3.8	0.0	13.0		
27. 027-028 RT3 SB APRCH	*	1032.1	1073.5	992.5	1009.0	*	76.	212.	AG	2130.	3.8	0.0	17.0		
28. 028-029 SB APRCHQ	*	1001.2	1022.0	1568.2	1954.4	*	1091.	31.	AG	88.	100.0	0.0	11.0	1.79	181.9

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2021 AM

DATE : 06/11/ 0
TIME : 11:35:11

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
6. 006-007 RT1 EB THRUQ	*	120	48	2.0	440	1663	15.60	1	3
11. 011-012 RT1 EB LEFTQ	*	120	94	2.0	710	1736	15.60	1	3
20. 020-021 RT1 WB APQ	*	120	79	2.0	2130	1642	15.60	1	3
28. 028-029 SB APRCHQ	*	120	84	2.0	2130	1491	15.60	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z	*
1.	*	662.8	894.0	1.8	*
2.	*	903.4	976.1	1.8	*
3.	*	935.7	979.6	1.8	*
4.	*	969.2	979.6	1.8	*
5.	*	1061.2	962.7	1.8	*
6.	*	1037.0	968.8	1.8	*
7.	*	1012.7	974.8	1.8	*
8.	*	1081.5	953.5	1.8	*
9.	*	1240.4	844.1	1.8	*

10.		*	1248.1	886.8	1.8 *
11.		*	1076.3	999.3	1.8 *
12.		*	1099.2	989.4	1.8 *
13.		*	1025.9	1012.1	1.8 *
14.		*	1050.2	1006.1	1.8 *
15.		*	932.3	1016.8	1.8 *
16.		*	957.3	1016.8	1.8 *
17.		*	982.3	1016.8	1.8 *
18.		*	888.7	1011.1	1.8 *
19.		*	663.0	934.4	1.8 *
20.		*	1138.1	1213.4	1.8 *
21.		*	1062.1	1084.1	1.8 *
22.		*	1049.4	1062.6	1.8 *
23.		*	1036.7	1041.0	1.8 *
24.		*	1024.1	1019.5	1.8 *
25.		*	1101.4	1206.6	1.8 *
26.		*	995.5	1036.5	1.8 *
27.		*	1008.6	1057.8	1.8 *
28.		*	1021.7	1079.1	1.8 *
29.	HOME SE	*	998.5	955.8	1.8 *
30.	HOME SE	*	1033.5	949.7	1.8 *
31.	HOME SW	*	938.0	952.0	1.8 *
32.	HOME SW	*	875.5	948.2	1.8 *
33.	HOME SW	*	818.0	934.5	1.8 *
34.	HOME SW	*	740.7	902.2	1.8 *
35.	HOME SW	*	682.8	882.3	1.8 *
36.	HOME SW	*	610.1	856.1	1.8 *
37.	HOME NE	*	1336.3	839.3	1.8 *
38.	HOME NE	*	1358.7	818.4	1.8 *
39.	HOME SE	*	1240.3	817.1	1.8 *

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2021 AM

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.4	0.4	0.2	0.5	0.7	0.8	0.6	0.7	0.2	0.0	0.2	0.2	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.6
10.	*	0.4	0.4	0.3	0.4	0.8	0.8	0.8	0.6	0.3	0.0	0.3	0.2	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.7
20.	*	0.4	0.4	0.4	0.5	0.6	0.9	0.8	0.6	0.3	0.0	0.1	0.1	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.7
30.	*	0.4	0.5	0.5	1.4	0.4	0.6	0.6	0.4	0.2	0.0	0.0	0.0	0.4	0.1	0.0	0.1	0.3	0.0	0.0	0.3
40.	*	0.5	0.8	1.1	1.3	0.5	0.5	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.5	1.0	0.1	0.0	0.0
50.	*	0.7	0.8	1.1	0.5	0.5	0.5	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.8	0.2	0.1	0.0
60.	*	0.6	0.7	0.7	0.2	0.5	0.5	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.7	0.2	0.0	0.0
70.	*	0.1	0.4	0.6	0.4	0.6	0.6	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.6	0.2	0.4	0.0
80.	*	0.1	0.2	0.3	0.5	0.6	0.6	0.6	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4	0.2	0.9	0.0
90.	*	0.0	0.3	0.5	0.6	0.6	0.6	0.6	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.6	0.8	0.0
100.	*	0.0	0.0	0.1	0.2	0.4	0.4	0.4	0.2	0.3	0.0	0.0	0.0	0.0	0.0	1.1	0.8	0.6	1.4	0.7	0.0
110.	*	0.0	0.1	0.1	0.1	0.4	0.1	0.1	0.2	0.3	0.0	0.2	0.3	0.6	0.4	1.1	1.2	1.3	0.9	0.6	0.0
120.	*	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.3	0.4	0.0	0.9	0.9	1.2	1.1	0.9	0.8	1.1	0.7	0.5	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	1.3	1.3	0.8	1.0	0.7	0.6	0.6	0.6	0.4	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.7	0.8	0.7	0.7	0.6	0.5	0.6	0.5	0.5	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.7	0.8	0.6	0.5	0.5	0.6	0.4	0.5	0.5	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.3	0.5	0.1
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.5	0.6	0.6	0.3	0.4	0.4	0.6	0.5	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.6	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.1
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.5	0.3	0.5	0.4	0.4	0.4	0.5	0.5	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.5	0.2	0.5	0.5	0.5	0.6	0.6	0.5	

0.0																				
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.5	0.2	0.5	0.5	0.5	0.6	0.6	0.6
0.2																				
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.5	0.3	0.6	0.5	0.5	0.5	0.7	0.7
1.1																				
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.6	0.2	0.5	0.7	0.6	0.7	0.8	0.8
0.8																				
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.6	0.2	0.6	0.9	0.8	0.8	1.2	0.9
0.7																				
250.	*	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.6	0.6	0.6	1.4	1.4	1.0	1.0	0.2
0.5																				
260.	*	0.3	0.6	0.4	0.2	0.1	0.1	0.2	0.1	0.0	0.4	1.0	1.0	1.4	0.8	0.4	0.9	1.2	0.1	0.0
0.5																				
270.	*	0.5	0.6	0.5	0.4	0.2	0.2	0.3	0.1	0.0	0.5	1.2	1.6	0.9	0.9	0.1	0.1	0.2	0.1	0.0
0.5																				
280.	*	0.5	0.6	0.5	0.4	0.3	0.3	0.3	0.2	0.1	0.4	0.4	0.8	0.2	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
290.	*	0.4	0.6	0.5	0.5	0.4	0.4	0.7	0.2	0.0	0.5	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
300.	*	0.4	0.6	0.7	0.5	0.4	0.4	0.4	0.3	0.1	0.7	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
310.	*	0.4	0.5	0.6	0.6	0.5	0.3	0.4	0.6	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
320.	*	0.4	0.3	0.6	0.6	0.7	0.4	0.3	0.7	0.5	0.1	0.2	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.5																				
330.	*	0.3	0.3	0.4	0.5	0.7	0.6	0.5	0.6	0.4	0.0	0.1	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
340.	*	0.3	0.2	0.3	0.5	0.7	0.7	0.3	0.6	0.3	0.0	0.2	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
350.	*	0.3	0.3	0.3	0.4	0.7	0.8	0.5	0.6	0.3	0.0	0.2	0.2	0.5	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
------	*	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
----																				
MAX	*	0.7	0.8	1.1	1.4	0.8	0.9	0.8	0.7	0.5	0.7	1.3	1.6	1.4	1.1	1.4	1.4	1.3	1.4	0.9
1.1																				
DEGR.	*	50	40	40	30	10	20	10	320	320	300	130	270	260	120	250	250	110	100	80
220																				

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2021 AM

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
0.	*	0.6	0.6	0.7	0.6	0.0	0.0	0.0	0.0	0.4	0.5	0.1	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.1
10.	*	0.7	0.7	0.6	0.6	0.0	0.0	0.0	0.0	0.6	0.5	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.1
20.	*	0.8	0.8	0.9	0.9	0.0	0.0	0.0	0.0	0.6	0.6	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.1
30.	*	0.5	0.5	0.5	0.6	0.4	0.4	0.4	0.4	0.6	0.3	0.5	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.1
40.	*	0.0	0.0	0.0	0.0	1.1	1.1	1.1	1.0	0.2	0.2	0.9	0.4	0.3	0.3	0.2	0.3	0.0	0.0	0.1
50.	*	0.0	0.0	0.0	0.0	0.9	0.9	1.0	0.9	0.3	0.3	0.2	0.3	0.4	0.4	0.5	0.5	0.0	0.0	0.1
60.	*	0.0	0.0	0.0	0.0	0.7	0.7	0.8	0.7	0.3	0.3	0.1	0.3	0.4	0.3	0.2	0.2	0.0	0.0	0.1
70.	*	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.3	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.0	0.0	0.0	0.0	0.7	0.6	0.5	0.6	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
90.	*	0.0	0.0	0.0	0.0	0.6	0.5	0.5	0.5	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
100.	*	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
110.	*	0.0	0.0	0.0	0.2	0.5	0.6	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
120.	*	0.0	0.0	0.1	0.9	0.5	1.2	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.2	0.5	0.8	0.5	0.9	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.2	0.4	0.3	0.5	0.5	0.8	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.2	0.2	0.4	0.4	0.6	0.6	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
160.	*	0.2	0.2	0.3	0.4	0.7	0.4	0.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
170.	*	0.2	0.2	0.2	0.4	0.8	0.5	0.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
180.	*	0.2	0.2	0.2	0.3	0.8	0.5	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
190.	*	0.2	0.2	0.2	0.2	1.0	0.4	0.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
200.	*	0.2	0.2	0.1	0.2	1.1	0.3	0.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
210.	*	0.1	0.1	0.1	0.2	0.7	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
220.	*	0.5	0.4	0.2	0.2	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
230.	*	0.7	0.7	0.5	0.4	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
240.	*	0.9	0.9	0.8	0.5	0.1	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
250.	*	0.7	0.9	1.1	1.0	0.0	0.7	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
260.	*	0.5	0.5	0.7	1.3	0.0	0.2	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.2	0.0	0.0	0.1	0.1	0.0
270.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.0	0.2	0.2	0.0
280.	*	0.5	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.1	0.3	0.3	0.1
290.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.0
300.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.0
310.	*	0.5	0.4	0.5	0.5	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.1
320.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.0	0.0	0.2
330.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0	0.3
340.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0	0.3

```
 350.  *   0.5   0.5   0.5   0.5   0.0   0.0   0.0   0.0   0.2   0.4   0.1   0.2   0.2   0.2   0.3   0.3   0.0   0.0   0.2
 ------*-------------------------------------------------------------------------------------------------------------------
 MAX   *   0.9   0.9   1.1   1.3   1.1   1.2   1.1   1.0   0.6   0.6   0.9   0.4   0.4   0.4   0.5   0.5   0.3   0.3   0.3
 DEGR. *  240   240   250   260    40   120    40    40    10    20    40    40    50    50    50    50   280   280   330

 THE HIGHEST CONCENTRATION OF    1.60 PPM OCCURRED AT RECEPTOR REC12.
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JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2021 AM

DATE : 06/11/ 0
TIME : 11:35:11

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

```
          *    CO/LINK  (PPM)
          *    ANGLE (DEGREES)
          *  REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18
REC19 REC20
   LINK # *    50    40    40    30    10    20    10   320   320   300   130   270   260   120   250   250   110   100
80   220

-------*-------------------------------------------------------------------------------------------------------------------
-----
      1  *   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      2  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      3  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      4  *   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      5  *   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      6  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      7  *   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.0
0.1   0.0
      8  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      9  *   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     10  *   0.0   0.0   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.1
0.0   0.0
     11  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.1   0.1   0.0   0.1
0.0   0.0
     12  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     13  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     14  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     15  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     16  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.3   0.2   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0
     17  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0
     18  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.4   0.2   0.0   0.3   0.0   0.0   0.1   0.1
0.0   0.0
     19  *   0.0   0.0   0.0   0.0   0.2   0.2   0.2   0.2   0.0   0.0   0.0   0.3   0.2   0.1   0.0   0.0   0.3   0.1
0.0   0.0
     20  *   0.0   0.0   0.0   0.0   0.2   0.2   0.0   0.2   0.1   0.2   0.4   0.5   0.0   0.5   0.0   0.0   0.5   0.2
0.0   0.0
     21  *   0.0   0.1   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.5   0.0   0.0   0.3   0.2   0.3
0.0   0.1
     22  *   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.4   0.4   0.0   0.5
0.0   0.0
     23  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.3   0.2   0.0   0.0
0.0   0.0
     24  *   0.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.0   0.5   0.3   0.0   0.0
0.8   0.0
     25  *   0.0   0.0   0.1   0.1   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.3
     26  *   0.0   0.1   0.2   0.2   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.3
     27  *   0.0   0.0   0.0   0.2   0.0   0.0   0.1   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.2   0.0
0.0   0.1
     28  *   0.1   0.2   0.3   0.5   0.1   0.2   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.3
```


JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2021 AM

DATE : 06/11/ 0
TIME : 11:35:11

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

		REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
LINK #	*	240	240	250	260	40	120	40	40	10	20	40	40	50	50	50	50	280	280	330
1	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	*	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1
17	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
18	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	*	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	*	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
21	*	0.1	0.2	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	*	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
23	*	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
24	*	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.1	0.1	0.0
25	*	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	*	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.4	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
27	*	0.2	0.2	0.2	0.2	0.0	0.2	0.1	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	*	0.2	0.2	0.2	0.0	0.6	0.2	0.5	0.5	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0

CO/LINK (PPM)
ANGLE (DEGREES)

```
'SITE 2 ROUTE 1 AND ROUTE 3'  60.0  0.1  0.0  0.0  39  1  0  0  'PPM'
''  662.84  893.97  1.8
''  903.43  976.07  1.8
''  935.65  979.57  1.8
''  969.16  979.58  1.8
''  1061.25  962.75  1.8
''  1036.99  968.78  1.8
''  1012.73  974.81  1.8
''  1081.54  953.46  1.8
''  1240.37  844.14  1.8
''  1248.1  886.8  1.8
''  1076.26  999.27  1.8
''  1099.22  989.38  1.8
''  1025.88  1012.11  1.8
''  1050.15  1006.11  1.8
''  932.3  1016.8  1.8
''  957.3  1016.8  1.8
''  982.3  1016.8  1.8
''  888.67  1011.09  1.8
''  663.01  934.36  1.8
''  1138.12  1213.39  1.8
''  1062.07  1084.09  1.8
''  1049.4  1062.55  1.8
''  1036.72  1041.0  1.8
''  1024.05  1019.45  1.8
''  1101.44  1206.62  1.8
''  995.52  1036.48  1.8
''  1008.6  1057.78  1.8
''  1021.69  1079.09  1.8
'HOME SE'  998.5  955.8  1.8
'HOME SE'  1033.5  949.7  1.8
'HOME SW'  938.0  952.0  1.8
'HOME SW'  875.5  948.2  1.8
'HOME SW'  818.0  934.5  1.8
'HOME SW'  740.7  902.2  1.8
'HOME SW'  682.8  882.3  1.8
'HOME SW'  610.1  856.1  1.8
'HOME NE'  1336.3  839.3  1.8
'HOME NE'  1358.7  818.4  1.8
'HOME SE'  1240.3  817.1  1.8
'FINEGAYAN NWF PM 2021'  28  1  1  'C'
1  1
'001-002 RT1 EB APRCH'  'AG'  552.5  866.4  682.3  913.6  2560  3.8  0.0  17.0
1  1
'002-003 RT1 EB THRU'  'AG'  681.8  913.4  851.6  974.8  1350  3.8  0.0  17.0
1  1
'003-004 RT1 EB THRU'  'AG'  851.3  974.9  900.5  987.5  1350  3.8  0.0  17.0
1  1
'004-005 RT1 EB THRU'  'AG'  900.5  987.7  934.4  991.3  1350  3.8  0.0  17.0
1  1
'005-006 RT1 EB THRU'  'AG'  934.4  991.5  994.2  991.3  1350  3.8  0.0  17.0
2  1
'006-007 RT1 EB THRUQ'  'AG'  974.1  991.5  936.0  991.7  0.0  10.0  3
130  31  2  1350  15.6  1663  1  3
1  1
'007-008 RT1 EB LEFT'  'AG'  679.2  919.2  859.5  984.2  1210  3.8  0.0  10.0
1  1
'008-009 RT1 EB LEFT'  'AG'  859.5  984.2  898.8  993.8  1210  3.8  0.0  10.0
1  1
'009-010 RT1 EB LEFT'  'AG'  898.4  993.6  934.4  997.6  1210  3.8  0.0  10.0
1  1
'010-011 RT1 EB LEFT'  'AG'  934.6  997.6  994.2  997.3  1210  3.8  0.0  10.0
2  1
'011-012 RT1 EB LEFTQ'  'AG'  973.9  997.6  935.8  997.6  0.0  3.0  1
130  66  2  1210  15.6  1736  1  3
1  1
'012-013 RT1 EB DEPAR'  'AG'  994.5  991.5  1064.1  974.2  1530  3.8  0.0  17.0
1  1
'013-014 RT1 EB DEPAR'  'AG'  1064.1  974.2  1132.0  943.8  1530  3.8  0.0  17.0
1  1
'014-015 RT1 EB DEPAR'  'AG'  1131.5  944.2  1197.9  894.7  1530  3.8  0.0  17.0
1  1
'015-016 RT1 EB DEPAR'  'AG'  1197.4  894.7  1383.1  742.2  1530  3.8  0.0  17.0
1  1
'016-017 RT1 WB APRCH'  'AG'  1390.0  755.3  1182.6  925.2  1270  3.8  0.0  17.0
1  1
'017-018 RT1 WB APRCH'  'AG'  1182.2  925.2  1138.1  956.8  1270  3.8  0.0  17.0
1  1
'018-019 RT1 WB APRCH'  'AG'  1138.1  957.6  1070.8  986.6  1270  3.8  0.0  21.0
1  1
'019-020 RT1 WB APRCH'  'AG'  1070.8  986.8  998.3  1004.7  1270  3.8  0.0  21.0
2  1
'020-021 RT1 WB APQ'  'AG'  1024.4  997.9  1076.7  983.5  0.0  15.0  4
130  100  2  1270  15.6  1604  1  3
1  1
'021-022 RT1 WB DEPAR'  'AG'  998.3  1005.0  932.3  1005.0  1860  3.8  0.0  17.0
1  1
'022-023 RT1 WB DEPAR'  'AG'  932.5  1005.3  890.3  999.4  1860  3.8  0.0  17.0
1  1
'023-024 RT1 WB DEPAR'  'AG'  890.6  999.7  846.8  987.9  1860  3.8  0.0  17.0
1  1
```

```
'024-025 RT1 WB DEPAR'  'AG'  846.3  988.2  549.5  880.7  1860  3.8  0.0  17.0
1  1
'025-026 RT3 NB DEPAR'  'AG'  1007.0  1009.8  1167.7  1283.0  1430  3.8  0.0  13.0
1  1
'026-027 RT3 SB APRCH'  'AG'  1158.3  1281.7  1032.2  1073.2  990  3.8  0.0  13.0
1  1
'027-028 RT3 SB APRCH'  'AG'  1032.1  1073.5  992.5  1009.0  990  3.8  0.0  17.0
2  1
'028-029 SB APRCHQ'  'AG'  1001.2  1022.0  1037.2  1081.2  0.0  11.0  3
130  111  2  990  15.6  1490  1  3
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2 - ROUTE 1-ROUTE 3\CO\SITE21.JPG" SITE21 3
UNKNOWN UNKNOWN 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 543.11 1475.35 738.92 1282.84
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2 - ROUTE 1-ROUTE 3\CO\SITE211.JPG" SITE211 3
UNKNOWN UNKNOWN 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 543.11 1475.35 738.92 1282.84
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2\CO\SITE2111.JPG" SITE2111 3 UNKNOWN UNKNOWN 1
0 0 0 0 0 0 0 0 0 0 16777215 0 0 1 1 543.11 1475.35 738.92 1282.84
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 2\Site2_FNPM21.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/11/2014 at 11:53:48

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2021

DATE : 06/11/ 0
TIME : 11:53:48

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M)				*	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
	*	X1	Y1	X2	Y2	*									
1. 001-002 RT1 EB APRCH	*	552.5	866.4	682.3	913.6	*	138.	70.	AG	2560.	3.8	0.0	17.0		
2. 002-003 RT1 EB THRU	*	681.8	913.4	851.6	974.8	*	181.	70.	AG	1350.	3.8	0.0	17.0		
3. 003-004 RT1 EB THRU	*	851.3	974.9	900.5	987.5	*	51.	76.	AG	1350.	3.8	0.0	17.0		
4. 004-005 RT1 EB THRU	*	900.5	987.7	934.4	991.3	*	34.	84.	AG	1350.	3.8	0.0	17.0		
5. 005-006 RT1 EB THRU	*	934.4	991.5	994.2	991.3	*	60.	90.	AG	1350.	3.8	0.0	17.0		
6. 006-007 RT1 EB THRUQ	*	974.1	991.5	950.9	991.6	*	23.	270.	AG	30.	100.0	0.0	10.0	0.37	3.9
7. 007-008 RT1 EB LEFT	*	679.2	919.2	859.5	984.2	*	192.	70.	AG	1210.	3.8	0.0	10.0		
8. 008-009 RT1 EB LEFT	*	859.5	984.2	898.8	993.8	*	40.	76.	AG	1210.	3.8	0.0	10.0		
9. 009-010 RT1 EB LEFT	*	898.4	993.6	934.4	997.6	*	36.	84.	AG	1210.	3.8	0.0	10.0		
10. 010-011 RT1 EB LEFT	*	934.6	997.6	994.2	997.3	*	60.	90.	AG	1210.	3.8	0.0	10.0		
11. 011-012 RT1 EB LEFTQ	*	973.9	997.6	-449.5	997.6	*	1423.	270.	AG	21.	100.0	0.0	3.0	1.51	237.2
12. 012-013 RT1 EB DEPAR	*	994.5	991.5	1064.1	974.2	*	72.	104.	AG	1530.	3.8	0.0	17.0		
13. 013-014 RT1 EB DEPAR	*	1064.1	974.2	1132.0	943.8	*	74.	114.	AG	1530.	3.8	0.0	17.0		
14. 014-015 RT1 EB DEPAR	*	1131.5	944.2	1197.9	894.7	*	83.	127.	AG	1530.	3.8	0.0	17.0		
15. 015-016 RT1 EB DEPAR	*	1197.4	894.7	1383.1	742.2	*	240.	129.	AG	1530.	3.8	0.0	17.0		
16. 016-017 RT1 WB APRCH	*	1390.0	755.3	1182.6	925.2	*	268.	309.	AG	1270.	3.8	0.0	17.0		
17. 017-018 RT1 WB APRCH	*	1182.2	925.2	1138.1	956.8	*	54.	306.	AG	1270.	3.8	0.0	17.0		
18. 018-019 RT1 WB APRCH	*	1138.1	957.6	1070.8	986.6	*	73.	293.	AG	1270.	3.8	0.0	21.0		
19. 019-020 RT1 WB APRCH	*	1070.8	986.8	998.3	1004.7	*	75.	284.	AG	1270.	3.8	0.0	21.0		
20. 020-021 RT1 WB APQ	*	1024.4	997.9	1098.9	977.4	*	77.	105.	AG	129.	100.0	0.0	15.0	0.99	12.9
21. 021-022 RT1 WB DEPAR	*	998.3	1005.0	932.3	1005.0	*	66.	270.	AG	1860.	3.8	0.0	17.0		
22. 022-023 RT1 WB DEPAR	*	932.5	1005.3	890.3	999.4	*	43.	262.	AG	1860.	3.8	0.0	17.0		
23. 023-024 RT1 WB DEPAR	*	890.6	999.7	846.8	987.9	*	45.	255.	AG	1860.	3.8	0.0	17.0		
24. 024-025 RT1 WB DEPAR	*	846.3	988.2	549.5	880.7	*	316.	250.	AG	1860.	3.8	0.0	17.0		
25. 025-026 RT3 NB DEPAR	*	1007.0	1009.8	1167.7	1283.0	*	317.	30.	AG	1430.	3.8	0.0	13.0		
26. 026-027 RT3 SB APRCH	*	1158.3	1281.7	1032.2	1073.2	*	244.	211.	AG	990.	3.8	0.0	13.0		
27. 027-028 RT3 SB APRCH	*	1032.1	1073.5	992.5	1009.0	*	76.	212.	AG	990.	3.8	0.0	17.0		
28. 028-029 SB APRCHQ	*	1001.2	1022.0	1300.2	1513.7	*	576.	31.	AG	107.	100.0	0.0	11.0	1.93	95.9

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2021

DATE : 06/11/ 0
TIME : 11:53:48

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
6. 006-007 RT1 EB THRUQ	*	130	31	2.0	1350	1663	15.60	1	3
11. 011-012 RT1 EB LEFTQ	*	130	66	2.0	1210	1736	15.60	1	3
20. 020-021 RT1 WB APQ	*	130	100	2.0	1270	1604	15.60	1	3
28. 028-029 SB APRCHQ	*	130	111	2.0	990	1490	15.60	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z	*
1.	*	662.8	894.0	1.8	*
2.	*	903.4	976.1	1.8	*
3.	*	935.7	979.6	1.8	*
4.	*	969.2	979.6	1.8	*
5.	*	1061.2	962.7	1.8	*
6.	*	1037.0	968.8	1.8	*
7.	*	1012.7	974.8	1.8	*
8.	*	1081.5	953.5	1.8	*
9.	*	1240.4	844.1	1.8	*

10.		*	1248.1	886.8	1.8 *
11.		*	1076.3	999.3	1.8 *
12.		*	1099.2	989.4	1.8 *
13.		*	1025.9	1012.1	1.8 *
14.		*	1050.2	1006.1	1.8 *
15.		*	932.3	1016.8	1.8 *
16.		*	957.3	1016.8	1.8 *
17.		*	982.3	1016.8	1.8 *
18.		*	888.7	1011.1	1.8 *
19.		*	663.0	934.4	1.8 *
20.		*	1138.1	1213.4	1.8 *
21.		*	1062.1	1084.1	1.8 *
22.		*	1049.4	1062.6	1.8 *
23.		*	1036.7	1041.0	1.8 *
24.		*	1024.1	1019.5	1.8 *
25.		*	1101.4	1206.6	1.8 *
26.		*	995.5	1036.5	1.8 *
27.		*	1008.6	1057.8	1.8 *
28.		*	1021.7	1079.1	1.8 *
29.	HOME SE	*	998.5	955.8	1.8 *
30.	HOME SE	*	1033.5	949.7	1.8 *
31.	HOME SW	*	938.0	952.0	1.8 *
32.	HOME SW	*	875.5	948.2	1.8 *
33.	HOME SW	*	818.0	934.5	1.8 *
34.	HOME SW	*	740.7	902.2	1.8 *
35.	HOME SW	*	682.8	882.3	1.8 *
36.	HOME SW	*	610.1	856.1	1.8 *
37.	HOME NE	*	1336.3	839.3	1.8 *
38.	HOME NE	*	1358.7	818.4	1.8 *
39.	HOME SE	*	1240.3	817.1	1.8 *

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.4	0.3	0.3	0.4	0.6	0.7	0.7	0.7	0.3	0.0	0.2	0.2	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.6
10.	* 0.4	0.3	0.3	0.4	0.7	0.9	0.8	0.7	0.3	0.0	0.2	0.1	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.7
20.	* 0.4	0.3	0.3	0.3	0.5	0.8	0.9	0.6	0.3	0.0	0.1	0.1	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.7
30.	* 0.5	0.4	0.4	1.1	0.5	0.5	0.7	0.5	0.3	0.0	0.0	0.0	0.3	0.1	0.0	0.1	0.3	0.0	0.0	0.3
40.	* 0.7	0.6	0.9	1.0	0.6	0.6	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.5	1.0	0.1	0.0	0.0
50.	* 0.7	0.8	0.9	0.5	0.6	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.7	0.1	0.0	0.0
60.	* 0.9	0.7	0.8	0.3	0.5	0.6	0.6	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6	0.2	0.1	0.0
70.	* 0.1	0.4	0.5	0.4	0.4	0.6	0.6	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.1	0.2	0.0
80.	* 0.0	0.3	0.5	0.5	0.3	0.6	0.7	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.1	0.6	0.0
90.	* 0.0	0.2	0.3	0.5	0.4	0.4	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.6	0.0
100.	* 0.0	0.0	0.1	0.1	0.4	0.2	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.4	1.0	0.5	0.0
110.	* 0.0	0.0	0.0	0.1	0.3	0.3	0.2	0.4	0.4	0.0	0.0	0.0	0.3	0.1	0.8	0.9	0.9	0.7	0.4	0.0
120.	* 0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.3	0.4	0.0	0.2	0.1	1.1	0.8	0.6	0.6	1.1	0.4	0.4	0.0
130.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.8	0.6	0.9	0.9	0.5	0.4	0.5	0.4	0.4	0.0
140.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.4	0.7	0.7	0.4	0.4	0.3	0.4	0.3	0.0
150.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.3	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.0
160.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.2	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.0
170.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.0
180.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.0
190.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.5	0.3	0.5	0.4	0.4	0.4	0.4	0.4	0.0
200.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.5	0.2	0.5	0.4	0.4	0.4	0.4	0.4	0.0

0.1																				
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.5	0.2	0.5	0.4	0.4	0.4	0.4	0.4
0.3																				
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.5	0.2	0.5	0.4	0.4	0.5	0.5	0.5
0.9																				
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.6	0.2	0.5	0.6	0.5	0.4	0.5	0.6
0.8																				
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.6	0.2	0.6	0.7	0.6	0.5	0.9	0.5
0.6																				
250.	*	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.7	0.4	0.6	1.0	1.3	1.2	0.7	0.1
0.6																				
260.	*	0.6	0.6	0.4	0.3	0.0	0.2	0.3	0.0	0.0	0.2	1.0	0.9	1.2	0.9	0.2	0.6	0.6	0.1	0.0
0.5																				
270.	*	0.7	0.6	0.3	0.3	0.1	0.1	0.2	0.1	0.0	0.3	0.9	1.2	0.7	0.6	0.0	0.0	0.0	0.1	0.0
0.5																				
280.	*	0.6	0.7	0.5	0.6	0.0	0.2	0.5	0.0	0.0	0.4	0.2	0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0
0.5																				
290.	*	0.5	0.4	0.6	0.5	0.4	0.4	0.5	0.4	0.0	0.4	0.2	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
300.	*	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.0	0.6	0.2	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.5																				
310.	*	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.3	0.0	0.2	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
320.	*	0.4	0.3	0.4	0.5	0.7	0.3	0.3	0.8	0.4	0.0	0.2	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.5																				
330.	*	0.4	0.4	0.3	0.4	0.8	0.6	0.3	0.7	0.4	0.0	0.2	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.5																				
340.	*	0.4	0.3	0.3	0.4	0.7	0.7	0.4	0.6	0.3	0.0	0.2	0.2	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.5																				
350.	*	0.4	0.3	0.3	0.4	0.8	0.7	0.6	0.6	0.3	0.0	0.2	0.2	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.6																				

MAX	*	0.9	0.8	0.9	1.1	0.8	0.9	0.9	0.8	0.4	0.6	1.0	1.2	1.2	0.9	1.0	1.3	1.2	1.0	0.6
0.9																				
DEGR.	*	60	50	40	30	330	10	20	320	110	300	260	270	260	130	250	250	250	100	80
220																				

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2021

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
0.	*	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.3	0.6	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.2
10.	*	0.7	0.7	0.7	0.8	0.0	0.0	0.0	0.0	0.6	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.2
20.	*	0.8	0.8	0.9	0.9	0.0	0.0	0.0	0.0	0.8	0.7	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.2
30.	*	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.2	0.3	0.3	0.3	0.3	0.0	0.0	0.2
40.	*	0.0	0.0	0.0	0.0	1.0	1.1	1.0	1.0	0.3	0.4	0.8	0.4	0.3	0.3	0.3	0.3	0.0	0.0	0.2
50.	*	0.0	0.0	0.0	0.0	0.9	0.8	0.9	0.9	0.4	0.3	0.2	0.4	0.5	0.4	0.4	0.5	0.0	0.0	0.2
60.	*	0.0	0.0	0.0	0.0	0.8	0.7	0.6	0.6	0.4	0.4	0.2	0.5	0.2	0.1	0.3	0.4	0.0	0.0	0.2
70.	*	0.0	0.0	0.0	0.0	0.6	0.5	0.5	0.5	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
80.	*	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.3	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.2
90.	*	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
100.	*	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
110.	*	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
120.	*	0.0	0.0	0.0	0.6	0.5	0.9	0.5	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
130.	*	0.0	0.1	0.4	0.8	0.5	1.1	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.2	0.2	0.4	0.6	0.5	0.9	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.3	0.3	0.5	0.5	0.6	0.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
160.	*	0.0	0.2	0.3	0.5	0.5	0.4	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
170.	*	0.1	0.1	0.4	0.4	0.6	0.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
180.	*	0.1	0.3	0.4	0.3	0.7	0.2	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
190.	*	0.1	0.3	0.3	0.2	1.0	0.4	0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
200.	*	0.1	0.3	0.2	0.2	1.0	0.3	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
210.	*	0.1	0.1	0.2	0.2	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
220.	*	0.5	0.2	0.2	0.2	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
230.	*	0.8	0.8	0.5	0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
240.	*	0.6	0.7	0.7	0.5	0.0	0.4	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
250.	*	0.6	0.8	1.0	0.8	0.0	0.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
260.	*	0.5	0.5	0.5	0.9	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.3	0.4	0.2	0.1	0.0	0.2	0.2	0.0
270.	*	0.5	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.2	0.2	0.0
280.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.3	0.3	0.3	0.3	0.1	0.2	0.2	0.0
290.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.0
300.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.0
310.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.1
320.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.1
330.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.2
340.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.0	0.0	0.2

```
 350.  *   0.5   0.5   0.5   0.5   0.0   0.0   0.0   0.0   0.2   0.5   0.2   0.3   0.3   0.3   0.3   0.3   0.0   0.0   0.2
 ------*-----------------------------------------------------------------------------------------------------------------
 MAX   *   0.8   0.8   1.0   0.9   1.0   1.1   1.0   1.0   0.8   0.7   0.8   0.5   0.5   0.4   0.4   0.5   0.2   0.2   0.2
 DEGR. *   20    20   250    20   200    40   130    40    20    20    40    60    50    50    50    50   160   170     0

 THE HIGHEST CONCENTRATION OF    1.30 PPM OCCURRED AT RECEPTOR REC16.
```


JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2021

DATE : 06/11/ 0
TIME : 11:53:48

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

```
          *    CO/LINK  (PPM)
          *    ANGLE (DEGREES)
          *  REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18
REC19 REC20
   LINK # *    60    50    40    30   330    10    20   320   110   300   260   270   260   130   250   250   250   100
80   220

-------*-----------------------------------------------------------------------------------------------------------------
-----
      1  *   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0
0.0   0.0
      2  *   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.0   0.1   0.1   0.1   0.0
0.1   0.0
      3  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0
0.0   0.0
      4  *   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0
0.0   0.0
      5  *   0.0   0.0   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.1
0.0   0.0
      6  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      7  *   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.1   0.1   0.0
0.1   0.0
      8  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0
0.0   0.0
      9  *   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0
0.0   0.0
     10  *   0.0   0.0   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.1
0.0   0.0
     11  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     12  *   0.0   0.0   0.0   0.0   0.2   0.2   0.2   0.1   0.0   0.0   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.1
0.0   0.0
     13  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0
     14  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0
     15  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0
     16  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     17  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     18  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.0   0.1   0.0   0.0   0.0   0.0
0.0   0.0
     19  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.1   0.0   0.0   0.2   0.2   0.1   0.1   0.0   0.0   0.0   0.1
0.0   0.0
     20  *   0.0   0.0   0.0   0.0   0.3   0.2   0.0   0.3   0.0   0.1   0.4   0.6   0.0   0.4   0.0   0.0   0.0   0.1
0.0   0.0
     21  *   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.3   0.0   0.0   0.2   0.3   0.2
0.0   0.0
     22  *   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.2   0.2   0.1   0.3
0.0   0.0
     23  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.1   0.0   0.0
0.0   0.0
     24  *   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.1   0.0   0.3   0.2   0.1   0.0
0.4   0.0
     25  *   0.0   0.1   0.1   0.1   0.1   0.1   0.2   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0
0.0   0.4
     26  *   0.0   0.0   0.1   0.1   0.0   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.1
     27  *   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     28  *   0.1   0.2   0.3   0.5   0.1   0.2   0.3   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.4
```


JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2021

DATE : 06/11/ 0
TIME : 11:53:48

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
	CO/LINK (PPM)																		
	ANGLE (DEGREES)																		
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
16	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
25	0.3	0.3	0.2	0.4	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.1	0.1	0.0	0.1	0.2	0.2	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.4	0.4	0.2	0.4	0.6	0.6	0.3	0.6	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0

```
'SITE 2 ROUTE 1 AND ROUTE 3'  60.0  0.1  0.0  0.0  39  1  0  0  'PPM'
''  662.84  893.97  1.8
''  903.43  976.07  1.8
''  935.65  979.57  1.8
''  969.16  979.58  1.8
''  1061.25  962.75  1.8
''  1036.99  968.78  1.8
''  1012.73  974.81  1.8
''  1081.54  953.46  1.8
''  1240.37  844.14  1.8
''  1248.1  886.8  1.8
''  1076.26  999.27  1.8
''  1099.22  989.38  1.8
''  1025.88  1012.11  1.8
''  1050.15  1006.11  1.8
''  932.3  1016.8  1.8
''  957.3  1016.8  1.8
''  982.3  1016.8  1.8
''  888.67  1011.09  1.8
''  663.01  934.36  1.8
''  1138.12  1213.39  1.8
''  1062.07  1084.09  1.8
''  1049.4  1062.55  1.8
''  1036.72  1041.0  1.8
''  1024.05  1019.45  1.8
''  1101.44  1206.62  1.8
''  995.52  1036.48  1.8
''  1008.6  1057.78  1.8
''  1021.69  1079.09  1.8
'HOME SE'  998.5  955.8  1.8
'HOME SE'  1033.5  949.7  1.8
'HOME SW'  938.0  952.0  1.8
'HOME SW'  875.5  948.2  1.8
'HOME SW'  818.0  934.5  1.8
'HOME SW'  740.7  902.2  1.8
'HOME SW'  682.8  882.3  1.8
'HOME SW'  610.1  856.1  1.8
'HOME NE'  1336.3  839.3  1.8
'HOME NE'  1358.7  818.4  1.8
'HOME SE'  1240.3  817.1  1.8
'FINEGAYAN NWF 2030 AM'  28  1  1  'C'
1  1
'001-002 RT1 EB APRCH'  'AG'  552.5  866.4  682.3  913.6  1020  3.6  0.0  17.0
1  1
'002-003 RT1 EB THRU'  'AG'  681.8  913.4  851.6  974.8  370  3.6  0.0  17.0
1  1
'003-004 RT1 EB THRU'  'AG'  851.3  974.9  900.5  987.5  370  3.6  0.0  17.0
1  1
'004-005 RT1 EB THRU'  'AG'  900.5  987.7  934.4  991.3  370  3.6  0.0  17.0
1  1
'005-006 RT1 EB THRU'  'AG'  934.4  991.5  994.2  991.3  370  3.6  0.0  17.0
2  1
'006-007 RT1 EB THRUQ'  'AG'  974.1  991.5  936.0  991.7  0.0  10.0  3
120  48  2  370  12.9  1679  1  3
1  1
'007-008 RT1 EB LEFT'  'AG'  679.2  919.2  859.5  984.2  650  3.6  0.0  10.0
1  1
'008-009 RT1 EB LEFT'  'AG'  859.5  984.2  898.8  993.8  650  3.6  0.0  10.0
1  1
'009-010 RT1 EB LEFT'  'AG'  898.4  993.6  934.4  997.6  650  3.6  0.0  10.0
1  1
'010-011 RT1 EB LEFT'  'AG'  934.6  997.6  994.2  997.3  650  3.6  0.0  10.0
2  1
'011-012 RT1 EB LEFTQ'  'AG'  973.9  997.6  935.8  997.6  0.0  3.0  1
120  94  2  650  12.9  1752  1  3
1  1
'012-013 RT1 EB DEPAR'  'AG'  994.5  991.5  1064.1  974.2  650  3.6  0.0  17.0
1  1
'013-014 RT1 EB DEPAR'  'AG'  1064.1  974.2  1132.0  943.8  650  3.6  0.0  17.0
1  1
'014-015 RT1 EB DEPAR'  'AG'  1131.5  944.2  1197.9  894.7  650  3.6  0.0  17.0
1  1
'015-016 RT1 EB DEPAR'  'AG'  1197.4  894.7  1383.1  742.2  650  3.6  0.0  17.0
1  1
'016-017 RT1 WB APRCH'  'AG'  1390.0  755.3  1182.6  925.2  2070  3.6  0.0  17.0
1  1
'017-018 RT1 WB APRCH'  'AG'  1182.2  925.2  1138.1  956.8  2070  3.6  0.0  17.0
1  1
'018-019 RT1 WB APRCH'  'AG'  1138.1  957.6  1070.8  986.6  2070  3.6  0.0  21.0
1  1
'019-020 RT1 WB APRCH'  'AG'  1070.8  986.8  998.3  1004.7  2070  3.6  0.0  21.0
2  1
'020-021 RT1 WB APQ'  'AG'  1024.4  997.9  1076.7  983.5  0.0  15.0  4
120  79  2  2070  12.9  1638  1  3
1  1
'021-022 RT1 WB DEPAR'  'AG'  998.3  1005.0  932.3  1005.0  3620  3.6  0.0  17.0
1  1
'022-023 RT1 WB DEPAR'  'AG'  932.5  1005.3  890.3  999.4  3620  3.6  0.0  17.0
1  1
'023-024 RT1 WB DEPAR'  'AG'  890.6  999.7  846.8  987.9  3620  3.6  0.0  17.0
1  1
```

```
'024-025 RT1 WB DEPAR'  'AG'  846.3  988.2  549.5  880.7  3620  3.6  0.0  17.0
1  1
'025-026 RT3 NB DEPAR'  'AG'  1007.0  1009.8  1167.7  1283.0  980  3.6  0.0  13.0
1  1
'026-027 RT3 SB APRCH'  'AG'  1158.3  1281.7  1032.2  1073.2  2160  3.6  0.0  13.0
1  1
'027-028 RT3 SB APRCH'  'AG'  1032.1  1073.5  992.5  1009.0  2160  3.6  0.0  17.0
2  1
'028-029 SB APRCHQ'  'AG'  1001.2  1022.0  1037.2  1081.2  0.0  11.0  3
120  84  2  2160  12.9  1506  1  3
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2 - ROUTE 1-ROUTE 3\CO\SITE21.JPG" SITE21 3
UNKNOWN UNKNOWN 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 543.11 1475.35 738.92 1282.84
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2 - ROUTE 1-ROUTE 3\CO\SITE211.JPG" SITE211 3
UNKNOWN UNKNOWN 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 543.11 1475.35 738.92 1282.84
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2\CO\SITE2111.JPG" SITE2111 3 UNKNOWN UNKNOWN 1
0 0 0 0 0 0 0 0 0 0 16777215 0 0 1 1 543.11 1475.35 738.92 1282.84
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 2\Site2_FNAM30.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/11/2014 at 12:13:06

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2030 AM

DATE : 06/11/ 0
TIME : 12:13:06

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M)				*	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
	*	X1	Y1	X2	Y2	*									
1. 001-002 RT1 EB APRCH	*	552.5	866.4	682.3	913.6	*	138.	70.	AG	1020.	3.6	0.0	17.0		
2. 002-003 RT1 EB THRU	*	681.8	913.4	851.6	974.8	*	181.	70.	AG	370.	3.6	0.0	17.0		
3. 003-004 RT1 EB THRU	*	851.3	974.9	900.5	987.5	*	51.	76.	AG	370.	3.6	0.0	17.0		
4. 004-005 RT1 EB THRU	*	900.5	987.7	934.4	991.3	*	34.	84.	AG	370.	3.6	0.0	17.0		
5. 005-006 RT1 EB THRU	*	934.4	991.5	994.2	991.3	*	60.	90.	AG	370.	3.6	0.0	17.0		
6. 006-007 RT1 EB THRUQ	*	974.1	991.5	964.3	991.6	*	10.	270.	AG	42.	100.0	0.0	10.0	0.13	1.6
7. 007-008 RT1 EB LEFT	*	679.2	919.2	859.5	984.2	*	192.	70.	AG	650.	3.6	0.0	10.0		
8. 008-009 RT1 EB LEFT	*	859.5	984.2	898.8	993.8	*	40.	76.	AG	650.	3.6	0.0	10.0		
9. 009-010 RT1 EB LEFT	*	898.4	993.6	934.4	997.6	*	36.	84.	AG	650.	3.6	0.0	10.0		
10. 010-011 RT1 EB LEFT	*	934.6	997.6	994.2	997.3	*	60.	90.	AG	650.	3.6	0.0	10.0		
11. 011-012 RT1 EB LEFTQ	*	973.9	997.6	-168.7	997.6	*	1143.	270.	AG	27.	100.0	0.0	3.0	2.02	190.4
12. 012-013 RT1 EB DEPAR	*	994.5	991.5	1064.1	974.2	*	72.	104.	AG	650.	3.6	0.0	17.0		
13. 013-014 RT1 EB DEPAR	*	1064.1	974.2	1132.0	943.8	*	74.	114.	AG	650.	3.6	0.0	17.0		
14. 014-015 RT1 EB DEPAR	*	1131.5	944.2	1197.9	894.7	*	83.	127.	AG	650.	3.6	0.0	17.0		
15. 015-016 RT1 EB DEPAR	*	1197.4	894.7	1383.1	742.2	*	240.	129.	AG	650.	3.6	0.0	17.0		
16. 016-017 RT1 WB APRCH	*	1390.0	755.3	1182.6	925.2	*	268.	309.	AG	2070.	3.6	0.0	17.0		
17. 017-018 RT1 WB APRCH	*	1182.2	925.2	1138.1	956.8	*	54.	306.	AG	2070.	3.6	0.0	17.0		
18. 018-019 RT1 WB APRCH	*	1138.1	957.6	1070.8	986.6	*	73.	293.	AG	2070.	3.6	0.0	21.0		
19. 019-020 RT1 WB APRCH	*	1070.8	986.8	998.3	1004.7	*	75.	284.	AG	2070.	3.6	0.0	21.0		
20. 020-021 RT1 WB APQ	*	1024.4	997.9	1157.6	961.2	*	138.	105.	AG	91.	100.0	0.0	15.0	1.02	23.0
21. 021-022 RT1 WB DEPAR	*	998.3	1005.0	932.3	1005.0	*	66.	270.	AG	3620.	3.6	0.0	17.0		
22. 022-023 RT1 WB DEPAR	*	932.5	1005.3	890.3	999.4	*	43.	262.	AG	3620.	3.6	0.0	17.0		
23. 023-024 RT1 WB DEPAR	*	890.6	999.7	846.8	987.9	*	45.	255.	AG	3620.	3.6	0.0	17.0		
24. 024-025 RT1 WB DEPAR	*	846.3	988.2	549.5	880.7	*	316.	250.	AG	3620.	3.6	0.0	17.0		
25. 025-026 RT3 NB DEPAR	*	1007.0	1009.8	1167.7	1283.0	*	317.	30.	AG	980.	3.6	0.0	13.0		
26. 026-027 RT3 SB APRCH	*	1158.3	1281.7	1032.2	1073.2	*	244.	211.	AG	2160.	3.6	0.0	13.0		
27. 027-028 RT3 SB APRCH	*	1032.1	1073.5	992.5	1009.0	*	76.	212.	AG	2160.	3.6	0.0	17.0		
28. 028-029 SB APRCHQ	*	1001.2	1022.0	1578.5	1971.4	*	1111.	31.	AG	73.	100.0	0.0	11.0	1.80	185.2

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2030 AM

DATE : 06/11/ 0
TIME : 12:13:06

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
6. 006-007 RT1 EB THRUQ	*	120	48	2.0	370	1679	12.90	1	3
11. 011-012 RT1 EB LEFTQ	*	120	94	2.0	650	1752	12.90	1	3
20. 020-021 RT1 WB APQ	*	120	79	2.0	2070	1638	12.90	1	3
28. 028-029 SB APRCHQ	*	120	84	2.0	2160	1506	12.90	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z	*
1.	*	662.8	894.0	1.8	*
2.	*	903.4	976.1	1.8	*
3.	*	935.7	979.6	1.8	*
4.	*	969.2	979.6	1.8	*
5.	*	1061.2	962.7	1.8	*
6.	*	1037.0	968.8	1.8	*
7.	*	1012.7	974.8	1.8	*
8.	*	1081.5	953.5	1.8	*
9.	*	1240.4	844.1	1.8	*

10.		*	1248.1	886.8	1.8 *
11.		*	1076.3	999.3	1.8 *
12.		*	1099.2	989.4	1.8 *
13.		*	1025.9	1012.1	1.8 *
14.		*	1050.2	1006.1	1.8 *
15.		*	932.3	1016.8	1.8 *
16.		*	957.3	1016.8	1.8 *
17.		*	982.3	1016.8	1.8 *
18.		*	888.7	1011.1	1.8 *
19.		*	663.0	934.4	1.8 *
20.		*	1138.1	1213.4	1.8 *
21.		*	1062.1	1084.1	1.8 *
22.		*	1049.4	1062.6	1.8 *
23.		*	1036.7	1041.0	1.8 *
24.		*	1024.1	1019.5	1.8 *
25.		*	1101.4	1206.6	1.8 *
26.		*	995.5	1036.5	1.8 *
27.		*	1008.6	1057.8	1.8 *
28.		*	1021.7	1079.1	1.8 *
29.	HOME SE	*	998.5	955.8	1.8 *
30.	HOME SE	*	1033.5	949.7	1.8 *
31.	HOME SW	*	938.0	952.0	1.8 *
32.	HOME SW	*	875.5	948.2	1.8 *
33.	HOME SW	*	818.0	934.5	1.8 *
34.	HOME SW	*	740.7	902.2	1.8 *
35.	HOME SW	*	682.8	882.3	1.8 *
36.	HOME SW	*	610.1	856.1	1.8 *
37.	HOME NE	*	1336.3	839.3	1.8 *
38.	HOME NE	*	1358.7	818.4	1.8 *
39.	HOME SE	*	1240.3	817.1	1.8 *

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2030 AM

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* 0.3	0.2	0.2	0.3	0.6	0.7	0.5	0.6	0.2	0.0	0.2	0.2	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.5
10.	* 0.4	0.2	0.2	0.3	0.5	0.7	0.7	0.6	0.2	0.0	0.2	0.2	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.6
20.	* 0.3	0.3	0.2	0.3	0.6	0.7	0.7	0.5	0.2	0.0	0.1	0.1	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.6
30.	* 0.4	0.3	0.4	1.2	0.4	0.5	0.4	0.4	0.2	0.0	0.0	0.0	0.4	0.1	0.0	0.1	0.3	0.0	0.0	0.2
40.	* 0.4	0.6	0.7	0.8	0.4	0.5	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.9	0.1	0.0	0.0
50.	* 0.6	0.6	0.7	0.3	0.5	0.5	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.8	0.2	0.0	0.0
60.	* 0.5	0.5	0.6	0.1	0.5	0.4	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.6	0.2	0.0	0.0
70.	* 0.0	0.4	0.4	0.3	0.5	0.4	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.5	0.2	0.3	0.0
80.	* 0.0	0.2	0.2	0.5	0.5	0.5	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.9	0.0
90.	* 0.0	0.2	0.4	0.5	0.5	0.5	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.3	0.6	0.7	0.0
100.	* 0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.2	0.3	0.0	0.0	0.0	0.0	0.0	1.0	0.8	0.6	1.3	0.6	0.0
110.	* 0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.0	0.1	0.1	0.4	0.3	0.9	1.0	1.2	0.7	0.5	0.0
120.	* 0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.0	0.7	0.7	1.0	1.0	0.7	0.7	1.0	0.7	0.4	0.0
130.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8	1.0	0.7	0.9	0.5	0.5	0.6	0.5	0.4	0.0
140.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.7	0.6	0.7	0.4	0.4	0.5	0.4	0.3	0.0
150.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.4	0.3	0.4	0.0
160.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	0.4	0.4	0.3	0.4	0.3	0.3	0.5	0.0
170.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.0
180.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.0
190.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.5	0.0
200.	* 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.2	0.4	0.3	0.3	0.3	0.4	0.5	0.0

0.0																				
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.2	0.4	0.4	0.4	0.5	0.5	0.5
0.1																				
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.2	0.4	0.5	0.4	0.4	0.6	0.6
0.9																				
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.5	0.2	0.4	0.5	0.4	0.5	0.6	0.7
0.7																				
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.5	0.2	0.5	0.7	0.7	0.6	1.1	0.7
0.7																				
250.	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.5	0.6	0.5	1.4	1.3	1.0	0.9	0.2
0.5																				
260.	*	0.3	0.6	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.2	0.8	0.9	1.4	0.7	0.4	0.9	1.1	0.1	0.0
0.5																				
270.	*	0.5	0.4	0.4	0.4	0.1	0.2	0.2	0.1	0.0	0.3	1.1	1.3	0.9	0.9	0.1	0.1	0.2	0.1	0.0
0.5																				
280.	*	0.5	0.6	0.3	0.4	0.3	0.3	0.3	0.1	0.1	0.4	0.3	0.8	0.2	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
290.	*	0.4	0.6	0.4	0.3	0.4	0.3	0.4	0.2	0.0	0.5	0.1	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
300.	*	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.0	0.6	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
310.	*	0.4	0.2	0.4	0.4	0.5	0.3	0.4	0.5	0.2	0.1	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
320.	*	0.3	0.2	0.3	0.3	0.7	0.3	0.3	0.7	0.4	0.0	0.2	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.5																				
330.	*	0.3	0.2	0.3	0.3	0.7	0.5	0.5	0.6	0.3	0.0	0.1	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.5																				
340.	*	0.3	0.2	0.2	0.3	0.7	0.6	0.3	0.6	0.3	0.0	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
350.	*	0.3	0.2	0.3	0.3	0.7	0.7	0.4	0.6	0.3	0.0	0.2	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.0
0.5																				
------	*	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
----																				
MAX	*	0.6	0.6	0.7	1.2	0.7	0.7	0.7	0.7	0.4	0.6	1.1	1.3	1.4	1.0	1.4	1.3	1.2	1.3	0.9
0.9																				
DEGR.	*	50	40	50	30	350	350	20	320	320	300	270	270	260	120	250	250	110	100	80
220																				

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2030 AM

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
0.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.3	0.4	0.1	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.1
10.	*	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.1
20.	*	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.6	0.4	0.1	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.1
30.	*	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.5	0.2	0.2	0.2	0.2	0.3	0.0	0.0	0.1
40.	*	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.9	0.2	0.2	0.8	0.4	0.3	0.3	0.2	0.3	0.0	0.0	0.1
50.	*	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.7	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.4	0.0	0.0	0.1
60.	*	0.0	0.0	0.0	0.0	0.7	0.6	0.6	0.6	0.2	0.2	0.1	0.3	0.4	0.2	0.2	0.2	0.0	0.0	0.1
70.	*	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.5	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.0	0.0	0.0	0.0	0.6	0.5	0.5	0.5	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
90.	*	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
100.	*	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
110.	*	0.0	0.0	0.0	0.1	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
120.	*	0.0	0.0	0.0	0.8	0.5	1.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.1	0.4	0.8	0.5	0.9	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.1	0.4	0.2	0.4	0.5	0.8	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.1	0.2	0.2	0.4	0.5	0.6	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
160.	*	0.2	0.2	0.2	0.4	0.6	0.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
170.	*	0.2	0.2	0.2	0.4	0.6	0.4	0.7	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0
180.	*	0.2	0.2	0.2	0.3	0.7	0.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
190.	*	0.2	0.2	0.2	0.2	0.8	0.4	0.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
200.	*	0.2	0.2	0.1	0.2	1.0	0.3	0.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
210.	*	0.1	0.1	0.1	0.2	0.6	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
220.	*	0.5	0.2	0.2	0.2	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
230.	*	0.7	0.7	0.4	0.4	0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
240.	*	0.9	0.7	0.6	0.4	0.1	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
250.	*	0.7	0.9	1.1	0.9	0.0	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
260.	*	0.5	0.5	0.6	1.3	0.0	0.2	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.2	0.0	0.0	0.1	0.1	0.0
270.	*	0.4	0.4	0.4	0.5	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.0	0.1	0.2	0.0
280.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.0	0.3	0.3	0.1
290.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.0
300.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.0
310.	*	0.4	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.0	0.0	0.0
320.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.0	0.0	0.2
330.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0	0.2
340.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.0	0.1

```
 350.  *   0.5   0.5   0.5   0.5   0.0   0.0   0.0   0.0   0.2   0.4   0.1   0.2   0.2   0.2   0.3   0.3   0.0   0.0   0.1
 ------*-------------------------------------------------------------------------------------------------------------------
 MAX   *   0.9   0.9   1.1   1.3   1.0   1.1   1.0   0.9   0.6   0.5   0.8   0.4   0.4   0.3   0.3   0.4   0.3   0.3   0.2
 DEGR. *  240   250   250   260   200   120    40    40    20    10    40    40    50    40    50    50   280   280   110

 THE HIGHEST CONCENTRATION OF    1.40 PPM OCCURRED AT RECEPTOR REC13.
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JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2030 AM

DATE : 06/11/ 0
TIME : 12:13:06

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

```
          *    CO/LINK  (PPM)
          *    ANGLE (DEGREES)
          *  REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18
REC19 REC20
   LINK # *    50    40    50    30   350   350    20   320   320   300   270   270   260   120   250   250   110   100
80   220

-------*-------------------------------------------------------------------------------------------------------------------
-----
      1  *   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      2  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      3  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      4  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      5  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      6  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      7  *   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.0   0.0
0.1   0.0
      8  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
      9  *   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     10  *   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.1
0.0   0.0
     11  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.1   0.1   0.0   0.1   0.1
0.0   0.0
     12  *   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     13  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     14  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     15  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     16  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.3   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     17  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.0   0.0
0.0   0.0
     18  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.0   0.2   0.0   0.3   0.0   0.0   0.1   0.1   0.1
0.0   0.0
     19  *   0.0   0.0   0.0   0.0   0.2   0.1   0.1   0.2   0.0   0.0   0.3   0.2   0.2   0.1   0.0   0.0   0.3   0.1   0.1
0.0   0.0
     20  *   0.0   0.0   0.0   0.0   0.2   0.2   0.0   0.2   0.1   0.1   0.2   0.4   0.0   0.4   0.0   0.0   0.4   0.1   0.1
0.0   0.0
     21  *   0.0   0.1   0.3   0.3   0.0   0.0   0.0   0.0   0.0   0.0   0.2   0.1   0.5   0.0   0.0   0.3   0.2   0.3   0.3
0.0   0.1
     22  *   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.4   0.4   0.0   0.5   0.5
0.0   0.0
     23  *   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.1   0.0   0.3   0.1   0.0   0.0   0.0
0.0   0.0
     24  *   0.4   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.1   0.1   0.2   0.0   0.5   0.3   0.0   0.0   0.0
0.8   0.0
     25  *   0.0   0.0   0.1   0.1   0.0   0.1   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.2
     26  *   0.0   0.1   0.0   0.2   0.1   0.0   0.2   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.3
     27  *   0.0   0.0   0.1   0.2   0.0   0.1   0.0   0.1   0.0   0.0   0.0   0.0   0.1   0.0   0.0   0.0   0.2   0.0   0.0
0.0   0.0
     28  *   0.0   0.1   0.1   0.4   0.1   0.1   0.2   0.1   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0
0.0   0.3
```


JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF 2030 AM

DATE : 06/11/ 0
TIME : 12:13:06

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

		REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
	CO/LINK (PPM)																			
	ANGLE (DEGREES)																			
LINK #		240	250	250	260	200	120	40	40	20	10	40	40	50	40	50	50	280	280	110
1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11		0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
16		0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1
17		0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18		0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19		0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20		0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21		0.1	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22		0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
23		0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
24		0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.1	0.1	0.0
25		0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26		0.0	0.0	0.0	0.0	0.5	0.0	0.4	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
27		0.2	0.2	0.2	0.2	0.0	0.2	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28		0.2	0.2	0.2	0.0	0.4	0.2	0.4	0.4	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0

```
'SITE 2 ROUTE 1 AND ROUTE 3'  60.0  0.1  0.0  0.0  39  1  0  0  'PPM'
''  662.84  893.97  1.8
''  903.43  976.07  1.8
''  935.65  979.57  1.8
''  969.16  979.58  1.8
''  1061.25  962.75  1.8
''  1036.99  968.78  1.8
''  1012.73  974.81  1.8
''  1081.54  953.46  1.8
''  1240.37  844.14  1.8
''  1248.1  886.8  1.8
''  1076.26  999.27  1.8
''  1099.22  989.38  1.8
''  1025.88  1012.11  1.8
''  1050.15  1006.11  1.8
''  932.3  1016.8  1.8
''  957.3  1016.8  1.8
''  982.3  1016.8  1.8
''  888.67  1011.09  1.8
''  663.01  934.36  1.8
''  1138.12  1213.39  1.8
''  1062.07  1084.09  1.8
''  1049.4  1062.55  1.8
''  1036.72  1041.0  1.8
''  1024.05  1019.45  1.8
''  1101.44  1206.62  1.8
''  995.52  1036.48  1.8
''  1008.6  1057.78  1.8
''  1021.69  1079.09  1.8
'HOME SE'  998.5  955.8  1.8
'HOME SE'  1033.5  949.7  1.8
'HOME SW'  938.0  952.0  1.8
'HOME SW'  875.5  948.2  1.8
'HOME SW'  818.0  934.5  1.8
'HOME SW'  740.7  902.2  1.8
'HOME SW'  682.8  882.3  1.8
'HOME SW'  610.1  856.1  1.8
'HOME NE'  1336.3  839.3  1.8
'HOME NE'  1358.7  818.4  1.8
'HOME SE'  1240.3  817.1  1.8
'FINEGAYAN NWF PM 2030'  28  1  1  'C'
1  1
'001-002 RT1 EB APRCH'  'AG'  552.5  866.4  682.3  913.6  2440  3.6  0.0  17.0
1  1
'002-003 RT1 EB THRU'  'AG'  681.8  913.4  851.6  974.8  1230  3.6  0.0  17.0
1  1
'003-004 RT1 EB THRU'  'AG'  851.3  974.9  900.5  987.5  1230  3.6  0.0  17.0
1  1
'004-005 RT1 EB THRU'  'AG'  900.5  987.7  934.4  991.3  1230  3.6  0.0  17.0
1  1
'005-006 RT1 EB THRU'  'AG'  934.4  991.5  994.2  991.3  1230  3.6  0.0  17.0
2  1
'006-007 RT1 EB THRUQ'  'AG'  974.1  991.5  936.0  991.7  0.0  10.0  3
130  30  2  1230  12.9  1679  1  3
1  1
'007-008 RT1 EB LEFT'  'AG'  679.2  919.2  859.5  984.2  1210  3.6  0.0  10.0
1  1
'008-009 RT1 EB LEFT'  'AG'  859.5  984.2  898.8  993.8  1210  3.6  0.0  10.0
1  1
'009-010 RT1 EB LEFT'  'AG'  898.4  993.6  934.4  997.6  1210  3.6  0.0  10.0
1  1
'010-011 RT1 EB LEFT'  'AG'  934.6  997.6  994.2  997.3  1210  3.6  0.0  10.0
2  1
'011-012 RT1 EB LEFTQ'  'AG'  973.9  997.6  935.8  997.6  0.0  3.0  1
130  66  2  1210  12.9  1752  1  3
1  1
'012-013 RT1 EB DEPAR'  'AG'  994.5  991.5  1064.1  974.2  1390  3.6  0.0  17.0
1  1
'013-014 RT1 EB DEPAR'  'AG'  1064.1  974.2  1132.0  943.8  1390  3.6  0.0  17.0
1  1
'014-015 RT1 EB DEPAR'  'AG'  1131.5  944.2  1197.9  894.7  1390  3.6  0.0  17.0
1  1
'015-016 RT1 EB DEPAR'  'AG'  1197.4  894.7  1383.1  742.2  1390  3.6  0.0  17.0
1  1
'016-017 RT1 WB APRCH'  'AG'  1390.0  755.3  1182.6  925.2  1020  3.6  0.0  17.0
1  1
'017-018 RT1 WB APRCH'  'AG'  1182.2  925.2  1138.1  956.8  1020  3.6  0.0  17.0
1  1
'018-019 RT1 WB APRCH'  'AG'  1138.1  957.6  1070.8  986.6  1020  3.6  0.0  21.0
1  1
'019-020 RT1 WB APRCH'  'AG'  1070.8  986.8  998.3  1004.7  1020  3.6  0.0  21.0
2  1
'020-021 RT1 WB APQ'  'AG'  1024.4  997.9  1076.7  983.5  0.0  15.0  4
130  99  2  1020  12.9  1637  1  3
1  1
'021-022 RT1 WB DEPAR'  'AG'  998.3  1005.0  932.3  1005.0  1690  3.6  0.0  17.0
1  1
'022-023 RT1 WB DEPAR'  'AG'  932.5  1005.3  890.3  999.4  1690  3.6  0.0  17.0
1  1
'023-024 RT1 WB DEPAR'  'AG'  890.6  999.7  846.8  987.9  1690  3.6  0.0  17.0
1  1
```

```
'024-025 RT1 WB DEPAR'  'AG'  846.3  988.2  549.5  880.7  1690  3.6  0.0  17.0
1  1
'025-026 RT3 NB DEPAR'  'AG'  1007.0  1009.8  1167.7  1283.0  1380  3.6  0.0  13.0
1  1
'026-027 RT3 SB APRCH'  'AG'  1158.3  1281.7  1032.2  1073.2  1000  3.6  0.0  13.0
1  1
'027-028 RT3 SB APRCH'  'AG'  1032.1  1073.5  992.5  1009.0  1000  3.6  0.0  17.0
2  1
'028-029 SB APRCHQ'  'AG'  1001.2  1022.0  1037.2  1081.2  0.0  11.0  3
130  112  2  1000  12.9  1519  1  3
1.0  0  4  1000.0  0.0  'Y'  10  0  35
** BREEZE
** PROJECTN  0 104 7 -177 0 0.9996 500000 0
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2 - ROUTE 1-ROUTE 3\CO\SITE21.JPG" SITE21 3
UNKNOWN UNKNOWN 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 543.11 1475.35 738.92 1282.84
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2 - ROUTE 1-ROUTE 3\CO\SITE211.JPG" SITE211 3
UNKNOWN UNKNOWN 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 543.11 1475.35 738.92 1282.84
** MAPLAYER "Q:\P&E\ANV\ITEMS TO BE RELOCATED\GUAM\2013\ANALYSIS SITES\SITE 2\CO\SITE2111.JPG" SITE2111 3 UNKNOWN UNKNOWN 1
0 0 0 0 0 0 0 0 0 0 16777215 0 0 1 1 543.11 1475.35 738.92 1282.84
** OUTFILE  "C:\Users\mahjabeenf\Documents\Guam\Site 2\Site2_FNPM30.lst"
** RAWFILE
```

1 CAL3QHC - (DATED 95221)

CAL3QHC PC (32 BIT) VERSION 3.0.0
(C) COPYRIGHT 1993-2000, TRINITY CONSULTANTS

Run Began on 6/11/2014 at 12:23:22

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2030

DATE : 06/11/ 0
TIME : 12:23:22

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 0. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M)				*	LENGTH (M)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (M)	W (M)	V/C	QUEUE (VEH)
	*	X1	Y1	X2	Y2	*									
1. 001-002 RT1 EB APRCH	*	552.5	866.4	682.3	913.6	*	138.	70.	AG	2440.	3.6	0.0	17.0		
2. 002-003 RT1 EB THRU	*	681.8	913.4	851.6	974.8	*	181.	70.	AG	1230.	3.6	0.0	17.0		
3. 003-004 RT1 EB THRU	*	851.3	974.9	900.5	987.5	*	51.	76.	AG	1230.	3.6	0.0	17.0		
4. 004-005 RT1 EB THRU	*	900.5	987.7	934.4	991.3	*	34.	84.	AG	1230.	3.6	0.0	17.0		
5. 005-006 RT1 EB THRU	*	934.4	991.5	994.2	991.3	*	60.	90.	AG	1230.	3.6	0.0	17.0		
6. 006-007 RT1 EB THRUQ	*	974.1	991.5	953.6	991.6	*	21.	270.	AG	24.	100.0	0.0	10.0	0.33	3.4
7. 007-008 RT1 EB LEFT	*	679.2	919.2	859.5	984.2	*	192.	70.	AG	1210.	3.6	0.0	10.0		
8. 008-009 RT1 EB LEFT	*	859.5	984.2	898.8	993.8	*	40.	76.	AG	1210.	3.6	0.0	10.0		
9. 009-010 RT1 EB LEFT	*	898.4	993.6	934.4	997.6	*	36.	84.	AG	1210.	3.6	0.0	10.0		
10. 010-011 RT1 EB LEFT	*	934.6	997.6	994.2	997.3	*	60.	90.	AG	1210.	3.6	0.0	10.0		
11. 011-012 RT1 EB LEFTQ	*	973.9	997.6	-428.2	997.6	*	1402.	270.	AG	18.	100.0	0.0	3.0	1.50	233.7
12. 012-013 RT1 EB DEPAR	*	994.5	991.5	1064.1	974.2	*	72.	104.	AG	1390.	3.6	0.0	17.0		
13. 013-014 RT1 EB DEPAR	*	1064.1	974.2	1132.0	943.8	*	74.	114.	AG	1390.	3.6	0.0	17.0		
14. 014-015 RT1 EB DEPAR	*	1131.5	944.2	1197.9	894.7	*	83.	127.	AG	1390.	3.6	0.0	17.0		
15. 015-016 RT1 EB DEPAR	*	1197.4	894.7	1383.1	742.2	*	240.	129.	AG	1390.	3.6	0.0	17.0		
16. 016-017 RT1 WB APRCH	*	1390.0	755.3	1182.6	925.2	*	268.	309.	AG	1020.	3.6	0.0	17.0		
17. 017-018 RT1 WB APRCH	*	1182.2	925.2	1138.1	956.8	*	54.	306.	AG	1020.	3.6	0.0	17.0		
18. 018-019 RT1 WB APRCH	*	1138.1	957.6	1070.8	986.6	*	73.	293.	AG	1020.	3.6	0.0	21.0		
19. 019-020 RT1 WB APRCH	*	1070.8	986.8	998.3	1004.7	*	75.	284.	AG	1020.	3.6	0.0	21.0		
20. 020-021 RT1 WB APQ	*	1024.4	997.9	1066.6	986.3	*	44.	105.	AG	105.	100.0	0.0	15.0	0.75	7.3
21. 021-022 RT1 WB DEPAR	*	998.3	1005.0	932.3	1005.0	*	66.	270.	AG	1690.	3.6	0.0	17.0		
22. 022-023 RT1 WB DEPAR	*	932.5	1005.3	890.3	999.4	*	43.	262.	AG	1690.	3.6	0.0	17.0		
23. 023-024 RT1 WB DEPAR	*	890.6	999.7	846.8	987.9	*	45.	255.	AG	1690.	3.6	0.0	17.0		
24. 024-025 RT1 WB DEPAR	*	846.3	988.2	549.5	880.7	*	316.	250.	AG	1690.	3.6	0.0	17.0		
25. 025-026 RT3 NB DEPAR	*	1007.0	1009.8	1167.7	1283.0	*	317.	30.	AG	1380.	3.6	0.0	13.0		
26. 026-027 RT3 SB APRCH	*	1158.3	1281.7	1032.2	1073.2	*	244.	211.	AG	1000.	3.6	0.0	13.0		
27. 027-028 RT3 SB APRCH	*	1032.1	1073.5	992.5	1009.0	*	76.	212.	AG	1000.	3.6	0.0	17.0		
28. 028-029 SB APRCHQ	*	1001.2	1022.0	1318.6	1544.0	*	611.	31.	AG	89.	100.0	0.0	11.0	2.04	101.8

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JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2030

DATE : 06/11/ 0
TIME : 12:23:22

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
6. 006-007 RT1 EB THRUQ	*	130	30	2.0	1230	1679	12.90	1	3
11. 011-012 RT1 EB LEFTQ	*	130	66	2.0	1210	1752	12.90	1	3
20. 020-021 RT1 WB APQ	*	130	99	2.0	1020	1637	12.90	1	3
28. 028-029 SB APRCHQ	*	130	112	2.0	1000	1519	12.90	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z	*
1.	*	662.8	894.0	1.8	*
2.	*	903.4	976.1	1.8	*
3.	*	935.7	979.6	1.8	*
4.	*	969.2	979.6	1.8	*
5.	*	1061.2	962.7	1.8	*
6.	*	1037.0	968.8	1.8	*
7.	*	1012.7	974.8	1.8	*
8.	*	1081.5	953.5	1.8	*
9.	*	1240.4	844.1	1.8	*

10.		*	1248.1	886.8	1.8	*
11.		*	1076.3	999.3	1.8	*
12.		*	1099.2	989.4	1.8	*
13.		*	1025.9	1012.1	1.8	*
14.		*	1050.2	1006.1	1.8	*
15.		*	932.3	1016.8	1.8	*
16.		*	957.3	1016.8	1.8	*
17.		*	982.3	1016.8	1.8	*
18.		*	888.7	1011.1	1.8	*
19.		*	663.0	934.4	1.8	*
20.		*	1138.1	1213.4	1.8	*
21.		*	1062.1	1084.1	1.8	*
22.		*	1049.4	1062.6	1.8	*
23.		*	1036.7	1041.0	1.8	*
24.		*	1024.1	1019.5	1.8	*
25.		*	1101.4	1206.6	1.8	*
26.		*	995.5	1036.5	1.8	*
27.		*	1008.6	1057.8	1.8	*
28.		*	1021.7	1079.1	1.8	*
29.	HOME SE	*	998.5	955.8	1.8	*
30.	HOME SE	*	1033.5	949.7	1.8	*
31.	HOME SW	*	938.0	952.0	1.8	*
32.	HOME SW	*	875.5	948.2	1.8	*
33.	HOME SW	*	818.0	934.5	1.8	*
34.	HOME SW	*	740.7	902.2	1.8	*
35.	HOME SW	*	682.8	882.3	1.8	*
36.	HOME SW	*	610.1	856.1	1.8	*
37.	HOME NE	*	1336.3	839.3	1.8	*
38.	HOME NE	*	1358.7	818.4	1.8	*
39.	HOME SE	*	1240.3	817.1	1.8	*

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	*	0.3	0.3	0.3	0.4	0.6	0.6	0.6	0.4	0.3	0.0	0.2	0.2	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.5
10.	*	0.3	0.3	0.3	0.4	0.5	0.7	0.6	0.4	0.2	0.0	0.2	0.1	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.6
20.	*	0.4	0.3	0.3	0.3	0.2	0.7	0.7	0.3	0.2	0.0	0.1	0.1	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.6
30.	*	0.4	0.3	0.4	1.0	0.2	0.4	0.5	0.2	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.3
40.	*	0.6	0.4	0.7	0.9	0.2	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.9	0.1	0.0	0.0
50.	*	0.7	0.6	0.8	0.5	0.2	0.5	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.6	0.1	0.0	0.0
60.	*	0.7	0.5	0.5	0.2	0.3	0.4	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.5	0.1	0.0	0.0
70.	*	0.1	0.4	0.5	0.4	0.3	0.3	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.1	0.1	0.0
80.	*	0.0	0.2	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.1	0.6	0.0
90.	*	0.0	0.1	0.2	0.3	0.3	0.3	0.4	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.5	0.0
100.	*	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.7	0.5	0.0
110.	*	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.4	0.0	0.0	0.0	0.1	0.0	0.6	0.6	0.7	0.4	0.4	0.0
120.	*	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.3	0.4	0.0	0.1	0.1	0.7	0.3	0.5	0.5	0.7	0.4	0.4	0.0
130.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.5	0.5	0.6	0.4	0.4	0.3	0.4	0.4	0.0
140.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.0
150.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.0
160.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.0
170.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.4	0.5	0.3	0.4	0.4	0.4	0.4	0.0
180.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.0
190.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.0
200.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.0

0.0																				
210.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.4
0.2																				
220.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.5	0.4	0.4	0.4	0.4	0.5
0.7																				
230.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.2	0.2	0.5	0.4	0.4	0.4	0.5	0.5
0.7																				
240.	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.2	0.2	0.5	0.7	0.6	0.4	0.7	0.4
0.5																				
250.	*	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.2	0.4	0.4	0.8	1.1	1.2	0.6	0.1
0.5																				
260.	*	0.6	0.6	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0.2	0.7	0.5	0.9	0.8	0.1	0.5	0.6	0.1	0.0
0.5																				
270.	*	0.6	0.5	0.3	0.3	0.1	0.1	0.1	0.1	0.0	0.2	0.8	0.8	0.5	0.6	0.0	0.0	0.0	0.1	0.0
0.5																				
280.	*	0.5	0.6	0.5	0.5	0.0	0.1	0.1	0.0	0.0	0.4	0.2	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0
0.4																				
290.	*	0.4	0.4	0.6	0.4	0.4	0.4	0.4	0.4	0.0	0.3	0.1	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
300.	*	0.4	0.3	0.4	0.4	0.3	0.4	0.4	0.3	0.0	0.2	0.1	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
310.	*	0.4	0.3	0.3	0.4	0.4	0.3	0.4	0.5	0.2	0.0	0.1	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
320.	*	0.3	0.3	0.3	0.4	0.6	0.3	0.3	0.6	0.3	0.0	0.1	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
330.	*	0.3	0.4	0.3	0.4	0.6	0.6	0.3	0.6	0.3	0.0	0.2	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0
0.4																				
340.	*	0.3	0.3	0.3	0.4	0.6	0.7	0.3	0.3	0.3	0.0	0.1	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.5																				
350.	*	0.3	0.3	0.3	0.4	0.6	0.6	0.4	0.3	0.3	0.0	0.2	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0
0.5																				
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----																				
MAX	*	0.7	0.6	0.8	1.0	0.6	0.7	0.7	0.6	0.4	0.4	0.8	0.8	0.9	0.8	0.8	1.1	1.2	0.7	0.6
0.7																				
DEGR.	*	60	50	50	30	0	340	20	320	110	280	270	270	260	260	250	250	250	240	80
230																				

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2030

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
0.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.3	0.5	0.2	0.3	0.3	0.3	0.2	0.3	0.0	0.0	0.2
10.	*	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.5	0.5	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.1
20.	*	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.6	0.4	0.2	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.1
30.	*	0.4	0.4	0.4	0.4	0.2	0.3	0.3	0.3	0.4	0.3	0.5	0.2	0.2	0.3	0.3	0.3	0.0	0.0	0.1
40.	*	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.2	0.2	0.8	0.4	0.3	0.3	0.3	0.3	0.0	0.0	0.1
50.	*	0.0	0.0	0.0	0.0	0.8	0.7	0.7	0.7	0.2	0.1	0.2	0.4	0.3	0.4	0.4	0.3	0.0	0.0	0.1
60.	*	0.0	0.0	0.0	0.0	0.6	0.5	0.5	0.5	0.3	0.1	0.1	0.3	0.1	0.1	0.2	0.3	0.0	0.0	0.1
70.	*	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
80.	*	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
90.	*	0.0	0.0	0.0	0.0	0.5	0.4	0.4	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
100.	*	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
110.	*	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
120.	*	0.0	0.0	0.0	0.1	0.4	0.5	0.4	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.	*	0.0	0.0	0.2	0.5	0.4	0.8	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.	*	0.2	0.1	0.2	0.6	0.4	0.7	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150.	*	0.0	0.0	0.2	0.4	0.5	0.6	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
160.	*	0.0	0.1	0.2	0.4	0.5	0.4	0.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0
170.	*	0.0	0.1	0.3	0.4	0.5	0.3	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
180.	*	0.1	0.1	0.3	0.3	0.6	0.2	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
190.	*	0.1	0.1	0.2	0.2	0.8	0.4	0.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
200.	*	0.1	0.1	0.1	0.2	0.9	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
210.	*	0.1	0.0	0.2	0.2	0.4	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
220.	*	0.4	0.2	0.1	0.2	0.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
230.	*	0.7	0.5	0.4	0.3	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
240.	*	0.5	0.6	0.7	0.5	0.0	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
250.	*	0.5	0.7	1.0	0.6	0.0	0.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
260.	*	0.5	0.5	0.5	0.7	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.3	0.3	0.2	0.1	0.0	0.2	0.2	0.0
270.	*	0.5	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.3	0.1	0.3	0.3	0.3	0.3	0.3	0.0	0.2	0.2	0.0
280.	*	0.4	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.3	0.1	0.2	0.2	0.0
290.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.0
300.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.1	0.0
310.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.3	0.3	0.1	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0
320.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.0	0.0	0.1
330.	*	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.3	0.1	0.3	0.2	0.3	0.3	0.2	0.2	0.0	0.0	0.2
340.	*	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.0	0.0	0.2

```
 350.  *   0.5   0.5   0.5   0.5   0.0   0.0   0.0   0.0   0.1   0.5   0.2   0.3   0.3   0.3   0.2   0.2   0.0   0.0   0.2
 ------*-------------------------------------------------------------------------------------------------------------------
 MAX   *   0.7   0.7   1.0   0.7   0.9   0.9   0.9   0.9   0.6   0.5   0.8   0.4   0.3   0.4   0.4   0.3   0.2   0.2   0.2
 DEGR. *  230   250   250   260    40    40    40    40    20   350    40    40     0    50    50     0   160   170     0

 THE HIGHEST CONCENTRATION OF    1.20 PPM OCCURRED AT RECEPTOR REC17.
```


JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2030

DATE : 06/11/ 0
TIME : 12:23:22

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

CO/LINK (PPM)
ANGLE (DEGREES)

LINK #	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
	60	50	50	30	0	340	20	320	110	280	270	270	260	260	250	250	250	240	80	230
1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0
2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
4	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
5	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
9	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
10	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.0	0.0	0.2	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.3	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.0	0.0
24	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.2	0.4	0.0
25	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3
26	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
27	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.1	0.2	0.4	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

JOB: SITE 2 ROUTE 1 AND ROUTE 3 RUN: FINEGAYAN NWF PM 2030

DATE : 06/11/ 0
TIME : 12:23:22

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

		REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36	REC37	REC38	REC39
	CO/LINK (PPM)																			
	ANGLE (DEGREES)																			
LINK #		230	250	250	260	40	40	40	40	20	350	40	40	0	50	50	0	160	170	0
1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
2		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
8		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
16		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
17		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21		0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22		0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24		0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
25		0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26		0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27		0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28		0.2	0.2	0.2	0.0	0.6	0.5	0.5	0.5	0.2	0.1	0.3	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0

Site 3

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2014-Site3Finegayan2021AM-3FA21.DAT     60.0321.0.0000.000280.30480000    1    1
SE MID S                  207.     2515.       5.0
SE 164 S                  183.     2590.       5.0
SE 82 S                   154.     2668.       5.0
SE CNR                    140.     2741.       5.0
SE 82 E                   205.     2774.       5.0
SE 164 E                  283.     2802.       5.0
SE MID E                  356.     2828.       5.0
NE MID E                  323.     2935.       5.0
NE 164 E                  235.     2907.       5.0
NE 82 E                   157.     2881.       5.0
NE CNR                     95.     2864.       5.0
NE 82 N                    65.     2927.       5.0
NE 164 N                   40.     3006.       5.0
NE MID N                    8.     3095.       5.0
NW MID N                  -95.     3048.       5.0
NW 164 N                  -68.     2971.       5.0
NW 82 N                   -41.     2894.       5.0
NW CNR                    -31.     2829.       5.0
NW 82 W                   -91.     2798.       5.0
NW 164 W                 -165.     2767.       5.0
NW MID W                 -237.     2736.       5.0
SW MID W                 -218.     2665.       5.0
SW 164 W                 -153.     2690.       5.0
SW 82 W                   -77.     2713.       5.0
SW CNR                      6.     2723.       5.0
SW 82 S                    40.     2651.       5.0
SW 164 S                   68.     2573.       5.0
SW MID S                   91.     2503.       5.0
Site 3 Rt 16 & Rt 27                    21  1   0
  1
NB        Rt16 aprchAG   404.  1854.   192.  2439.   1650.3.8  0.  56   30.
  1
NB        Rt16 thru AG   200.  2443.    84.  2790.   1380.3.8  0.  56   30.
  2
NB        Rt16 thru AG   113.  2703.   181.  2500.      0.  36   3
      120        75       2.0 1380   15.6 1691 1 3
  1
NB        Rt16 left AG   176.  2437.    56.  2781.    270.3.8  0.  32   30.
  2
NB        Rt16 left AG    88.  2690.   155.  2497.      0.  12   1
      120       105       2.0  270   15.6 1752 1 3
  1
NB        Rt16 deparAG    85.  2793.  -247.  3736.   1120.3.8  0.  32   30.
  1
SB        Rt16 aprchAG  -294.  3720.   -67.  3082.   1260.3.8  0.  56   30.
  1
SB        Rt16 thru AG   -72.  3076.    21.  2801.   1130.3.8  0.  56   30.
  2
SB        Rt16 thru AG     2.  2856.   -60.  3041.      0.  36   3
      120        76       2.0 1130   15.6 1668 1 3
  1
SB        Rt16 left AG   -47.  3080.    41.  2815.    130.3.8  0.  32   30.
  2
SB        Rt16 left AG    25.  2864.   -34.  3041.      0.  12   1
      120       107       2.0  130   15.6 1752 1 3
  1
SB        Rt16 deparAG    21.  2799.   357.  1826.   2200.3.8  0.  56   30.
  1
EB        Rt27 aprchAG  -320.  2645.  -111.  2740.    480.4.0  0.  56   30.
  1
EB        Rt27 aprchAG  -111.  2740.    56.  2763.    480.4.0  0.  56   30.
  2
EB        Rt27 aprchAG    -5.  2754.   -98.  2742.      0.  36   3
      120       113       2.0  480   15.6 1675 1 3
  1
EB        Rt27 deparAG    67.  2763.   996.  3083.    900.3.8  0.  56   30.
  1
WB        Rt27 aprchAG   981.  3134.   454.  2944.   1450.3.8  0.  56   30.
  1
WB        Rt27 aprchAG   454.  2944.    52.  2807.   1450.3.8  0.  68   30.
  2
WB        Rt27 aprchAG   120.  2830.   320.  2898.      0.  48   4
      120        88       2.0 1450   15.6 1720 1 3
  1
WB        Rt27 deparAG    50.  2805.   -90.  2772.    620.4.0  0.  32   30.
  1
WB        Rt27 deparAG   -90.  2772.  -337.  2669.    620.4.0  0.  32   30.
1.0   04 1000.   0Y  5  0 72
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1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000 PAGE 1

JOB: 2014-Site3Finegayan2021AM-3FA21.DAT RUN: Site 3 Rt 16 & Rt 27
DATE: 06/09/2014 TIME: 16:54:21.18

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 321. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

	LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1.	NB Rt16 aprch	*	404.0	1854.0	192.0	2439.0	*	622.	340.	AG	1650.	3.8	.0	56.0		
2.	NB Rt16 thru	*	200.0	2443.0	84.0	2790.0	*	366.	342.	AG	1380.	3.8	.0	56.0		
3.	NB Rt16 thru	*	113.0	2703.0	174.9	2518.2	*	195.	161.	AG	78.	100.0	.0	36.0	.80	9.9
4.	NB Rt16 left	*	176.0	2437.0	56.0	2781.0	*	364.	341.	AG	270.	3.8	.0	32.0		
5.	NB Rt16 left	*	88.0	2690.0	528.0	1422.4	*	1342.	161.	AG	37.	100.0	.0	12.0	1.69	68.2
6.	NB Rt16 depar	*	85.0	2793.0	-247.0	3736.0	*	1000.	341.	AG	1120.	3.8	.0	32.0		
7.	SB Rt16 aprch	*	-294.0	3720.0	-67.0	3082.0	*	677.	160.	AG	1260.	3.8	.0	56.0		
8.	SB Rt16 thru	*	-72.0	3076.0	21.0	2801.0	*	290.	161.	AG	1130.	3.8	.0	56.0		
9.	SB Rt16 thru	*	2.0	2856.0	-47.7	3004.2	*	156.	341.	AG	80.	100.0	.0	36.0	.68	7.9
10.	SB Rt16 left	*	-47.0	3080.0	41.0	2815.0	*	279.	162.	AG	130.	3.8	.0	32.0		
11.	SB Rt16 left	*	25.0	2864.0	-15.9	2986.6	*	129.	342.	AG	37.	100.0	.0	12.0	.99	6.6
12.	SB Rt16 depar	*	21.0	2799.0	357.0	1826.0	*	1029.	161.	AG	2200.	3.8	.0	56.0		
13.	EB Rt27 aprch	*	-320.0	2645.0	-111.0	2740.0	*	230.	66.	AG	480.	4.0	.0	56.0		
14.	EB Rt27 aprch	*	-111.0	2740.0	56.0	2763.0	*	169.	82.	AG	480.	4.0	.0	56.0		
15.	EB Rt27 aprch	*	-5.0	2754.0	-1386.0	2575.8	*	1392.	263.	AG	118.	100.0	.0	36.0	3.90	70.7
16.	EB Rt27 depar	*	67.0	2763.0	996.0	3083.0	*	983.	71.	AG	900.	3.8	.0	56.0		
17.	WB Rt27 aprch	*	981.0	3134.0	454.0	2944.0	*	560.	250.	AG	1450.	3.8	.0	56.0		
18.	WB Rt27 aprch	*	454.0	2944.0	52.0	2807.0	*	425.	251.	AG	1450.	3.8	.0	68.0		
19.	WB Rt27 aprch	*	120.0	2830.0	321.0	2898.3	*	212.	71.	AG	123.	100.0	.0	48.0	.90	10.8
20.	WB Rt27 depar	*	50.0	2805.0	-90.0	2772.0	*	144.	257.	AG	620.	4.0	.0	32.0		
21.	WB Rt27 depar	*	-90.0	2772.0	-337.0	2669.0	*	268.	247.	AG	620.	4.0	.0	32.0		

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JOB: 2014-Site3Finegayan2021AM-3FA21.DAT RUN: Site 3 Rt 16 & Rt 27
DATE: 06/09/2014 TIME: 16:54:21.18

ADDITIONAL QUEUE LINK PARAMETERS

	LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3.	NB Rt16 thru	*	120	75	2.0	1380	1691	15.60	1	3
5.	NB Rt16 left	*	120	105	2.0	270	1752	15.60	1	3
9.	SB Rt16 thru	*	120	76	2.0	1130	1668	15.60	1	3
11.	SB Rt16 left	*	120	107	2.0	130	1752	15.60	1	3
15.	EB Rt27 aprch	*	120	113	2.0	480	1675	15.60	1	3
19.	WB Rt27 aprch	*	120	88	2.0	1450	1720	15.60	1	3

RECEPTOR LOCATIONS

	RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1.	SE MID S	*	207.0	2515.0	5.0	*
2.	SE 164 S	*	183.0	2590.0	5.0	*
3.	SE 82 S	*	154.0	2668.0	5.0	*
4.	SE CNR	*	140.0	2741.0	5.0	*
5.	SE 82 E	*	205.0	2774.0	5.0	*
6.	SE 164 E	*	283.0	2802.0	5.0	*
7.	SE MID E	*	356.0	2828.0	5.0	*
8.	NE MID E	*	323.0	2935.0	5.0	*
9.	NE 164 E	*	235.0	2907.0	5.0	*
10.	NE 82 E	*	157.0	2881.0	5.0	*
11.	NE CNR	*	95.0	2864.0	5.0	*
12.	NE 82 N	*	65.0	2927.0	5.0	*
13.	NE 164 N	*	40.0	3006.0	5.0	*
14.	NE MID N	*	8.0	3095.0	5.0	*
15.	NW MID N	*	-95.0	3048.0	5.0	*
16.	NW 164 N	*	-68.0	2971.0	5.0	*
17.	NW 82 N	*	-41.0	2894.0	5.0	*
18.	NW CNR	*	-31.0	2829.0	5.0	*
19.	NW 82 W	*	-91.0	2798.0	5.0	*
20.	NW 164 W	*	-165.0	2767.0	5.0	*
21.	NW MID W	*	-237.0	2736.0	5.0	*

22. SW MID W	*	-218.0	2665.0	5.0 *
23. SW 164 W	*	-153.0	2690.0	5.0 *
24. SW 82 W	*	-77.0	2713.0	5.0 *
25. SW CNR	*	6.0	2723.0	5.0 *
26. SW 82 S	*	40.0	2651.0	5.0 *
27. SW 164 S	*	68.0	2573.0	5.0 *
28. SW MID S	*	91.0	2503.0	5.0 *

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JOB: 2014-Site3Finegayan2021AM-3FA21.DAT RUN: Site 3 Rt 16 & Rt 27

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* .2	.1	.3	.3	.4	.4	.2	.0	.0	.0	.0	.0	.0	.0	.3	.3	.5	.4	.0	.0
5.	* .1	.1	.2	.4	.4	.4	.2	.0	.0	.0	.0	.0	.0	.0	.3	.4	.5	.4	.0	.0
10.	* .1	.1	.2	.4	.4	.4	.2	.0	.0	.0	.0	.0	.0	.0	.2	.4	.6	.4	.2	.0
15.	* .0	.1	.2	.4	.4	.3	.2	.0	.0	.0	.0	.0	.0	.0	.2	.4	.6	.4	.2	.0
20.	* .0	.1	.2	.4	.4	.3	.2	.0	.0	.0	.0	.0	.0	.0	.3	.4	.6	.4	.2	.0
25.	* .0	.0	.2	.4	.4	.3	.2	.0	.0	.0	.0	.0	.0	.0	.3	.4	.6	.4	.2	.0
30.	* .0	.0	.3	.4	.4	.3	.2	.0	.0	.0	.0	.0	.0	.0	.3	.3	.5	.4	.2	.0
35.	* .0	.0	.3	.4	.4	.3	.2	.0	.0	.0	.0	.0	.0	.0	.3	.3	.4	.3	.2	.1
40.	* .0	.0	.3	.4	.3	.2	.3	.0	.0	.0	.0	.0	.0	.0	.3	.4	.4	.3	.2	.1
45.	* .0	.0	.1	.3	.3	.2	.3	.0	.0	.0	.0	.0	.0	.0	.3	.4	.4	.3	.2	.1
50.	* .0	.0	.1	.3	.3	.4	.3	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.3	.2	.1
55.	* .0	.0	.1	.3	.4	.4	.3	.1	.1	.1	.0	.0	.0	.0	.2	.4	.4	.3	.2	.0
60.	* .0	.0	.0	.3	.3	.3	.3	.1	.1	.2	.2	.0	.0	.0	.2	.4	.4	.3	.1	.0
65.	* .0	.0	.0	.1	.1	.2	.2	.2	.1	.2	.2	.0	.0	.0	.2	.4	.4	.4	.3	.0
70.	* .0	.0	.0	.1	.1	.1	.2	.2	.3	.3	.3	.0	.0	.0	.2	.4	.4	.4	.3	.2
75.	* .0	.0	.0	.1	.1	.1	.1	.2	.4	.4	.4	.0	.0	.0	.2	.4	.4	.4	.2	.3
80.	* .0	.0	.0	.0	.1	.1	.1	.4	.6	.6	.6	.0	.0	.0	.2	.4	.5	.5	.4	.4
85.	* .0	.0	.0	.0	.0	.0	.0	.4	.6	.6	.6	.1	.0	.0	.2	.4	.6	.5	.4	.5
90.	* .0	.0	.0	.0	.0	.0	.0	.4	.5	.7	.6	.2	.0	.0	.2	.4	.6	.4	.5	.4
95.	* .0	.0	.0	.0	.0	.0	.0	.4	.6	.7	.7	.2	.0	.0	.2	.4	.6	.4	.3	.5
100.	* .0	.0	.0	.0	.0	.0	.0	.3	.6	.7	.7	.2	.0	.0	.2	.5	.6	.4	.3	.5
105.	* .0	.0	.0	.0	.0	.0	.0	.3	.6	.7	.6	.2	.0	.0	.2	.6	.6	.4	.3	.5
110.	* .0	.0	.0	.0	.0	.0	.0	.3	.6	.7	.6	.3	.2	.0	.2	.6	.6	.3	.4	.6
115.	* .0	.0	.0	.0	.0	.0	.0	.3	.7	.7	.6	.3	.2	.0	.4	.9	.7	.3	.4	.6
120.	* .0	.0	.0	.0	.0	.0	.0	.3	.7	.7	.6	.3	.2	.0	.5	.8	.5	.3	.5	.6
125.	* .0	.0	.0	.0	.0	.0	.0	.3	.7	.7	.6	.3	.2	.1	.5	.8	.5	.4	.5	.6
130.	* .0	.0	.0	.0	.0	.0	.0	.3	.6	.6	.5	.2	.2	.1	.5	.6	.5	.5	.5	.6
135.	* .0	.0	.0	.0	.0	.0	.0	.3	.6	.6	.5	.2	.2	.1	.4	.5	.6	.5	.4	.5
140.	* .0	.0	.1	.0	.0	.0	.0	.3	.6	.6	.4	.2	.2	.1	.4	.5	.5	.5	.4	.5
145.	* .0	.0	.1	.0	.0	.0	.0	.3	.6	.6	.4	.2	.2	.1	.5	.5	.5	.6	.4	.5
150.	* .1	.1	.2	.0	.0	.0	.0	.3	.6	.6	.4	.2	.2	.1	.4	.5	.5	.5	.4	.5
155.	* .2	.2	.4	.2	.0	.0	.0	.3	.6	.6	.5	.4	.4	.1	.4	.4	.5	.5	.4	

.4																				
160.	*	.3	.3	.5	.4	.0	.0	.0	.3	.6	.6	.7	.4	.2	.2	.3	.3	.3	.4	.4
.4																				
165.	*	.5	.5	.7	.4	.0	.0	.0	.4	.6	.7	.6	.4	.3	.2	.3	.3	.4	.4	.3
.4																				
170.	*	.5	.6	.7	.7	.1	.0	.0	.4	.6	.7	.6	.4	.3	.2	.4	.4	.3	.3	.2
.4																				
175.	*	.6	.7	.8	.6	.2	.0	.0	.4	.7	.9	.6	.5	.2	.4	.2	.3	.2	.3	.2
.4																				
180.	*	.6	.7	.8	.7	.1	.1	.0	.5	.7	.9	.6	.5	.2	.5	.1	.1	.1	.3	.2
.4																				
185.	*	.5	.8	.8	.7	.3	.1	.0	.5	.7	.9	.5	.2	.3	.4	.1	.1	.1	.3	.2
.4																				
190.	*	.6	.7	.8	.7	.3	.1	.1	.6	.7	.9	.5	.3	.4	.4	.1	.1	.1	.3	.3
.5																				
195.	*	.6	.7	.8	.7	.3	.1	.1	.6	.8	.8	.5	.3	.4	.5	.1	.1	.1	.3	.3
.5																				
200.	*	.6	.7	.8	.5	.3	.1	.1	.7	.9	.8	.3	.2	.4	.4	.1	.1	.1	.3	.3
.5																				
205.	*	.5	.7	.8	.4	.3	.1	.1	.7	.9	.8	.3	.4	.4	.4	.1	.1	.1	.3	.3
.5																				

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JOB: 2014-Site3Finegayan2021AM-3FA21.DAT RUN: Site 3 Rt 16 & Rt 27

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210.	*	.5	.7	.8	.4	.3	.2	.1	.7	.9	.7	.3	.3	.4	.4	.1	.1	.1	.3	.3	.5
215.	*	.4	.5	.6	.4	.3	.3	.1	.8	.8	.5	.4	.3	.4	.4	.1	.1	.1	.2	.4	.6
220.	*	.3	.5	.5	.4	.3	.3	.1	.8	.8	.5	.4	.4	.4	.3	.1	.1	.1	.2	.4	.6
225.	*	.3	.5	.5	.3	.3	.3	.1	.8	.7	.6	.4	.4	.4	.3	.1	.1	.1	.2	.4	.5
230.	*	.3	.5	.5	.2	.3	.1	.1	.7	.7	.6	.4	.4	.4	.3	.1	.1	.1	.2	.4	.5
235.	*	.3	.5	.5	.2	.2	.1	.1	.7	.6	.5	.4	.4	.4	.3	.1	.1	.1	.2	.4	.5
240.	*	.3	.5	.5	.2	.2	.1	.1	.7	.6	.4	.5	.4	.4	.3	.1	.1	.1	.2	.4	.5
245.	*	.3	.5	.5	.3	.3	.3	.3	.6	.5	.5	.5	.4	.4	.3	.1	.1	.1	.2	.4	.6
250.	*	.3	.5	.5	.4	.4	.3	.2	.5	.5	.4	.5	.4	.4	.1	.1	.1	.1	.2	.4	.4
255.	*	.3	.5	.5	.4	.4	.3	.2	.5	.3	.4	.4	.4	.4	.1	.0	.1	.1	.2	.3	.4
260.	*	.4	.5	.6	.4	.5	.2	.4	.3	.3	.3	.3	.4	.3	.1	.0	.0	.1	.2	.2	.4
265.	*	.4	.6	.6	.4	.5	.4	.4	.3	.2	.2	.4	.3	.3	.2	.0	.0	.1	.1	.2	.3
270.	*	.5	.6	.7	.4	.5	.4	.4	.1	.0	.3	.4	.3	.3	.2	.0	.0	.0	.1	.1	.2
275.	*	.5	.6	.7	.4	.3	.4	.5	.0	.0	.2	.3	.3	.2	.2	.0	.0	.0	.0	.1	.1
280.	*	.5	.6	.7	.5	.3	.3	.4	.0	.0	.2	.3	.3	.2	.2	.0	.0	.0	.0	.0	.1
285.	*	.6	.6	.7	.4	.2	.4	.4	.0	.0	.2	.3	.3	.2	.2	.0	.0	.0	.0	.0	.0
290.	*	.7	.6	.6	.4	.3	.4	.4	.0	.0	.2	.3	.3	.2	.2	.0	.0	.0	.0	.0	.0
295.	*	.8	.7	.6	.3	.3	.4	.4	.0	.0	.2	.3	.3	.2	.2	.0	.0	.0	.0	.0	.0
300.	*	.8	.7	.6	.3	.4	.4	.4	.0	.0	.1	.3	.4	.1	.2	.0	.0	.0	.0	.0	.0
305.	*	.8	.7	.6	.2	.4	.4	.4	.0	.0	.1	.3	.4	.1	.3	.0	.0	.0	.0	.0	.0
310.	*	.8	.7	.5	.5	.4	.4	.4	.0	.0	.1	.3	.4	.3	.3	.0	.0	.0	.0	.0	.0
315.	*	.5	.5	.5	.6	.5	.4	.4	.0	.0	.1	.3	.3	.3	.3	.0	.0	.0	.0	.0	.0
320.	*	.6	.5	.4	.6	.5	.4	.4	.0	.0	.1	.3	.3	.3	.3	.0	.0	.0	.0	.0	.0
325.	*	.5	.5	.5	.6	.5	.4	.3	.0	.0	.1	.2	.3	.3	.3	.0	.0	.0	.0	.0	.0
330.	*	.5	.5	.4	.4	.5	.4	.3	.0	.0	.1	.2	.3	.3	.3	.1	.0	.1	.0	.0	.0
335.	*	.5	.4	.4	.4	.4	.4	.3	.0	.0	.0	.1	.3	.2	.2	.1	.2	.3	.0	.0	.0
340.	*	.4	.4	.4	.4	.4	.4	.3	.0	.0	.0	.1	.1	.2	.2	.1	.2	.3	.2	.0	.0
345.	*	.3	.2	.4	.4	.4	.4	.3	.0	.0	.0	.1	.1	.1	.1	.2	.2	.3	.3	.0	.0
350.	*	.2	.2	.3	.4	.4	.4	.2	.0	.0	.0	.1	.1	.1	.1	.3	.3	.6	.4	.0	.0
355.	*	.2	.2	.3	.3	.4	.4	.2	.0	.0	.0	.0	.0	.0	.0	.3	.3	.6	.4	.0	.0

.0																				
360.	*	.2	.1	.3	.3	.4	.4	.2	.0	.0	.0	.0	.0	.0	.0	.3	.3	.5	.4	.0
.0																				
MAX	*	.8	.8	.8	.7	.5	.4	.5	.8	.9	.9	.7	.5	.4	.5	.5	.9	.7	.6	.5
.6																				
DEGR.	*	295	185	175	170	260	0	275	215	200	175	95	175	155	180	120	115	115	145	90
110																				

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JOB: 2014-Site3Finegayan2021AM-3FA21.DAT RUN: Site 3 Rt 16 & Rt 27

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28
0.	*	.0	.3	.4	.4	.6	.4	.4	.6
5.	*	.0	.4	.4	.5	.6	.4	.5	.6
10.	*	.0	.4	.4	.6	.5	.3	.4	.5
15.	*	.1	.4	.4	.6	.5	.3	.6	.6
20.	*	.1	.4	.4	.6	.4	.6	.6	.6
25.	*	.1	.4	.4	.6	.4	.6	.6	.6
30.	*	.1	.4	.4	.5	.5	.6	.6	.5
35.	*	.1	.4	.4	.4	.5	.7	.6	.5
40.	*	.1	.3	.4	.4	.5	.7	.6	.5
45.	*	.1	.3	.3	.4	.4	.7	.5	.5
50.	*	.2	.3	.3	.7	.5	.6	.4	.4
55.	*	.2	.3	.3	.7	.6	.6	.4	.4
60.	*	.3	.3	.4	.7	.6	.6	.5	.5
65.	*	.4	.3	.5	.7	.6	.5	.5	.5
70.	*	.6	.2	.5	.7	.6	.5	.5	.5
75.	*	.7	.2	.2	.6	.5	.5	.5	.5
80.	*	.8	.2	.2	.3	.4	.5	.5	.5
85.	*	.8	.1	.2	.2	.4	.4	.5	.3
90.	*	.9	.1	.1	.1	.3	.4	.5	.3
95.	*	.9	.1	.1	.2	.3	.4	.5	.3
100.	*	.9	.1	.1	.2	.4	.5	.5	.4
105.	*	.9	.1	.1	.3	.4	.5	.5	.4
110.	*	.9	.1	.1	.3	.5	.5	.5	.4
115.	*	.8	.1	.1	.3	.5	.6	.6	.5
120.	*	.8	.1	.1	.3	.5	.6	.6	.6
125.	*	.7	.1	.1	.1	.5	.6	.5	.5
130.	*	.7	.1	.1	.1	.5	.7	.6	.5
135.	*	.7	.1	.1	.1	.6	.7	.7	.6
140.	*	.6	.1	.1	.1	.6	.7	.6	.6
145.	*	.5	.0	.1	.1	.6	.7	.6	.6
150.	*	.5	.0	.1	.1	.5	.6	.6	.6
155.	*	.5	.0	.0	.1	.5	.6	.6	.6
160.	*	.5	.0	.0	.1	.3	.5	.5	.4
165.	*	.5	.0	.0	.0	.2	.3	.3	.3
170.	*	.5	.0	.0	.0	.1	.2	.2	.2
175.	*	.5	.0	.0	.0	.1	.1	.2	.1
180.	*	.5	.0	.0	.0	.0	.1	.1	.1
185.	*	.5	.0	.0	.0	.0	.1	.1	.1
190.	*	.5	.0	.0	.0	.0	.0	.0	.0
195.	*	.5	.0	.0	.0	.0	.0	.0	.0
200.	*	.5	.0	.0	.0	.0	.0	.0	.0
205.	*	.5	.0	.0	.0	.0	.0	.0	.0

1

JOB: 2014-Site3Finegayan2021AM-3FA21.DAT RUN: Site 3 Rt 16 & Rt 27

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28
210.	*	.6	.0	.0	.0	.0	.0	.0	.0
215.	*	.6	.0	.0	.0	.0	.0	.0	.0
220.	*	.6	.0	.0	.0	.0	.0	.0	.0
225.	*	.7	.0	.0	.0	.0	.0	.0	.0
230.	*	.7	.0	.0	.0	.0	.0	.0	.0
235.	*	.8	.0	.0	.0	.0	.0	.0	.0
240.	*	.8	.0	.0	.0	.0	.0	.0	.0
245.	*	.9	.1	.1	.1	.1	.0	.0	.0
250.	*	.8	.2	.2	.1	.1	.0	.0	.0
255.	*	.9	.2	.2	.2	.2	.0	.0	.0

260.	*	.9	.2	.3	.4	.3	.1	.0	.0
265.	*	.8	.3	.4	.5	.4	.1	.1	.0
270.	*	.7	.3	.4	.5	.4	.2	.1	.1
275.	*	.6	.4	.5	.6	.6	.2	.1	.1
280.	*	.4	.4	.6	.6	.6	.2	.1	.1
285.	*	.3	.4	.5	.5	.5	.2	.1	.1
290.	*	.2	.4	.5	.4	.5	.2	.1	.1
295.	*	.2	.5	.5	.4	.5	.2	.1	.1
300.	*	.1	.4	.4	.4	.5	.2	.1	.1
305.	*	.1	.3	.4	.4	.4	.2	.1	.1
310.	*	.1	.3	.4	.4	.4	.2	.1	.1
315.	*	.1	.3	.4	.4	.4	.1	.2	.1
320.	*	.1	.4	.4	.3	.4	.2	.2	.2
325.	*	.1	.4	.4	.3	.3	.2	.2	.2
330.	*	.1	.3	.4	.4	.3	.2	.2	.2
335.	*	.0	.3	.4	.4	.3	.2	.3	.3
340.	*	.0	.3	.4	.4	.5	.3	.3	.3
345.	*	.0	.4	.4	.4	.5	.4	.3	.3
350.	*	.0	.4	.4	.4	.6	.5	.4	.3
355.	*	.0	.4	.4	.4	.6	.5	.5	.5
360.	*	.0	.3	.4	.4	.6	.4	.4	.6
MAX	*	.9	.5	.6	.7	.6	.7	.7	.6
DEGR.	*	90	295	280	50	0	35	135	0

THE HIGHEST CONCENTRATION IS .90 PPM AT 115 DEGREES FROM REC16.
THE 2ND HIGHEST CONCENTRATION IS .90 PPM AT 175 DEGREES FROM REC10.
THE 3RD HIGHEST CONCENTRATION IS .90 PPM AT 90 DEGREES FROM REC21.

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2014-Site3Finegayan2021PM-3FP21.DAT     60.0321.0.0000.000280.30480000    1    1
SE MID S                  207.     2515.       5.0
SE 164 S                  183.     2590.       5.0
SE 82 S                   154.     2668.       5.0
SE CNR                    140.     2741.       5.0
SE 82 E                   205.     2774.       5.0
SE 164 E                  283.     2802.       5.0
SE MID E                  356.     2828.       5.0
NE MID E                  323.     2935.       5.0
NE 164 E                  235.     2907.       5.0
NE 82 E                   157.     2881.       5.0
NE CNR                     95.     2864.       5.0
NE 82 N                    65.     2927.       5.0
NE 164 N                   40.     3006.       5.0
NE MID N                    8.     3095.       5.0
NW MID N                  -95.     3048.       5.0
NW 164 N                  -68.     2971.       5.0
NW 82 N                   -41.     2894.       5.0
NW CNR                    -31.     2829.       5.0
NW 82 W                   -91.     2798.       5.0
NW 164 W                 -165.     2767.       5.0
NW MID W                 -237.     2736.       5.0
SW MID W                 -218.     2665.       5.0
SW 164 W                 -153.     2690.       5.0
SW 82 W                   -77.     2713.       5.0
SW CNR                      6.     2723.       5.0
SW 82 S                    40.     2651.       5.0
SW 164 S                   68.     2573.       5.0
SW MID S                   91.     2503.       5.0
Site 3 Rt 16 & Rt 27                    21  1   0
  1
NB        Rt16 aprchAG   404.  1854.   192.  2439.   2130.3.8  0.  56   30.
  1
NB        Rt16 thru AG   200.  2443.    84.  2790.   1890.3.8  0.  56   30.
  2
NB        Rt16 thru AG   113.  2703.   181.  2500.      0.  36   3
      130        94       2.0 1890   15.6 1691 1 3
  1
NB        Rt16 left AG   176.  2437.    56.  2781.    240.3.8  0.  32   30.
  2
NB        Rt16 left AG    88.  2690.   155.  2497.      0.  12   1
      130       110       2.0  240   15.6 1752 1 3
  1
NB        Rt16 deparAG    85.  2793.  -247.  3736.   1430.3.8  0.  32   30.
  1
SB        Rt16 aprchAG  -294.  3720.   -67.  3082.   1340.3.8  0.  56   30.
  1
SB        Rt16 thru AG   -72.  3076.    21.  2801.   1050.3.8  0.  56   30.
  2
SB        Rt16 thru AG     2.  2856.   -60.  3041.      0.  36   3
      130       100       2.0 1050   15.6 1669 1 3
  1
SB        Rt16 left AG   -47.  3080.    41.  2815.    290.3.8  0.  32   30.
  2
SB        Rt16 left AG    25.  2864.   -34.  3041.      0.  12   1
      130       116       2.0  290   15.6 1752 1 3
  1
SB        Rt16 deparAG    21.  2799.   357.  1826.   1860.3.8  0.  56   30.
  1
EB        Rt27 aprchAG  -320.  2645.  -111.  2740.    810.4.0  0.  56   30.
  1
EB        Rt27 aprchAG  -111.  2740.    56.  2763.    810.4.0  0.  56   30.
  2
EB        Rt27 aprchAG    -5.  2754.   -98.  2742.      0.  36   3
      130        93       2.0  810   15.6 1698 1 3
  1
EB        Rt27 deparAG    67.  2763.   996.  3083.   1590.3.8  0.  56   30.
  1
WB        Rt27 aprchAG   981.  3134.   454.  2944.   1080.3.8  0.  56   30.
  1
WB        Rt27 aprchAG   454.  2944.    52.  2807.   1080.3.8  0.  68   30.
  2
WB        Rt27 aprchAG   120.  2830.   320.  2898.      0.  48   4
      130      109       2.0 1080   15.6 1720 1 3
  1
WB        Rt27 deparAG    50.  2805.   -90.  2772.    480.4.0  0.  32   30.
  1
WB        Rt27 deparAG   -90.  2772.  -337.  2669.    480.4.0  0.  32   30.
1.0   04 1000.   0Y  5  0 72
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JOB: 2014-Site3Finegayan2021PM-3FP21.DAT RUN: Site 3 Rt 16 & Rt 27
DATE: 06/09/2014 TIME: 16:55:12.97

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 321. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

	LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1.	NB Rt16 aprch	*	404.0	1854.0	192.0	2439.0	*	622.	340.	AG	2130.	3.8	.0	56.0		
2.	NB Rt16 thru	*	200.0	2443.0	84.0	2790.0	*	366.	342.	AG	1890.	3.8	.0	56.0		
3.	NB Rt16 thru	*	113.0	2703.0	932.5	256.5	*	2580.	161.	AG	91.	100.0	.0	36.0	1.51	131.1
4.	NB Rt16 left	*	176.0	2437.0	56.0	2781.0	*	364.	341.	AG	240.	3.8	.0	32.0		
5.	NB Rt16 left	*	88.0	2690.0	242.2	2245.9	*	470.	161.	AG	35.	100.0	.0	12.0	1.12	23.9
6.	NB Rt16 depar	*	85.0	2793.0	-247.0	3736.0	*	1000.	341.	AG	1430.	3.8	.0	32.0		
7.	SB Rt16 aprch	*	-294.0	3720.0	-67.0	3082.0	*	677.	160.	AG	1340.	3.8	.0	56.0		
8.	SB Rt16 thru	*	-72.0	3076.0	21.0	2801.0	*	290.	161.	AG	1050.	3.8	.0	56.0		
9.	SB Rt16 thru	*	2.0	2856.0	-141.6	3284.5	*	452.	341.	AG	97.	100.0	.0	36.0	1.05	23.0
10.	SB Rt16 left	*	-47.0	3080.0	41.0	2815.0	*	279.	162.	AG	290.	3.8	.0	32.0		
11.	SB Rt16 left	*	25.0	2864.0	-557.3	4611.0	*	1842.	342.	AG	37.	100.0	.0	12.0	2.16	93.5
12.	SB Rt16 depar	*	21.0	2799.0	357.0	1826.0	*	1029.	161.	AG	1860.	3.8	.0	56.0		
13.	EB Rt27 aprch	*	-320.0	2645.0	-111.0	2740.0	*	230.	66.	AG	810.	4.0	.0	56.0		
14.	EB Rt27 aprch	*	-111.0	2740.0	56.0	2763.0	*	169.	82.	AG	810.	4.0	.0	56.0		
15.	EB Rt27 aprch	*	-5.0	2754.0	-141.2	2736.4	*	137.	263.	AG	90.	100.0	.0	36.0	.63	7.0
16.	EB Rt27 depar	*	67.0	2763.0	996.0	3083.0	*	983.	71.	AG	1590.	3.8	.0	56.0		
17.	WB Rt27 aprch	*	981.0	3134.0	454.0	2944.0	*	560.	250.	AG	1080.	3.8	.0	56.0		
18.	WB Rt27 aprch	*	454.0	2944.0	52.0	2807.0	*	425.	251.	AG	1080.	3.8	.0	68.0		
19.	WB Rt27 aprch	*	120.0	2830.0	784.1	3055.8	*	701.	71.	AG	140.	100.0	.0	48.0	1.21	35.6
20.	WB Rt27 depar	*	50.0	2805.0	-90.0	2772.0	*	144.	257.	AG	480.	4.0	.0	32.0		
21.	WB Rt27 depar	*	-90.0	2772.0	-337.0	2669.0	*	268.	247.	AG	480.	4.0	.0	32.0		1

JOB: 2014-Site3Finegayan2021PM-3FP21.DAT RUN: Site 3 Rt 16 & Rt 27
DATE: 06/09/2014 TIME: 16:55:12.97

ADDITIONAL QUEUE LINK PARAMETERS

	LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3.	NB Rt16 thru	*	130	94	2.0	1890	1691	15.60	1	3
5.	NB Rt16 left	*	130	110	2.0	240	1752	15.60	1	3
9.	SB Rt16 thru	*	130	100	2.0	1050	1669	15.60	1	3
11.	SB Rt16 left	*	130	116	2.0	290	1752	15.60	1	3
15.	EB Rt27 aprch	*	130	93	2.0	810	1698	15.60	1	3
19.	WB Rt27 aprch	*	130	109	2.0	1080	1720	15.60	1	3

RECEPTOR LOCATIONS

	RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1.	SE MID S	*	207.0	2515.0	5.0	*
2.	SE 164 S	*	183.0	2590.0	5.0	*
3.	SE 82 S	*	154.0	2668.0	5.0	*
4.	SE CNR	*	140.0	2741.0	5.0	*
5.	SE 82 E	*	205.0	2774.0	5.0	*
6.	SE 164 E	*	283.0	2802.0	5.0	*
7.	SE MID E	*	356.0	2828.0	5.0	*
8.	NE MID E	*	323.0	2935.0	5.0	*
9.	NE 164 E	*	235.0	2907.0	5.0	*
10.	NE 82 E	*	157.0	2881.0	5.0	*
11.	NE CNR	*	95.0	2864.0	5.0	*
12.	NE 82 N	*	65.0	2927.0	5.0	*
13.	NE 164 N	*	40.0	3006.0	5.0	*
14.	NE MID N	*	8.0	3095.0	5.0	*
15.	NW MID N	*	-95.0	3048.0	5.0	*
16.	NW 164 N	*	-68.0	2971.0	5.0	*
17.	NW 82 N	*	-41.0	2894.0	5.0	*
18.	NW CNR	*	-31.0	2829.0	5.0	*
19.	NW 82 W	*	-91.0	2798.0	5.0	*
20.	NW 164 W	*	-165.0	2767.0	5.0	*
21.	NW MID W	*	-237.0	2736.0	5.0	*

22. SW MID W	*	-218.0	2665.0	5.0	*
23. SW 164 W	*	-153.0	2690.0	5.0	*
24. SW 82 W	*	-77.0	2713.0	5.0	*
25. SW CNR	*	6.0	2723.0	5.0	*
26. SW 82 S	*	40.0	2651.0	5.0	*
27. SW 164 S	*	68.0	2573.0	5.0	*
28. SW MID S	*	91.0	2503.0	5.0	*

1

JOB: 2014-Site3Finegayan2021PM-3FP21.DAT RUN: Site 3 Rt 16 & Rt 27

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* .2	.3	.3	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.7	.8	.8	.6	.2	.0
5.	* .2	.2	.3	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.7	.8	.8	.6	.2	.1
10.	* .1	.2	.2	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.7	.7	.8	.6	.2	.1
15.	* .1	.2	.2	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.6	.6	.8	.6	.3	.1
20.	* .1	.2	.2	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.6	.6	.7	.5	.3	.1
25.	* .1	.2	.3	.5	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.7	.6	.6	.4	.3	.1
30.	* .1	.2	.3	.5	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.7	.6	.6	.4	.3	.1
35.	* .1	.2	.3	.5	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.7	.6	.6	.4	.3	.1
40.	* .1	.2	.3	.6	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.4	.3	.1
45.	* .1	.2	.3	.6	.6	.7	.7	.0	.0	.0	.0	.0	.0	.0	.6	.5	.6	.3	.2	.1
50.	* .0	.2	.2	.6	.7	.7	.7	.1	.1	.1	.0	.0	.0	.0	.5	.5	.5	.3	.2	.1
55.	* .0	.1	.2	.5	.7	.6	.6	.1	.1	.1	.1	.0	.0	.0	.5	.5	.5	.3	.2	.1
60.	* .0	.0	.2	.4	.5	.5	.6	.3	.3	.3	.2	.0	.0	.0	.5	.5	.5	.4	.3	.1
65.	* .0	.0	.2	.4	.5	.5	.6	.4	.3	.3	.3	.0	.0	.0	.5	.5	.5	.4	.2	.1
70.	* .0	.0	.0	.3	.3	.3	.3	.6	.5	.5	.5	.1	.0	.0	.5	.5	.6	.6	.5	.2
75.	* .0	.0	.0	.2	.3	.3	.3	.7	.6	.6	.6	.1	.0	.0	.5	.5	.6	.6	.4	.3
80.	* .0	.0	.0	.1	.1	.1	.1	.8	.7	.8	.7	.1	.1	.0	.5	.6	.8	.6	.4	.3
85.	* .0	.0	.0	.0	.1	.1	.1	.9	.8	.8	.8	.3	.1	.0	.5	.6	.8	.6	.4	.4
90.	* .0	.0	.0	.0	.0	.0	.1	.9	.9	.9	.8	.3	.1	.1	.6	.6	.9	.6	.5	.6
95.	* .0	.0	.0	.0	.0	.0	.0	.8	.8	.8	.8	.4	.2	.1	.6	.7	.9	.5	.4	.5
100.	* .0	.0	.0	.0	.0	.0	.0	.7	.8	.8	.7	.4	.2	.1	.6	.7	.9	.4	.4	.5
105.	* .0	.0	.0	.0	.0	.0	.0	.7	.8	.8	.6	.4	.2	.1	.7	.8	.8	.4	.5	.6
110.	* .0	.0	.0	.0	.0	.0	.0	.7	.7	.7	.6	.4	.2	.1	.7	.8	.8	.4	.5	.6
115.	* .0	.0	.0	.0	.0	.0	.0	.7	.7	.6	.6	.4	.2	.1	.7	.8	.8	.4	.5	.7
120.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.4	.2	.1	.7	.7	.7	.4	.6	.7
125.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.4	.2	.1	.8	.7	.5	.3	.6	.6
130.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.4	.2	.1	.8	.7	.5	.4	.7	.6
135.	* .0	.0	.1	.0	.0	.0	.0	.6	.6	.6	.4	.4	.2	.1	.7	.6	.6	.4	.7	.5
140.	* .0	.0	.1	.0	.0	.0	.0	.6	.6	.6	.4	.3	.1	.1	.6	.8	.6	.4	.7	.5
145.	* .2	.2	.2	.1	.0	.0	.0	.6	.6	.6	.4	.3	.1	.1	.8	.8	.5	.5	.6	.5
150.	* .3	.3	.3	.2	.0	.0	.0	.6	.6	.6	.5	.5	.2	.3	.7	.7	.6	.5	.6	.5
155.	* .4	.4	.5	.4	.1	.0	.0	.6	.6	.7	.5	.6	.4	.3	.6	.6	.6	.7	.5	

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  .4
 160.  *    .7    .7    .7    .5    .1    .0    .0    .6    .6    .7    .7    .7    .4    .3    .5    .4    .5    .5    .5
  .2
 165.  *    .8    .7    .9    .7    .2    .1    .0    .6    .7    .7    .8    .6    .4    .3    .4    .4    .3    .5    .3
  .2
 170.  *    .9    .8    .9    .7    .3    .1    .1    .7    .7   1.0    .7    .5    .5    .4    .3    .3    .4    .3    .3
  .2
 175.  *    .9    .8   1.0    .8    .3    .2    .1    .7    .7    .9    .7    .5    .5    .5    .2    .0    .2    .3    .3
  .2
 180.  *    .9    .9   1.0    .7    .4    .2    .1    .7    .8    .9    .7    .5    .3    .5    .0    .1    .1    .2    .3
  .2
 185.  *   1.0   1.0    .9    .8    .3    .3    .1    .7    .8    .9    .6    .4    .4    .4    .0    .1    .1    .2    .3
  .2
 190.  *    .8    .8    .9    .7    .3    .2    .1    .7    .9    .9    .5    .3    .5    .5    .0    .0    .1    .2    .3
  .2
 195.  *    .8    .8    .8    .6    .3    .2    .1    .7    .9    .9    .5    .3    .4    .5    .0    .0    .1    .2    .2
  .2
 200.  *    .8    .8    .8    .5    .3    .3    .1    .8    .9    .7    .4    .3    .4    .6    .0    .0    .1    .2    .3
  .2
 205.  *    .8    .8    .8    .5    .3    .3    .1    .8    .9    .7    .3    .3    .4    .6    .0    .0    .1    .2    .3
  .2
1
```


JOB: 2014-Site3Finegayan2021PM-3FP21.DAT RUN: Site 3 Rt 16 & Rt 27

```
 WIND  * CONCENTRATION
 ANGLE *      (PPM)
 (DEGR)* REC1  REC2  REC3  REC4  REC5  REC6  REC7  REC8  REC9  REC10 REC11 REC12 REC13 REC14 REC15 REC16 REC17 REC18 REC19
REC20

------*-------------------------------------------------------------------------------------------------------------------
----
 210.  *    .7    .6    .8    .4    .3    .3    .1    .9    .8    .7    .3    .4    .4    .6    .0    .0    .1    .1    .3
  .2
 215.  *    .6    .6    .6    .4    .3    .3    .1    .8    .8    .7    .3    .5    .4    .4    .0    .0    .0    .1    .3
  .2
 220.  *    .6    .6    .6    .4    .3    .3    .2    .8    .9    .6    .4    .5    .4    .4    .0    .0    .0    .1    .3
  .2
 225.  *    .6    .6    .6    .4    .3    .3    .2    .8    .8    .4    .4    .4    .4    .4    .0    .0    .0    .1    .3
  .2
 230.  *    .6    .6    .6    .4    .3    .3    .2    .8    .7    .5    .4    .4    .4    .4    .0    .0    .0    .1    .3
  .2
 235.  *    .6    .6    .6    .3    .2    .2    .2    .8    .7    .4    .3    .4    .4    .4    .0    .0    .0    .1    .2
  .2
 240.  *    .6    .6    .6    .3    .2    .3    .1    .7    .4    .3    .3    .4    .4    .4    .0    .0    .0    .0    .2
  .1
 245.  *    .6    .6    .6    .3    .3    .3    .1    .6    .3    .3    .3    .4    .4    .4    .0    .0    .0    .0    .1
  .0
 250.  *    .6    .6    .6    .3    .3    .3    .2    .4    .3    .3    .2    .4    .4    .3    .0    .0    .0    .0    .0
  .0
 255.  *    .6    .6    .6    .3    .3    .3    .3    .3    .2    .2    .2    .4    .4    .3    .0    .0    .0    .0    .0
  .0
 260.  *    .6    .6    .6    .4    .4    .2    .3    .2    .2    .1    .3    .4    .4    .3    .0    .0    .0    .0    .0
  .0
 265.  *    .6    .6    .6    .5    .4    .3    .4    .2    .0    .2    .3    .4    .4    .4    .0    .0    .0    .0    .0
  .0
 270.  *    .6    .6    .6    .6    .4    .4    .6    .1    .1    .2    .3    .4    .4    .4    .0    .0    .0    .0    .0
  .0
 275.  *    .6    .6    .6    .6    .3    .4    .5    .1    .1    .2    .3    .4    .4    .4    .0    .0    .0    .0    .0
  .0
 280.  *    .6    .6    .6    .6    .2    .5    .5    .1    .1    .2    .3    .4    .4    .4    .0    .0    .0    .0    .0
  .0
 285.  *    .6    .6    .7    .4    .3    .5    .5    .1    .1    .2    .3    .4    .4    .4    .0    .0    .0    .0    .0
  .0
 290.  *    .6    .6    .7    .4    .5    .6    .5    .1    .1    .2    .4    .6    .4    .6    .0    .0    .0    .0    .0
  .0
 295.  *    .8    .7    .7    .4    .6    .6    .7    .1    .2    .2    .4    .6    .6    .6    .0    .0    .0    .0    .0
  .0
 300.  *    .8    .7    .6    .4    .6    .6    .7    .0    .2    .2    .4    .6    .5    .6    .0    .0    .0    .0    .0
  .0
 305.  *    .8    .7    .6    .5    .6    .7    .5    .0    .2    .2    .6    .6    .6    .5    .0    .0    .0    .0    .0
  .0
 310.  *    .7    .7    .6    .6    .7    .7    .5    .0    .2    .2    .6    .6    .6    .5    .0    .0    .0    .0    .0
  .0
 315.  *    .7    .7    .7    .5    .7    .7    .5    .0    .1    .2    .6    .6    .5    .5    .0    .0    .0    .0    .0
  .0
 320.  *    .7    .7    .7    .6    .7    .5    .5    .0    .1    .2    .4    .6    .5    .5    .0    .0    .0    .0    .0
  .0
 325.  *    .7    .7    .7    .5    .7    .5    .5    .0    .0    .2    .4    .5    .5    .5    .0    .1    .1    .0    .0
  .0
 330.  *    .8    .8    .7    .6    .6    .5    .5    .0    .0    .1    .5    .5    .5    .5    .2    .1    .2    .1    .0
  .0
 335.  *    .8    .7    .6    .6    .6    .5    .5    .0    .0    .1    .5    .5    .5    .4    .2    .3    .4    .1    .0
  .0
 340.  *    .6    .5    .5    .7    .5    .5    .5    .0    .0    .0    .2    .5    .4    .4    .3    .4    .4    .4    .0
  .0
 345.  *    .3    .6    .5    .5    .5    .5    .5    .0    .0    .0    .1    .1    .1    .1    .6    .7    .7    .6    .0
  .0
 350.  *    .4    .4    .4    .5    .5    .5    .5    .0    .0    .0    .1    .1    .1    .1    .7    .7    .7    .6    .1
  .0
 355.  *    .3    .3    .3    .4    .5    .5    .5    .0    .0    .0    .0    .1    .1    .1    .7    .7    .9    .6    .2
```

.0																				
360.	*	.2	.3	.3	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.7	.8	.8	.6	.2
.0																				
------	*	----------																		

MAX	*	1.0	1.0	1.0	.8	.7	.7	.7	.9	.9	1.0	.8	.7	.6	.6	.8	.8	.9	.7	.7
.7																				
DEGR.	*	185	185	175	175	50	45	45	85	90	170	165	160	295	200	125	0	90	155	130
115																				

1

JOB: 2014-Site3Finegayan2021PM-3FP21.DAT RUN: Site 3 Rt 16 & Rt 27

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28
0.	*	.0	.1	.1	.5	.5	.5	.5	.5
5.	*	.0	.1	.3	.5	.5	.4	.4	.5
10.	*	.0	.1	.3	.5	.5	.5	.5	.6
15.	*	.1	.2	.3	.6	.4	.4	.7	.6
20.	*	.1	.2	.3	.6	.4	.6	.7	.6
25.	*	.1	.2	.3	.7	.4	.5	.7	.7
30.	*	.1	.2	.4	.5	.4	.6	.6	.6
35.	*	.1	.2	.4	.4	.6	.6	.6	.6
40.	*	.1	.2	.3	.4	.6	.7	.6	.6
45.	*	.1	.2	.3	.5	.6	.6	.6	.6
50.	*	.1	.2	.5	.5	.8	.7	.6	.5
55.	*	.0	.3	.5	.7	.8	.7	.6	.4
60.	*	.1	.3	.6	.8	.9	.6	.5	.4
65.	*	.1	.4	.6	.8	.9	.6	.4	.4
70.	*	.3	.4	.5	.7	.9	.6	.4	.4
75.	*	.4	.4	.5	.6	.6	.4	.4	.4
80.	*	.4	.3	.4	.6	.5	.4	.4	.4
85.	*	.5	.0	.2	.5	.4	.4	.4	.4
90.	*	.3	.1	.2	.2	.4	.4	.4	.4
95.	*	.3	.1	.2	.2	.3	.4	.4	.4
100.	*	.4	.1	.3	.3	.4	.4	.4	.4
105.	*	.4	.2	.3	.3	.4	.4	.4	.4
110.	*	.3	.2	.3	.3	.4	.4	.4	.4
115.	*	.4	.2	.2	.3	.4	.5	.6	.5
120.	*	.4	.2	.2	.3	.4	.6	.7	.8
125.	*	.4	.2	.2	.3	.4	.7	.7	.8
130.	*	.4	.2	.2	.3	.5	.7	.8	.7
135.	*	.4	.2	.2	.2	.6	.7	.8	.7
140.	*	.4	.1	.2	.3	.6	.8	.8	.6
145.	*	.3	.1	.2	.3	.7	.9	.7	.7
150.	*	.3	.1	.1	.3	.7	.8	.7	.6
155.	*	.2	.0	.1	.2	.5	.6	.6	.6
160.	*	.2	.0	.0	.1	.4	.5	.5	.5
165.	*	.2	.0	.0	.0	.3	.4	.5	.4
170.	*	.2	.0	.0	.0	.2	.3	.3	.3
175.	*	.2	.0	.0	.0	.1	.1	.1	.1
180.	*	.2	.0	.0	.0	.0	.1	.1	.1
185.	*	.2	.0	.0	.0	.0	.1	.1	.1
190.	*	.2	.0	.0	.0	.0	.0	.0	.0
195.	*	.2	.0	.0	.0	.0	.0	.0	.0
200.	*	.2	.0	.0	.0	.0	.0	.0	.0
205.	*	.2	.0	.0	.0	.0	.0	.0	.0

1

JOB: 2014-Site3Finegayan2021PM-3FP21.DAT RUN: Site 3 Rt 16 & Rt 27

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28
210.	*	.2	.0	.0	.0	.0	.0	.0	.0
215.	*	.2	.0	.0	.0	.0	.0	.0	.0
220.	*	.2	.0	.0	.0	.0	.0	.0	.0
225.	*	.2	.0	.0	.0	.0	.0	.0	.0
230.	*	.1	.0	.0	.0	.0	.0	.0	.0
235.	*	.1	.1	.1	.0	.0	.0	.0	.0
240.	*	.1	.1	.1	.0	.0	.0	.0	.0
245.	*	.0	.1	.1	.1	.0	.0	.0	.0
250.	*	.0	.1	.1	.1	.0	.0	.0	.0
255.	*	.0	.1	.1	.1	.1	.0	.0	.0

260.	*	.0	.1	.1	.1	.2	.0	.0	.0
265.	*	.0	.1	.1	.1	.2	.0	.0	.0
270.	*	.0	.1	.1	.2	.3	.0	.0	.0
275.	*	.0	.1	.1	.2	.3	.0	.0	.0
280.	*	.0	.1	.1	.2	.3	.0	.0	.0
285.	*	.0	.1	.1	.3	.4	.0	.0	.0
290.	*	.0	.1	.1	.3	.4	.1	.0	.0
295.	*	.0	.1	.1	.4	.4	.1	.0	.0
300.	*	.0	.1	.1	.4	.4	.1	.0	.0
305.	*	.0	.1	.1	.4	.4	.1	.0	.0
310.	*	.0	.1	.1	.3	.3	.1	.0	.0
315.	*	.0	.1	.1	.4	.3	.1	.1	.0
320.	*	.0	.1	.1	.4	.3	.1	.2	.1
325.	*	.0	.1	.1	.3	.3	.2	.2	.1
330.	*	.0	.1	.1	.3	.4	.3	.2	.1
335.	*	.0	.1	.1	.3	.3	.3	.3	.2
340.	*	.0	.1	.1	.3	.4	.3	.3	.3
345.	*	.0	.1	.1	.3	.6	.5	.5	.5
350.	*	.0	.1	.1	.4	.7	.5	.5	.6
355.	*	.0	.1	.1	.4	.7	.4	.5	.5
360.	*	.0	.1	.1	.5	.5	.5	.5	.5
MAX	*	.5	.4	.6	.8	.9	.9	.8	.8
DEGR.	*	85	65	60	60	60	145	130	120

THE HIGHEST CONCENTRATION IS 1.00 PPM AT 185 DEGREES FROM REC1 .
THE 2ND HIGHEST CONCENTRATION IS 1.00 PPM AT 185 DEGREES FROM REC2 .
THE 3RD HIGHEST CONCENTRATION IS 1.00 PPM AT 175 DEGREES FROM REC3 .

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2014-Site3Finegayan2030AM-3FA30.DAT     60.0321.0.0000.000280.30480000    1    1
SE MID S                  207.     2515.       5.0
SE 164 S                  183.     2590.       5.0
SE 82 S                   154.     2668.       5.0
SE CNR                    140.     2741.       5.0
SE 82 E                   205.     2774.       5.0
SE 164 E                  283.     2802.       5.0
SE MID E                  356.     2828.       5.0
NE MID E                  323.     2935.       5.0
NE 164 E                  235.     2907.       5.0
NE 82 E                   157.     2881.       5.0
NE CNR                     95.     2864.       5.0
NE 82 N                    65.     2927.       5.0
NE 164 N                   40.     3006.       5.0
NE MID N                    8.     3095.       5.0
NW MID N                  -95.     3048.       5.0
NW 164 N                  -68.     2971.       5.0
NW 82 N                   -41.     2894.       5.0
NW CNR                    -31.     2829.       5.0
NW 82 W                   -91.     2798.       5.0
NW 164 W                 -165.     2767.       5.0
NW MID W                 -237.     2736.       5.0
SW MID W                 -218.     2665.       5.0
SW 164 W                 -153.     2690.       5.0
SW 82 W                   -77.     2713.       5.0
SW CNR                      6.     2723.       5.0
SW 82 S                    40.     2651.       5.0
SW 164 S                   68.     2573.       5.0
SW MID S                   91.     2503.       5.0
Site 3 Rt 16 & Rt 27                    21  1   0
  1
NB        Rt16 aprchAG   404.  1854.   192.  2439.   1620.3.6  0.  56   30.
  1
NB        Rt16 thru AG   200.  2443.    84.  2790.   1030.3.6  0.  56   30.
  2
NB        Rt16 thru AG   113.  2703.   181.  2500.      0.  36   3
      120        76       2.0 1030   12.9 1691 1 3
  1
NB        Rt16 left AG   176.  2437.    56.  2781.    590.3.6  0.  32   30.
  2
NB        Rt16 left AG    88.  2690.   155.  2497.      0.  12   1
      120       105       2.0  590   12.9 1752 1 3
  1
NB        Rt16 deparAG    85.  2793.  -247.  3736.    860.3.6  0.  32   30.
  1
SB        Rt16 aprchAG  -294.  3720.   -67.  3082.   1570.3.6  0.  56   30.
  1
SB        Rt16 thru AG   -72.  3076.    21.  2801.   1410.3.6  0.  56   30.
  2
SB        Rt16 thru AG     2.  2856.   -60.  3041.      0.  36   3
      120        76       2.0 1410   12.9 1652 1 3
  1
SB        Rt16 left AG   -47.  3080.    41.  2815.    160.3.6  0.  32   30.
  2
SB        Rt16 left AG    25.  2864.   -34.  3041.      0.  12   1
      120       105       2.0  160   12.9 1752 1 3
  1
SB        Rt16 deparAG    21.  2799.   357.  1826.   2300.3.6  0.  56   30.
  1
EB        Rt27 aprchAG  -320.  2645.  -111.  2740.    730.3.7  0.  56   30.
  1
EB        Rt27 aprchAG  -111.  2740.    56.  2763.    730.3.7  0.  56   30.
  2
EB        Rt27 aprchAG    -5.  2754.   -98.  2742.      0.  36   3
      120       113       2.0  730   12.9 1680 1 3
  1
EB        Rt27 deparAG    67.  2763.   996.  3083.    950.3.6  0.  56   30.
  1
WB        Rt27 aprchAG   981.  3134.   454.  2944.   1690.3.6  0.  56   30.
  1
WB        Rt27 aprchAG   454.  2944.    52.  2807.   1690.3.6  0.  68   30.
  2
WB        Rt27 aprchAG   120.  2830.   320.  2898.      0.  48   4
      120        88       2.0 1690   12.9 1720 1 3
  1
WB        Rt27 deparAG    50.  2805.   -90.  2772.   1500.3.7  0.  32   30.
  1
WB        Rt27 deparAG   -90.  2772.  -337.  2669.   1500.3.7  0.  32   30.
1.0   04 1000.   0Y  5  0 72
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1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000 PAGE 1

JOB: 2014-Site3Finegayan2030AM-3FA30.DAT RUN: Site 3 Rt 16 & Rt 27
DATE: 06/09/2014 TIME: 16:55:42.63

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 321. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

	LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1.	NB Rt16 aprch	*	404.0	1854.0	192.0	2439.0	*	622.	340.	AG	1620.	3.6	.0	56.0		
2.	NB Rt16 thru	*	200.0	2443.0	84.0	2790.0	*	366.	342.	AG	1030.	3.6	.0	56.0		
3.	NB Rt16 thru	*	113.0	2703.0	158.3	2567.8	*	143.	161.	AG	66.	100.0	.0	36.0	.61	7.2
4.	NB Rt16 left	*	176.0	2437.0	56.0	2781.0	*	364.	341.	AG	590.	3.6	.0	32.0		
5.	NB Rt16 left	*	88.0	2690.0	1661.7	-1843.1	*	4798.	161.	AG	30.	100.0	.0	12.0	3.69	243.8
6.	NB Rt16 depar	*	85.0	2793.0	-247.0	3736.0	*	1000.	341.	AG	860.	3.6	.0	32.0		
7.	SB Rt16 aprch	*	-294.0	3720.0	-67.0	3082.0	*	677.	160.	AG	1570.	3.6	.0	56.0		
8.	SB Rt16 thru	*	-72.0	3076.0	21.0	2801.0	*	290.	161.	AG	1410.	3.6	.0	56.0		
9.	SB Rt16 thru	*	2.0	2856.0	-66.6	3060.6	*	216.	341.	AG	66.	100.0	.0	36.0	.85	11.0
10.	SB Rt16 left	*	-47.0	3080.0	41.0	2815.0	*	279.	162.	AG	160.	3.6	.0	32.0		
11.	SB Rt16 left	*	25.0	2864.0	-23.6	3009.7	*	154.	342.	AG	30.	100.0	.0	12.0	1.00	7.8
12.	SB Rt16 depar	*	21.0	2799.0	357.0	1826.0	*	1029.	161.	AG	2300.	3.6	.0	56.0		
13.	EB Rt27 aprch	*	-320.0	2645.0	-111.0	2740.0	*	230.	66.	AG	730.	3.7	.0	56.0		
14.	EB Rt27 aprch	*	-111.0	2740.0	56.0	2763.0	*	169.	82.	AG	730.	3.7	.0	56.0		
15.	EB Rt27 aprch	*	-5.0	2754.0	-2298.0	2458.1	*	2312.	263.	AG	98.	100.0	.0	36.0	5.79	117.5
16.	EB Rt27 depar	*	67.0	2763.0	996.0	3083.0	*	983.	71.	AG	950.	3.6	.0	56.0		
17.	WB Rt27 aprch	*	981.0	3134.0	454.0	2944.0	*	560.	250.	AG	1690.	3.6	.0	56.0		
18.	WB Rt27 aprch	*	454.0	2944.0	52.0	2807.0	*	425.	251.	AG	1690.	3.6	.0	68.0		
19.	WB Rt27 aprch	*	120.0	2830.0	604.9	2994.9	*	512.	71.	AG	101.	100.0	.0	48.0	1.05	26.0
20.	WB Rt27 depar	*	50.0	2805.0	-90.0	2772.0	*	144.	257.	AG	1500.	3.7	.0	32.0		
21.	WB Rt27 depar	*	-90.0	2772.0	-337.0	2669.0	*	268.	247.	AG	1500.	3.7	.0	32.0		1

JOB: 2014-Site3Finegayan2030AM-3FA30.DAT RUN: Site 3 Rt 16 & Rt 27
DATE: 06/09/2014 TIME: 16:55:42.63

ADDITIONAL QUEUE LINK PARAMETERS

	LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3.	NB Rt16 thru	*	120	76	2.0	1030	1691	12.90	1	3
5.	NB Rt16 left	*	120	105	2.0	590	1752	12.90	1	3
9.	SB Rt16 thru	*	120	76	2.0	1410	1652	12.90	1	3
11.	SB Rt16 left	*	120	105	2.0	160	1752	12.90	1	3
15.	EB Rt27 aprch	*	120	113	2.0	730	1680	12.90	1	3
19.	WB Rt27 aprch	*	120	88	2.0	1690	1720	12.90	1	3

RECEPTOR LOCATIONS

	RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1.	SE MID S	*	207.0	2515.0	5.0	*
2.	SE 164 S	*	183.0	2590.0	5.0	*
3.	SE 82 S	*	154.0	2668.0	5.0	*
4.	SE CNR	*	140.0	2741.0	5.0	*
5.	SE 82 E	*	205.0	2774.0	5.0	*
6.	SE 164 E	*	283.0	2802.0	5.0	*
7.	SE MID E	*	356.0	2828.0	5.0	*
8.	NE MID E	*	323.0	2935.0	5.0	*
9.	NE 164 E	*	235.0	2907.0	5.0	*
10.	NE 82 E	*	157.0	2881.0	5.0	*
11.	NE CNR	*	95.0	2864.0	5.0	*
12.	NE 82 N	*	65.0	2927.0	5.0	*
13.	NE 164 N	*	40.0	3006.0	5.0	*
14.	NE MID N	*	8.0	3095.0	5.0	*
15.	NW MID N	*	-95.0	3048.0	5.0	*
16.	NW 164 N	*	-68.0	2971.0	5.0	*
17.	NW 82 N	*	-41.0	2894.0	5.0	*
18.	NW CNR	*	-31.0	2829.0	5.0	*
19.	NW 82 W	*	-91.0	2798.0	5.0	*
20.	NW 164 W	*	-165.0	2767.0	5.0	*
21.	NW MID W	*	-237.0	2736.0	5.0	*

22. SW MID W	*	-218.0	2665.0	5.0	*
23. SW 164 W	*	-153.0	2690.0	5.0	*
24. SW 82 W	*	-77.0	2713.0	5.0	*
25. SW CNR	*	6.0	2723.0	5.0	*
26. SW 82 S	*	40.0	2651.0	5.0	*
27. SW 164 S	*	68.0	2573.0	5.0	*
28. SW MID S	*	91.0	2503.0	5.0	*

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JOB: 2014-Site3Finegayan2030AM-3FA30.DAT RUN: Site 3 Rt 16 & Rt 27

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* .1	.1	.2	.3	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.3	.5	.6	.4	.1	.0
5.	* .1	.2	.2	.3	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.3	.6	.5	.4	.2	.0
10.	* .1	.2	.2	.3	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.4	.6	.5	.4	.2	.0
15.	* .1	.2	.2	.3	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.4	.5	.5	.4	.2	.0
20.	* .1	.1	.2	.4	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.4	.2	.0
25.	* .1	.1	.2	.4	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.4	.2	.0
30.	* .1	.1	.3	.4	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.3	.2	.0
35.	* .0	.1	.3	.4	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.2	.2	.1
40.	* .0	.1	.3	.4	.4	.4	.5	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.2	.2	.1
45.	* .0	.1	.2	.4	.4	.4	.5	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.2	.2	.0
50.	* .0	.0	.2	.4	.4	.6	.5	.0	.0	.0	.0	.0	.0	.0	.2	.3	.4	.2	.2	.0
55.	* .0	.0	.2	.4	.5	.6	.4	.2	.2	.2	.0	.0	.0	.0	.2	.3	.4	.2	.1	.0
60.	* .0	.0	.0	.3	.5	.4	.4	.3	.2	.2	.2	.0	.0	.0	.2	.4	.4	.3	.2	.0
65.	* .0	.0	.0	.2	.3	.3	.3	.3	.3	.3	.2	.0	.0	.0	.3	.4	.4	.3	.3	.2
70.	* .0	.0	.0	.2	.2	.3	.2	.4	.5	.5	.4	.0	.0	.0	.3	.4	.4	.3	.4	.4
75.	* .0	.0	.0	.1	.1	.1	.1	.6	.6	.6	.5	.1	.0	.0	.3	.4	.5	.3	.4	.5
80.	* .0	.0	.0	.0	.1	.1	.1	.7	.7	.7	.6	.1	.0	.0	.3	.4	.6	.5	.5	.5
85.	* .0	.0	.0	.0	.0	.0	.0	.8	.8	.7	.6	.2	.0	.0	.3	.5	.6	.5	.4	.5
90.	* .0	.0	.0	.0	.0	.0	.0	.8	.7	.8	.6	.2	.1	.0	.4	.4	.5	.4	.6	.7
95.	* .0	.0	.0	.0	.0	.0	.0	.8	.7	.7	.6	.2	.1	.0	.4	.5	.6	.4	.5	.7
100.	* .0	.0	.0	.0	.0	.0	.0	.7	.7	.7	.6	.3	.1	.0	.5	.6	.6	.5	.3	.8
105.	* .0	.0	.0	.0	.0	.0	.0	.7	.7	.7	.6	.3	.1	.1	.5	.6	.6	.5	.4	.7
110.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.6	.3	.2	.1	.5	.6	.6	.4	.5	.6
115.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.6	.2	.2	.1	.5	.6	.6	.3	.5	.6
120.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.2	.2	.1	.5	.6	.5	.3	.5	.6
125.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.2	.2	.1	.5	.5	.5	.4	.5	.6
130.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.2	.2	.1	.4	.5	.4	.5	.6	.7
135.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.2	.2	.1	.4	.4	.4	.5	.6	.7
140.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.2	.2	.1	.4	.5	.4	.4	.6	.7
145.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.4	.2	.2	.1	.5	.5	.6	.4	.6	.7
150.	* .1	.0	.1	.0	.0	.0	.0	.6	.6	.6	.4	.2	.2	.0	.5	.5	.6	.4	.5	.7
155.	* .1	.2	.3	.1	.0	.0	.0	.6	.6	.6	.5	.3	.2	.0	.5	.4	.5	.5	.5	

.6																				
160.	*	.3	.3	.4	.3	.0	.0	.0	.6	.6	.6	.6	.3	.3	.2	.4	.4	.4	.4	.5
.6																				
165.	*	.4	.4	.5	.4	.0	.0	.0	.6	.6	.7	.5	.4	.2	.2	.3	.3	.4	.4	.4
.6																				
170.	*	.5	.4	.6	.5	.1	.0	.0	.6	.6	.7	.5	.4	.2	.2	.3	.2	.4	.3	.5
.6																				
175.	*	.6	.5	.8	.4	.1	.0	.0	.6	.7	.7	.6	.5	.2	.3	.1	.3	.4	.3	.5
.6																				
180.	*	.5	.5	.7	.5	.1	.1	.0	.6	.7	.8	.5	.4	.2	.4	.1	.1	.2	.2	.5
.6																				
185.	*	.5	.5	.7	.4	.1	.1	.0	.6	.7	.8	.6	.2	.3	.3	.1	.1	.2	.2	.4
.6																				
190.	*	.5	.3	.7	.4	.1	.1	.1	.7	.7	.8	.6	.2	.3	.3	.1	.1	.2	.2	.3
.6																				
195.	*	.4	.3	.6	.4	.3	.1	.1	.7	.7	.8	.5	.2	.3	.3	.1	.1	.1	.3	.3
.6																				
200.	*	.4	.3	.5	.3	.3	.1	.1	.7	.7	.7	.4	.3	.4	.4	.1	.1	.1	.3	.3
.6																				
205.	*	.3	.3	.5	.3	.3	.1	.1	.7	.7	.6	.3	.5	.4	.4	.1	.1	.1	.3	.4
.6																				

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JOB: 2014-Site3Finegayan2030AM-3FA30.DAT RUN: Site 3 Rt 16 & Rt 27

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210.	* .3	.3	.5	.3	.3	.1	.1	.7	.7	.5	.3	.4	.4	.4	.1	.1	.2	.3	.4	
.6																				
215.	* .2	.3	.4	.3	.3	.1	.1	.8	.7	.5	.4	.4	.4	.4	.1	.1	.2	.3	.5	
.6																				
220.	* .2	.3	.4	.3	.3	.1	.1	.8	.7	.5	.5	.3	.4	.4	.1	.1	.2	.4	.5	
.6																				
225.	* .2	.3	.4	.3	.3	.1	.1	.9	.6	.5	.5	.4	.4	.4	.1	.1	.2	.4	.5	
.6																				
230.	* .2	.3	.4	.2	.2	.1	.1	.8	.6	.5	.5	.4	.4	.4	.1	.1	.2	.4	.5	
.6																				
235.	* .2	.3	.4	.2	.2	.1	.1	.7	.6	.5	.5	.4	.4	.4	.1	.1	.1	.4	.5	
.6																				
240.	* .2	.3	.4	.2	.2	.1	.1	.7	.5	.5	.5	.4	.4	.4	.1	.1	.1	.3	.5	
.6																				
245.	* .2	.4	.4	.2	.3	.3	.2	.6	.5	.3	.6	.4	.4	.4	.1	.1	.1	.3	.5	
.5																				
250.	* .2	.4	.4	.3	.4	.3	.2	.5	.4	.2	.6	.4	.4	.3	.1	.1	.1	.3	.4	
.5																				
255.	* .2	.4	.5	.3	.3	.3	.2	.5	.3	.2	.4	.4	.4	.1	.0	.1	.1	.3	.3	
.5																				
260.	* .2	.4	.5	.4	.4	.2	.4	.3	.3	.3	.3	.4	.3	.2	.0	.1	.1	.2	.3	
.3																				
265.	* .2	.5	.5	.4	.4	.3	.4	.3	.2	.3	.3	.4	.3	.2	.0	.0	.1	.1	.2	
.3																				
270.	* .3	.5	.5	.4	.3	.4	.4	.1	.0	.2	.4	.3	.3	.2	.0	.0	.0	.1	.1	
.2																				
275.	* .3	.5	.6	.4	.4	.4	.4	.0	.0	.2	.3	.3	.3	.2	.0	.0	.0	.0	.1	
.1																				
280.	* .3	.5	.5	.5	.3	.3	.4	.0	.0	.2	.3	.3	.3	.2	.0	.0	.0	.0	.0	
.1																				
285.	* .3	.5	.5	.5	.2	.3	.4	.0	.0	.2	.3	.3	.3	.2	.0	.0	.0	.0	.0	
.0																				
290.	* .3	.5	.5	.5	.2	.3	.4	.0	.0	.2	.3	.3	.3	.2	.0	.0	.0	.0	.0	
.0																				
295.	* .4	.5	.5	.4	.3	.4	.4	.0	.0	.2	.3	.3	.3	.2	.0	.0	.0	.0	.0	
.0																				
300.	* .4	.5	.5	.3	.3	.4	.4	.0	.0	.1	.3	.3	.2	.2	.0	.0	.0	.0	.0	
.0																				
305.	* .5	.5	.4	.4	.3	.4	.4	.0	.0	.0	.3	.3	.2	.2	.0	.0	.0	.0	.0	
.0																				
310.	* .6	.4	.3	.4	.3	.4	.4	.0	.0	.0	.3	.3	.2	.2	.0	.0	.0	.0	.0	
.0																				
315.	* .4	.5	.3	.6	.3	.4	.4	.0	.0	.0	.3	.3	.2	.2	.0	.0	.0	.0	.0	
.0																				
320.	* .4	.5	.3	.6	.3	.4	.4	.0	.0	.0	.3	.4	.2	.2	.0	.0	.0	.0	.0	
.0																				
325.	* .4	.5	.4	.6	.4	.4	.4	.0	.0	.1	.2	.2	.2	.2	.0	.0	.1	.0	.0	
.0																				
330.	* .4	.4	.3	.3	.4	.4	.4	.0	.0	.0	.2	.2	.2	.2	.1	.2	.1	.0	.0	
.0																				
335.	* .4	.2	.4	.3	.4	.4	.4	.0	.0	.0	.2	.2	.2	.2	.1	.2	.3	.1	.0	
.0																				
340.	* .2	.2	.3	.4	.4	.4	.4	.0	.0	.0	.1	.2	.2	.2	.1	.2	.3	.3	.0	
.0																				
345.	* .2	.2	.2	.4	.4	.4	.4	.0	.0	.0	.1	.1	.1	.1	.2	.3	.4	.3	.0	
.0																				
350.	* .1	.1	.3	.3	.4	.4	.4	.0	.0	.0	.0	.1	.0	.0	.2	.3	.5	.3	.1	
.0																				
355.	* .1	.1	.3	.3	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.2	.4	.6	.4	.1	

.0																				
360.	*	.1	.1	.2	.3	.4	.4	.4	.0	.0	.0	.0	.0	.0	.0	.3	.5	.6	.4	.1
.0																				
MAX	*	.6	.5	.8	.6	.5	.6	.5	.9	.8	.8	.6	.5	.4	.4	.5	.6	.6	.5	.6
.8																				
DEGR.	*	175	175	175	315	55	50	40	225	85	90	80	175	200	180	100	5	0	80	90
100																				

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JOB: 2014-Site3Finegayan2030AM-3FA30.DAT RUN: Site 3 Rt 16 & Rt 27

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28
0.	*	.0	.4	.4	.5	.5	.3	.4	.4
5.	*	.0	.4	.4	.7	.6	.3	.4	.6
10.	*	.0	.4	.4	.7	.5	.3	.4	.5
15.	*	.0	.4	.4	.7	.5	.4	.5	.6
20.	*	.1	.4	.4	.7	.4	.4	.7	.6
25.	*	.1	.4	.4	.6	.5	.5	.7	.6
30.	*	.1	.4	.4	.6	.4	.6	.7	.6
35.	*	.1	.4	.4	.6	.5	.7	.7	.6
40.	*	.1	.4	.5	.5	.5	.7	.6	.6
45.	*	.1	.4	.4	.5	.5	.6	.6	.3
50.	*	.1	.4	.4	.8	.6	.6	.5	.3
55.	*	.2	.4	.7	.7	.6	.6	.4	.3
60.	*	.3	.4	.7	.6	.6	.6	.5	.4
65.	*	.5	.3	.6	.7	.5	.6	.5	.4
70.	*	.6	.3	.5	.6	.6	.5	.5	.4
75.	*	.8	.4	.3	.6	.6	.5	.5	.4
80.	*	.8	.2	.2	.5	.4	.5	.5	.4
85.	*	.8	.1	.1	.2	.4	.4	.4	.3
90.	*	1.0	.1	.1	.1	.3	.4	.4	.3
95.	*	1.0	.1	.1	.1	.3	.4	.3	.3
100.	*	1.0	.1	.1	.1	.3	.5	.4	.4
105.	*	1.0	.1	.1	.1	.4	.5	.4	.4
110.	*	.9	.1	.1	.1	.4	.5	.4	.3
115.	*	.9	.1	.1	.1	.5	.5	.4	.3
120.	*	.9	.1	.1	.1	.5	.5	.4	.4
125.	*	.8	.1	.1	.1	.5	.5	.4	.4
130.	*	.8	.1	.1	.1	.5	.4	.4	.4
135.	*	.8	.1	.1	.1	.5	.6	.6	.6
140.	*	.8	.1	.1	.1	.4	.5	.6	.6
145.	*	.7	.0	.1	.1	.4	.6	.6	.6
150.	*	.6	.0	.1	.1	.4	.6	.6	.6
155.	*	.6	.0	.0	.1	.4	.6	.6	.6
160.	*	.6	.0	.0	.1	.3	.4	.5	.4
165.	*	.6	.0	.0	.0	.2	.3	.3	.3
170.	*	.6	.0	.0	.0	.1	.2	.2	.2
175.	*	.6	.0	.0	.0	.1	.1	.2	.1
180.	*	.6	.0	.0	.0	.0	.1	.1	.1
185.	*	.6	.0	.0	.0	.0	.1	.1	.1
190.	*	.6	.0	.0	.0	.0	.0	.0	.0
195.	*	.6	.0	.0	.0	.0	.0	.0	.0
200.	*	.7	.0	.0	.0	.0	.0	.0	.0
205.	*	.7	.0	.0	.0	.0	.0	.0	.0

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JOB: 2014-Site3Finegayan2030AM-3FA30.DAT RUN: Site 3 Rt 16 & Rt 27

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28
210.	*	.7	.0	.0	.0	.0	.0	.0	.0
215.	*	.7	.0	.0	.0	.0	.0	.0	.0
220.	*	.7	.0	.0	.0	.0	.0	.0	.0
225.	*	.7	.0	.0	.0	.0	.0	.0	.0
230.	*	.7	.0	.0	.0	.0	.0	.0	.0
235.	*	.8	.1	.0	.0	.0	.0	.0	.0
240.	*	.7	.1	.1	.0	.0	.0	.0	.0
245.	*	.8	.1	.1	.1	.1	.0	.0	.0
250.	*	.8	.2	.2	.2	.1	.0	.0	.0
255.	*	.8	.2	.2	.4	.2	.0	.0	.0

260.	*	.7	.2	.4	.5	.4	.1	.0	.0
265.	*	.7	.4	.5	.5	.5	.1	.1	.0
270.	*	.6	.4	.5	.6	.6	.1	.1	.1
275.	*	.5	.4	.5	.6	.6	.2	.1	.1
280.	*	.4	.4	.5	.6	.6	.2	.1	.1
285.	*	.3	.4	.5	.6	.6	.2	.1	.1
290.	*	.2	.4	.5	.6	.5	.2	.1	.1
295.	*	.1	.4	.5	.5	.4	.1	.1	.1
300.	*	.1	.4	.5	.4	.5	.1	.1	.1
305.	*	.1	.4	.4	.5	.5	.1	.1	.1
310.	*	.1	.4	.4	.5	.5	.1	.1	.1
315.	*	.1	.4	.4	.5	.4	.1	.1	.1
320.	*	.1	.4	.4	.5	.4	.2	.2	.2
325.	*	.1	.4	.4	.5	.4	.2	.2	.2
330.	*	.0	.4	.4	.5	.4	.2	.2	.1
335.	*	.0	.4	.4	.5	.5	.2	.2	.2
340.	*	.0	.4	.4	.5	.5	.3	.3	.3
345.	*	.0	.4	.4	.5	.6	.3	.3	.3
350.	*	.0	.4	.4	.5	.6	.4	.3	.3
355.	*	.0	.4	.4	.5	.6	.4	.4	.4
360.	*	.0	.4	.4	.5	.5	.3	.4	.4
------	*	----------							
MAX	*	1.0	.4	.7	.8	.6	.7	.7	.6
DEGR.	*	90	0	55	50	5	35	20	5

THE HIGHEST CONCENTRATION IS 1.00 PPM AT 90 DEGREES FROM REC21.
THE 2ND HIGHEST CONCENTRATION IS .90 PPM AT 225 DEGREES FROM REC8 .
THE 3RD HIGHEST CONCENTRATION IS .80 PPM AT 50 DEGREES FROM REC24.

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2014-Site3Finegayan2030PM-3FP30.DAT     60.0321.0.0000.000280.30480000    1    1
SE MID S                  207.     2515.       5.0
SE 164 S                  183.     2590.       5.0
SE 82 S                   154.     2668.       5.0
SE CNR                    140.     2741.       5.0
SE 82 E                   205.     2774.       5.0
SE 164 E                  283.     2802.       5.0
SE MID E                  356.     2828.       5.0
NE MID E                  323.     2935.       5.0
NE 164 E                  235.     2907.       5.0
NE 82 E                   157.     2881.       5.0
NE CNR                     95.     2864.       5.0
NE 82 N                    65.     2927.       5.0
NE 164 N                   40.     3006.       5.0
NE MID N                    8.     3095.       5.0
NW MID N                  -95.     3048.       5.0
NW 164 N                  -68.     2971.       5.0
NW 82 N                   -41.     2894.       5.0
NW CNR                    -31.     2829.       5.0
NW 82 W                   -91.     2798.       5.0
NW 164 W                 -165.     2767.       5.0
NW MID W                 -237.     2736.       5.0
SW MID W                 -218.     2665.       5.0
SW 164 W                 -153.     2690.       5.0
SW 82 W                   -77.     2713.       5.0
SW CNR                      6.     2723.       5.0
SW 82 S                    40.     2651.       5.0
SW 164 S                   68.     2573.       5.0
SW MID S                   91.     2503.       5.0
Site 3 Rt 16 & Rt 27                    21  1   0
  1
NB        Rt16 aprchAG   404.  1854.   192.  2439.   2250.3.6  0.  56   30.
  1
NB        Rt16 thru AG   200.  2443.    84.  2790.   1910.3.6  0.  56   30.
  2
NB        Rt16 thru AG   113.  2703.   181.  2500.      0.  36   3
      130        94       2.0 1910   12.9 1691 1 3
  1
NB        Rt16 left AG   176.  2437.    56.  2781.    340.3.6  0.  32   30.
  2
NB        Rt16 left AG    88.  2690.   155.  2497.      0.  12   1
      130       109       2.0  340   12.9 1752 1 3
  1
NB        Rt16 deparAG    85.  2793.  -247.  3736.   1690.3.6  0.  32   30.
  1
SB        Rt16 aprchAG  -294.  3720.   -67.  3082.   1130.3.6  0.  56   30.
  1
SB        Rt16 thru AG   -72.  3076.    21.  2801.    880.3.6  0.  56   30.
  2
SB        Rt16 thru AG     2.  2856.   -60.  3041.      0.  36   3
      130       101       2.0  880   12.9 1667 1 3
  1
SB        Rt16 left AG   -47.  3080.    41.  2815.    250.3.6  0.  32   30.
  2
SB        Rt16 left AG    25.  2864.   -34.  3041.      0.  12   1
      130       116       2.0  250   12.9 1752 1 3
  1
SB        Rt16 deparAG    21.  2799.   357.  1826.   1870.3.6  0.  56   30.
  1
EB        Rt27 aprchAG  -320.  2645.  -111.  2740.   1680.3.7  0.  56   30.
  1
EB        Rt27 aprchAG  -111.  2740.    56.  2763.   1680.3.7  0.  56   30.
  2
EB        Rt27 aprchAG    -5.  2754.   -98.  2742.      0.  36   3
      130        93       2.0 1680   12.9 1700 1 3
  1
EB        Rt27 deparAG    67.  2763.   996.  3083.   1910.3.6  0.  56   30.
  1
WB        Rt27 aprchAG   981.  3134.   454.  2944.   1060.3.6  0.  56   30.
  1
WB        Rt27 aprchAG   454.  2944.    52.  2807.   1060.3.6  0.  68   30.
  2
WB        Rt27 aprchAG   120.  2830.   320.  2898.      0.  48   4
      130      109        2.0 1060   12.9 1720 1 3
  1
WB        Rt27 deparAG    50.  2805.   -90.  2772.    650.3.7  0.  32   30.
  1
WB        Rt27 deparAG   -90.  2772.  -337.  2669.    650.3.7  0.  32   30.
1.0   04 1000.   0Y  5  0 72
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1 CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.2, JUNE 2000 PAGE 1

JOB: 2014-Site3Finegayan2030PM-3FP30.DAT RUN: Site 3 Rt 16 & Rt 27
DATE: 06/09/2014 TIME: 16:56:09.54

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S VD = .0 CM/S Z0 = 321. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = .0 PPM

LINK VARIABLES

	LINK DESCRIPTION		LINK COORDINATES (FT)				LENGTH	BRG	TYPE	VPH	EF	H	W	V/C	QUEUE
			X1	Y1	X2	Y2	(FT)	(DEG)			(G/MI)	(FT)	(FT)		(VEH)
1.	NB	Rt16 aprch	404.0	1854.0	192.0	2439.0	622.	340.	AG	2250.	3.6	.0	56.0		
2.	NB	Rt16 thru	200.0	2443.0	84.0	2790.0	366.	342.	AG	1910.	3.6	.0	56.0		
3.	NB	Rt16 thru	113.0	2703.0	952.7	196.2	2644.	161.	AG	75.	100.0	.0	36.0	1.53	134.3
4.	NB	Rt16 left	176.0	2437.0	56.0	2781.0	364.	341.	AG	340.	3.6	.0	32.0		
5.	NB	Rt16 left	88.0	2690.0	548.6	1363.2	1404.	161.	AG	29.	100.0	.0	12.0	1.48	71.3
6.	NB	Rt16 depar	85.0	2793.0	-247.0	3736.0	1000.	341.	AG	1690.	3.6	.0	32.0		
7.	SB	Rt16 aprch	-294.0	3720.0	-67.0	3082.0	677.	160.	AG	1130.	3.6	.0	56.0		
8.	SB	Rt16 thru	-72.0	3076.0	21.0	2801.0	290.	161.	AG	880.	3.6	.0	56.0		
9.	SB	Rt16 thru	2.0	2856.0	-62.5	3048.4	203.	341.	AG	81.	100.0	.0	36.0	.92	10.3
10.	SB	Rt16 left	-47.0	3080.0	41.0	2815.0	279.	162.	AG	250.	3.6	.0	32.0		
11.	SB	Rt16 left	25.0	2864.0	-419.5	4197.5	1406.	342.	AG	31.	100.0	.0	12.0	1.87	71.4
12.	SB	Rt16 depar	21.0	2799.0	357.0	1826.0	1029.	161.	AG	1870.	3.6	.0	56.0		
13.	EB	Rt27 aprch	-320.0	2645.0	-111.0	2740.0	230.	66.	AG	1680.	3.7	.0	56.0		
14.	EB	Rt27 aprch	-111.0	2740.0	56.0	2763.0	169.	82.	AG	1680.	3.7	.0	56.0		
15.	EB	Rt27 aprch	-5.0	2754.0	-1676.6	2538.3	1685.	263.	AG	74.	100.0	.0	36.0	1.30	85.6
16.	EB	Rt27 depar	67.0	2763.0	996.0	3083.0	983.	71.	AG	1910.	3.6	.0	56.0		
17.	WB	Rt27 aprch	981.0	3134.0	454.0	2944.0	560.	250.	AG	1060.	3.6	.0	56.0		
18.	WB	Rt27 aprch	454.0	2944.0	52.0	2807.0	425.	251.	AG	1060.	3.6	.0	68.0		
19.	WB	Rt27 aprch	120.0	2830.0	733.2	3038.5	648.	71.	AG	116.	100.0	.0	48.0	1.18	32.9
20.	WB	Rt27 depar	50.0	2805.0	-90.0	2772.0	144.	257.	AG	650.	3.7	.0	32.0		
21.	WB	Rt27 depar	-90.0	2772.0	-337.0	2669.0	268.	247.	AG	650.	3.7	.0	32.0		1

JOB: 2014-Site3Finegayan2030PM-3FP30.DAT RUN: Site 3 Rt 16 & Rt 27
DATE: 06/09/2014 TIME: 16:56:09.54

ADDITIONAL QUEUE LINK PARAMETERS

	LINK DESCRIPTION		CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
3.	NB	Rt16 thru	130	94	2.0	1910	1691	12.90	1	3
5.	NB	Rt16 left	130	109	2.0	340	1752	12.90	1	3
9.	SB	Rt16 thru	130	101	2.0	880	1667	12.90	1	3
11.	SB	Rt16 left	130	116	2.0	250	1752	12.90	1	3
15.	EB	Rt27 aprch	130	93	2.0	1680	1700	12.90	1	3
19.	WB	Rt27 aprch	130	109	2.0	1060	1720	12.90	1	3

RECEPTOR LOCATIONS

	RECEPTOR	COORDINATES (FT) X	Y	Z
1.	SE MID S	207.0	2515.0	5.0
2.	SE 164 S	183.0	2590.0	5.0
3.	SE 82 S	154.0	2668.0	5.0
4.	SE CNR	140.0	2741.0	5.0
5.	SE 82 E	205.0	2774.0	5.0
6.	SE 164 E	283.0	2802.0	5.0
7.	SE MID E	356.0	2828.0	5.0
8.	NE MID E	323.0	2935.0	5.0
9.	NE 164 E	235.0	2907.0	5.0
10.	NE 82 E	157.0	2881.0	5.0
11.	NE CNR	95.0	2864.0	5.0
12.	NE 82 N	65.0	2927.0	5.0
13.	NE 164 N	40.0	3006.0	5.0
14.	NE MID N	8.0	3095.0	5.0
15.	NW MID N	-95.0	3048.0	5.0
16.	NW 164 N	-68.0	2971.0	5.0
17.	NW 82 N	-41.0	2894.0	5.0
18.	NW CNR	-31.0	2829.0	5.0
19.	NW 82 W	-91.0	2798.0	5.0
20.	NW 164 W	-165.0	2767.0	5.0
21.	NW MID W	-237.0	2736.0	5.0

22. SW MID W	*	-218.0	2665.0	5.0	*
23. SW 164 W	*	-153.0	2690.0	5.0	*
24. SW 82 W	*	-77.0	2713.0	5.0	*
25. SW CNR	*	6.0	2723.0	5.0	*
26. SW 82 S	*	40.0	2651.0	5.0	*
27. SW 164 S	*	68.0	2573.0	5.0	*
28. SW MID S	*	91.0	2503.0	5.0	*

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JOB: 2014-Site3Finegayan2030PM-3FP30.DAT RUN: Site 3 Rt 16 & Rt 27

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	* .2	.3	.3	.4	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.3	.6	.6	.5	.1	.0
5.	* .3	.2	.3	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.3	.6	.6	.4	.2	.0
10.	* .2	.2	.2	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.3	.5	.6	.4	.2	.0
15.	* .2	.2	.2	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.2	.4	.6	.4	.2	.0
20.	* .2	.2	.2	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.2	.4	.5	.4	.2	.0
25.	* .2	.2	.2	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.2	.4	.5	.4	.2	.0
30.	* .2	.2	.2	.5	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.2	.4	.5	.4	.2	.1
35.	* .2	.2	.2	.5	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.3	.4	.4	.3	.2	.1
40.	* .2	.2	.2	.5	.6	.6	.5	.0	.0	.0	.0	.0	.0	.0	.3	.4	.4	.3	.2	.1
45.	* .0	.2	.2	.5	.6	.6	.5	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.3	.2	.1
50.	* .0	.2	.2	.5	.6	.6	.6	.0	.0	.0	.0	.0	.0	.0	.2	.4	.4	.3	.2	.1
55.	* .0	.1	.2	.6	.6	.5	.6	.1	.1	.1	.1	.0	.0	.0	.2	.4	.4	.3	.2	.0
60.	* .0	.0	.2	.4	.5	.5	.6	.1	.2	.2	.1	.0	.0	.0	.2	.4	.4	.4	.2	.1
65.	* .0	.0	.1	.3	.4	.4	.4	.3	.3	.3	.3	.0	.0	.0	.2	.4	.4	.3	.2	.1
70.	* .0	.0	.0	.3	.3	.4	.4	.6	.5	.5	.4	.1	.0	.0	.2	.4	.5	.6	.4	.2
75.	* .0	.0	.0	.2	.3	.3	.3	.7	.5	.6	.5	.1	.0	.0	.3	.4	.5	.6	.3	.3
80.	* .0	.0	.0	.1	.1	.1	.1	.7	.6	.6	.6	.2	.0	.0	.3	.5	.6	.6	.3	.5
85.	* .0	.0	.0	.0	.1	.1	.1	.8	.6	.7	.6	.2	.1	.0	.3	.5	.6	.6	.4	.5
90.	* .0	.0	.0	.0	.1	.1	.1	.8	.7	.8	.7	.3	.1	.0	.4	.6	.8	.6	.3	.5
95.	* .0	.0	.0	.0	.0	.0	.0	.7	.6	.7	.6	.4	.2	.1	.4	.6	.8	.5	.5	.6
100.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.6	.4	.2	.1	.5	.6	.7	.5	.5	.6
105.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.4	.2	.1	.5	.6	.7	.4	.5	.7
110.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.4	.2	.1	.5	.6	.7	.4	.5	.7
115.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.4	.2	.1	.5	.7	.7	.4	.5	.7
120.	* .0	.0	.0	.0	.0	.0	.0	.6	.6	.6	.5	.4	.2	.1	.5	.7	.5	.4	.5	.8
125.	* .0	.0	.0	.0	.0	.0	.0	.6	.5	.5	.4	.4	.2	.1	.5	.7	.5	.5	.6	.7
130.	* .0	.0	.0	.0	.0	.0	.0	.5	.5	.5	.4	.3	.2	.1	.6	.6	.5	.5	.6	.6
135.	* .0	.0	.0	.0	.0	.0	.0	.5	.5	.5	.4	.3	.2	.1	.5	.5	.5	.6	.6	.6
140.	* .0	.0	.1	.0	.0	.0	.0	.5	.5	.5	.4	.3	.2	.1	.5	.6	.5	.6	.6	.6
145.	* .2	.2	.2	.0	.0	.0	.0	.5	.5	.5	.3	.3	.2	.1	.7	.6	.5	.6	.5	.6
150.	* .3	.3	.2	.2	.0	.0	.0	.5	.5	.5	.5	.5	.3	.2	.5	.6	.5	.6	.5	.7
155.	* .4	.4	.5	.3	.0	.0	.0	.5	.5	.6	.5	.6	.5	.2	.5	.6	.7	.7	.5	

.6																				
160.	*	.6	.6	.7	.5	.1	.0	.0	.5	.5	.6	.6	.6	.4	.3	.5	.4	.5	.6	.5
.5																				
165.	*	.7	.7	.8	.6	.2	.1	.0	.5	.6	.6	.8	.6	.4	.4	.4	.4	.4	.5	.3
.5																				
170.	*	.7	.7	.9	.7	.3	.1	.1	.6	.6	.9	.6	.6	.5	.4	.3	.3	.2	.4	.2
.5																				
175.	*	.9	.8	1.0	.7	.3	.2	.1	.6	.6	.8	.7	.5	.5	.4	.0	.0	.3	.4	.2
.5																				
180.	*	.9	.9	.9	.7	.4	.2	.1	.6	.7	.8	.7	.5	.3	.4	.0	.0	.2	.3	.2
.5																				
185.	*	.9	.8	.8	.6	.3	.3	.1	.6	.7	.8	.6	.4	.3	.4	.0	.1	.2	.3	.2
.5																				
190.	*	.7	.7	.7	.5	.3	.2	.1	.6	.8	.8	.5	.3	.3	.4	.0	.1	.2	.3	.4
.5																				
195.	*	.7	.7	.7	.5	.3	.2	.1	.6	.8	.8	.5	.4	.3	.4	.0	.1	.2	.3	.4
.5																				
200.	*	.7	.7	.7	.5	.3	.3	.1	.7	.8	.7	.5	.4	.4	.4	.0	.1	.1	.3	.4
.5																				
205.	*	.7	.5	.7	.4	.3	.3	.1	.6	.8	.7	.5	.3	.4	.4	.0	.1	.1	.3	.4
.5																				

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JOB: 2014-Site3Finegayan2030PM-3FP30.DAT RUN: Site 3 Rt 16 & Rt 27

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) * REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
210.	* .5	.5	.5	.4	.3	.3	.1	.6	.8	.7	.5	.4	.5	.4	.0	.1	.2	.2	.4	.5
215.	* .5	.5	.5	.4	.3	.3	.1	.6	.8	.6	.5	.4	.5	.4	.0	.1	.2	.3	.4	.5
220.	* .5	.5	.5	.4	.3	.3	.0	.7	.8	.5	.5	.5	.5	.4	.1	.1	.2	.3	.4	.5
225.	* .5	.5	.5	.4	.3	.3	.1	.7	.7	.7	.6	.5	.5	.4	.1	.1	.2	.3	.4	.5
230.	* .5	.5	.5	.3	.3	.2	.1	.7	.5	.7	.6	.5	.5	.4	.1	.1	.1	.2	.4	.5
235.	* .5	.5	.5	.3	.2	.3	.1	.7	.5	.5	.5	.5	.5	.3	.1	.1	.1	.2	.4	.5
240.	* .5	.5	.5	.3	.3	.3	.1	.7	.5	.5	.5	.5	.5	.3	.1	.1	.1	.2	.4	.5
245.	* .5	.5	.5	.3	.3	.3	.1	.6	.4	.4	.3	.5	.5	.2	.0	.1	.1	.3	.4	.5
250.	* .5	.5	.5	.4	.4	.4	.3	.4	.3	.3	.3	.5	.5	.2	.0	.1	.1	.1	.4	.3
255.	* .5	.5	.5	.5	.5	.4	.3	.4	.3	.3	.3	.5	.4	.2	.0	.0	.1	.1	.2	.3
260.	* .5	.5	.6	.5	.6	.3	.5	.3	.3	.2	.4	.5	.4	.2	.0	.0	.1	.1	.2	.2
265.	* .5	.5	.6	.6	.6	.4	.6	.2	.1	.2	.5	.4	.4	.2	.0	.0	.0	.1	.1	.2
270.	* .5	.6	.6	.6	.6	.5	.6	.0	.1	.2	.4	.4	.4	.3	.0	.0	.0	.1	.1	.1
275.	* .6	.6	.6	.6	.4	.6	.6	.0	.1	.2	.4	.4	.4	.3	.0	.0	.0	.0	.0	.1
280.	* .6	.6	.6	.6	.3	.5	.6	.0	.1	.2	.4	.4	.4	.3	.0	.0	.0	.0	.0	.0
285.	* .6	.6	.7	.6	.3	.6	.6	.0	.1	.2	.4	.4	.3	.3	.0	.0	.0	.0	.0	.0
290.	* .6	.6	.7	.5	.5	.5	.6	.0	.1	.2	.4	.4	.3	.3	.0	.0	.0	.0	.0	.0
295.	* .6	.6	.7	.5	.5	.6	.5	.0	.1	.2	.4	.4	.3	.3	.0	.0	.0	.0	.0	.0
300.	* .8	.7	.7	.5	.5	.6	.5	.0	.1	.2	.4	.4	.2	.3	.0	.0	.0	.0	.0	.0
305.	* .7	.6	.7	.5	.6	.6	.5	.0	.1	.2	.4	.4	.2	.3	.0	.0	.0	.0	.0	.0
310.	* .7	.6	.7	.6	.6	.6	.5	.0	.1	.1	.3	.3	.3	.3	.0	.0	.0	.0	.0	.0
315.	* .7	.6	.5	.5	.6	.6	.5	.0	.1	.1	.3	.5	.4	.4	.0	.0	.0	.0	.0	.0
320.	* .7	.6	.7	.6	.6	.6	.5	.0	.1	.1	.3	.5	.4	.4	.0	.0	.0	.0	.0	.0
325.	* .7	.7	.6	.7	.6	.5	.5	.0	.0	.1	.4	.5	.4	.5	.0	.0	.0	.0	.0	.0
330.	* .6	.7	.6	.7	.6	.5	.5	.0	.0	.1	.2	.5	.4	.4	.1	.0	.0	.0	.0	.0
335.	* .7	.4	.5	.6	.6	.5	.5	.0	.0	.1	.2	.3	.3	.3	.1	.1	.2	.1	.0	.0
340.	* .4	.5	.4	.6	.5	.5	.5	.0	.0	.0	.2	.2	.2	.2	.1	.2	.3	.1	.0	.0
345.	* .4	.5	.4	.5	.5	.5	.5	.0	.0	.0	.1	.2	.1	.1	.2	.4	.5	.3	.0	.0
350.	* .3	.3	.4	.5	.5	.5	.5	.0	.0	.0	.1	.1	.1	.1	.3	.5	.6	.3	.0	.0
355.	* .2	.3	.3	.4	.5	.5	.5	.0	.0	.0	.0	.1	.1	.1	.3	.5	.5	.5	.1	.0

.0																					
360.	*	.2	.3	.3	.4	.5	.5	.5	.0	.0	.0	.0	.0	.0	.0	.3	.6	.6	.5	.1	
.0																					
MAX	*	.9	.9	1.0	.7	.6	.6	.6	.8	.8	.9	.8	.6	.5	.5	.7	.7	.8	.7	.6	
.8																					
DEGR.	*	175	180	175	170	35	35	35	85	190	170	165	155	155	325	145	115	90	155	125	
120																					

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JOB: 2014-Site3Finegayan2030PM-3FP30.DAT RUN: Site 3 Rt 16 & Rt 27

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28
0.	*	.0	.3	.4	.6	.6	.5	.5	.4
5.	*	.0	.3	.4	.6	.6	.5	.4	.5
10.	*	.0	.3	.4	.6	.4	.4	.5	.5
15.	*	.0	.3	.4	.6	.5	.6	.7	.7
20.	*	.0	.4	.4	.6	.5	.5	.7	.7
25.	*	.0	.4	.5	.6	.5	.5	.6	.6
30.	*	.1	.5	.4	.5	.5	.5	.6	.6
35.	*	.1	.4	.5	.5	.7	.5	.6	.6
40.	*	.1	.4	.5	.5	.8	.5	.6	.6
45.	*	.1	.4	.5	.4	.7	.5	.6	.6
50.	*	.1	.4	.4	.5	.7	.5	.6	.6
55.	*	.1	.5	.5	.8	.9	.6	.6	.4
60.	*	.2	.6	.6	.8	.9	.6	.5	.4
65.	*	.3	.6	.5	.7	.9	.6	.4	.4
70.	*	.6	.6	.5	.6	.7	.5	.4	.4
75.	*	.9	.5	.6	.7	.7	.4	.4	.4
80.	*	.9	.2	.6	.7	.6	.4	.4	.4
85.	*	.9	.1	.3	.4	.5	.4	.4	.4
90.	*	.9	.1	.1	.4	.4	.4	.4	.4
95.	*	.8	.1	.2	.3	.3	.4	.4	.4
100.	*	.8	.1	.2	.2	.4	.4	.4	.4
105.	*	.8	.1	.2	.3	.4	.4	.4	.4
110.	*	.8	.1	.2	.3	.4	.4	.4	.4
115.	*	.8	.1	.2	.3	.4	.4	.4	.5
120.	*	.8	.1	.2	.3	.4	.5	.5	.6
125.	*	.8	.2	.2	.3	.4	.5	.5	.6
130.	*	.8	.2	.2	.3	.4	.5	.6	.5
135.	*	.7	.2	.2	.2	.5	.5	.6	.5
140.	*	.6	.1	.2	.3	.5	.7	.7	.5
145.	*	.6	.1	.2	.3	.6	.7	.7	.7
150.	*	.6	.0	.1	.3	.6	.6	.5	.5
155.	*	.6	.0	.0	.2	.4	.5	.5	.5
160.	*	.6	.0	.0	.1	.4	.5	.5	.5
165.	*	.5	.0	.0	.0	.3	.4	.4	.4
170.	*	.5	.0	.0	.0	.1	.2	.2	.2
175.	*	.5	.0	.0	.0	.1	.1	.1	.1
180.	*	.6	.0	.0	.0	.0	.1	.1	.1
185.	*	.6	.0	.0	.0	.0	.0	.1	.0
190.	*	.6	.0	.0	.0	.0	.0	.0	.0
195.	*	.6	.0	.0	.0	.0	.0	.0	.0
200.	*	.6	.0	.0	.0	.0	.0	.0	.0
205.	*	.6	.0	.0	.0	.0	.0	.0	.0

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JOB: 2014-Site3Finegayan2030PM-3FP30.DAT RUN: Site 3 Rt 16 & Rt 27

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28
210.	*	.6	.0	.0	.0	.0	.0	.0	.0
215.	*	.5	.0	.0	.0	.0	.0	.0	.0
220.	*	.5	.1	.0	.0	.0	.0	.0	.0
225.	*	.6	.1	.1	.0	.0	.0	.0	.0
230.	*	.6	.1	.1	.0	.0	.0	.0	.0
235.	*	.6	.1	.1	.0	.0	.0	.0	.0
240.	*	.6	.2	.1	.1	.0	.0	.0	.0
245.	*	.6	.2	.2	.1	.0	.0	.0	.0
250.	*	.5	.2	.3	.2	.2	.0	.0	.0
255.	*	.5	.3	.3	.3	.3	.0	.0	.0

260.	*	.5	.3	.4	.4	.4	.1	.0	.0
265.	*	.5	.3	.5	.4	.4	.1	.0	.0
270.	*	.4	.4	.5	.6	.6	.1	.1	.0
275.	*	.4	.5	.5	.6	.6	.2	.1	.0
280.	*	.3	.5	.4	.6	.6	.2	.1	.1
285.	*	.2	.4	.5	.6	.5	.2	.1	.1
290.	*	.1	.4	.5	.5	.5	.2	.1	.1
295.	*	.1	.4	.5	.5	.4	.1	.1	.1
300.	*	.1	.4	.4	.5	.4	.2	.1	.1
305.	*	.1	.4	.4	.4	.4	.2	.1	.1
310.	*	.1	.3	.4	.4	.4	.2	.1	.1
315.	*	.1	.3	.4	.4	.4	.2	.1	.1
320.	*	.0	.3	.4	.4	.4	.2	.2	.1
325.	*	.0	.3	.4	.4	.4	.3	.2	.1
330.	*	.0	.3	.4	.4	.3	.3	.2	.1
335.	*	.0	.3	.4	.4	.3	.2	.3	.2
340.	*	.0	.3	.4	.4	.4	.4	.4	.2
345.	*	.0	.3	.4	.4	.7	.5	.3	.4
350.	*	.0	.3	.4	.4	.7	.5	.4	.4
355.	*	.0	.3	.4	.4	.6	.4	.4	.5
360.	*	.0	.3	.4	.6	.6	.5	.5	.4
MAX	*	.9	.6	.6	.8	.9	.7	.7	.7
DEGR.	*	75	60	60	55	55	140	15	15

THE HIGHEST CONCENTRATION IS 1.00 PPM AT 175 DEGREES FROM REC3 .
THE 2ND HIGHEST CONCENTRATION IS .90 PPM AT 175 DEGREES FROM REC1 .
THE 3RD HIGHEST CONCENTRATION IS .90 PPM AT 180 DEGREES FROM REC2 .

Appendix F.7

Hazardous Materials and Waste

1. Summary of IRP, MMRP and FUDS Sites in the Proposed Project Areas.....F.7-1

Summary of IRP, MMRP and FUDS Sites in the Proposed Project Areas

Potts Junction Tank Farm

This site is located within the military installation adjacent to the south side of Route 9, just north of Chalan Kareta and south of the Route 9/3 intersection. This site is included in the Installation Restoration Program (IRP) Sites – Andersen AFB Main Base plans provided by the Department of Defense (DoD); however, the associated information regarding this site is not included in the reports reviewed for this project. According to the DoD IRP Sites – Andersen AFB Main Base plans, this site is included in the IRP. A review of aerial photography shows heavy vegetation cover and possible remnants of concrete pads. During a site visit in March 2009, this site was inaccessible and could not be seen from the roadway. It is unknown if there are incidents of contamination associated with this site; however, no groundwater monitoring wells were found on- or off-site.

Table F.1-8. Summary of IRP, MMRP amd FUDS Sites in the Proposed Project Areas

Site ID	*Site Description*	*Contaminants*	*Status*
Site 03 (Waste Pile 3)	This site is about 19 ac and is located in the North Field of Andersen AFB. The site was actively used from 1947 to 1977.	Pesticides, POL, solvents, scrap metal, sanitary trash, construction debris, and industrial waste, pesticides, and construction debris.	RI/FS is ongoing.
Site 05 (Landfill 5)	This site is approximately 3 ac and is located in the North Field of Andersen AFB. Years of operation were from 1956 to 1958.	Sanitary trash, metals, and dioxins in soil.	ROD was completed in 2007 that included the requirement for long-term monitoring.
Site 06 (Landfill 8)	Site 06 is about 8 ac and is located between the North and Northwest Fields of Andersen AFB. This site operated from 1946 to 1949.	Asphalt and asphaltic wastes, metals.	ROD was issued in 2007 recommending soil removal that is planned for FY 2010.
Site 35 (Waste Pile 1)	This site is located in the North Field and consists of approximately 7 ac.	Asphalt tar and heavy metals.	A ROD recommending land use control to prevent future residents was issued in 2008.
Site 50 (Building 8024, Northwest Field, former AOC 85 or SS061)	This site was an area of concern due to the presence of four surface debris mounds.	Heavy metals, asphalt, batteries, scrap metal, unspecificed hazardous materials, and construction debris.	A ROD was issued in 2007 recommending soil removal planned for 2010. Antimony in subsurface soils would be a concern for future residents.

Table F.1-8. Summary of IRP, MMRP amd FUDS Sites in the Proposed Project Areas

Site ID	*Site Description*	*Contaminants*	*Status*
Site 52 (UXO 4A MRA 254 Burn/Dump Site)	This 6 ac site was used to deposit and burn UXO.	UXO and munitions constituents.	This site is under consideration for the MMRP.
Site 64 (Asphalt Drum Area; AJJYDAO75 or Site I06)	This 3.5 ac drum disposal area is on Andersen AFB containing an estimated 100 to 300 deteriorated drums that leaked tar onto the ground leaving 6 to 8 inch pools of tar.	Asphal /tar waste.	RI/FS is in process. An RI report was completed in 2009.
Site 65 (Asphalt Drum Area and OEW Area with Oil/Water Separator; AJJYDA076 or Site I07)	This 50 ac drum disposal area and oil/water separator is located within the confines of Andersen AFB was a former industrial shops area.	POL, various debris, MEC, scrap metal, tires, PAHs, heavy metals including lead, concrete, and asphalt.	RI/FS is in process. Part of this site will be transferred to the MMRP. An RI report was completed in 2009.
AOC 46 (previously called AOC 1)	Surficial Waste Disposal Area – 17 automobile batteries were observed and removed with no evidence of contamination.		NFA Recommended
AOC 47 (combined previously called AOCs 2, 3, 4, 5, and 6)	Surficial Waste Disposal Area - Waste includes household surface debris, applicances, abandoned vehicles and vehicle parts, metal debris, and electric equipment. Material disposed is non-hazardous and potential contamination is unlikely.		Removal of surface wastes is recommended
AOC-86 Achae Point Quarry	Identified as an AOC due to the potential disposal of hazardous materials including pesticides, PCBs, and/or petroleum related products at an abandoned dump site with glass bottles, scrap metal, vehicle parts, and used oil filters.		No Further Action is recommended based on health risk evaluation
AOC-87 Radar Bomb Scoring Site Cleared Area	Identified as an AOC due to the presence of surface waste debris such as metal debris and an empty 55-gallon drum near a shallow depression area. No contaminants of concern were detected above PRGs.		No Further Action is recommended based on health risk evaluation
AOC-89 Lighthouse Road Quarry	Identified as an AOC due to the presence of surface waste debris such as soda bottles, a diesel engine block, tires, air brake cylinders, vehicle parts, and scrap metal near quarry. Antimony, Lead, Manganese, and Arsenic were detected at the site.		No Further Action is recommended based on health risk evaluation
AOC-90 Mt. Machanao Area	Identified as an AOC due to the presence of surface waste debris such as a utility pole, insulators, scrap metal, and wires near a mound. Manganese was detected at the site.		No Further Action is recommended based on health risk evaluation
AOC-91 EOD Rifle Range	Identified as an AOC due to the potential presence of spent ordnance at two mounds suspected of a backdrop for the firing range. Beryllium and Manganese were detected above residential PRGs.		Soil Remedial or Removal Action is recommended
AOC-92 Abandoned AVGAS Tanks	Identified as an AOC due to the potential release of fuel-related constituents and surface waste debris such as bottles, cans, scrap metal, and metal pieces at a former aviation fuel tank farm.		No Further Action is recommended based on health risk evaluation

Table F.1-8. Summary of IRP, MMRP amd FUDS Sites in the Proposed Project Areas

Site ID	*Site Description*	*Contaminants*	*Status*
AOC-93 South Runway Approach Zone	Identified as an AOC due to the presence of surface waste debris such as glass bottles and scrap metal near a group of trenches and mounds. Aluminum, Beryllium, Total Chromium, and Manganese were detected above residential PRGs.		Soil Remedial or Removal Action is recommended
AOC-94 UXO	Identified as an AOC due to the suspected disposal of ordnance at the 380-ac area.		Needs further investigation to characterize the existence of UXO contamination or its potential for a release to the environment.
IR PWC Site 2810: Construction Battalion (CB) Landfill	The former CB Landfill is located at the Naval Computer and Telecommunications Area Master Station (NCTAMS), Finegayan, Guam. It encompasses 2.6 ac and is located in the southwestern portion of the facility. The former CB Landfill was used primarily for disposal of wastes from a CB maintenance shop. The site was investigated from 1982 through 1995. A removal action was conducted at the site in 1998 and included a low permeability containment system consisting of a soil and synthetic cover system over buried landfill wastes. Based on results of post-removal action monitoring, the site no longer requires groundwater and gas monitoring.	POL, scrap metal, aircraft and vehicle parts, tires, concrete, glass, paint cans, and domestic trash.	The final remedy for this site is the implementation of LUCs. The site is currently maintained semiannually and five-year reviews are implemented to ensure that the site is not used. Surface soils may pose unacceptable risk to human health and the environment due to concentrations of metals, polycyclic aromatic hydrocarbons, and pesticides.
IR NCTAMS WESTPAC Site 14: RTF Barrigada Golf Course	The site is a landfill that was utilized from 1950 to 1954. The site is a depression located approx. 400 ft to the southeast of the 3rd hole and approx. 300 ft directly north of the 5th hole of the Nimitz Golf Course. It was reported that municipal “refuse” and possibly waste oil from motor pool activities were indicated that debris generated during construction of the golf course (e.g. trees, shrubs, dirt and rocks) were disposed of at the site.	Total petroleum hydrocarbons (TPH), total fuel hydrocarbons (TFH), and SVOCs.	A Site Inspection (SI) was conducted in September 1991. The SI recommended that further work be conducted to assess the nature and extent of the identified hydrocarbons. A remedial investigation (RI) is programmed to start in FY 12. Potential media: soil and groundwater.
NCTS Finegayan Landfill No. 1	This landfill is located along Haputo Road that parallels an exercise trail and encompasses approximately three acres. This Landfill was used from the late 1940s until 1968.	Metals, scrap wood, solvents and other industrial wastes, and municipal refuse	SI field work complete. No significant health hazards other than low levels of lead below the maximum contaminant level (MCL) have been observed from sampling events (dry and wet seasons) at this Landfill.

Table F.1-8. Summary of IRP, MMRP amd FUDS Sites in the Proposed Project Areas

Site ID	*Site Description*	*Contaminants*	*Status*
NCTS Finegayan Landfill No. 2	This landfill is approximately 2,000 feet northeast of NCTS Finegayan Landfill No. 1 and was in use from 1968 until 1980. This landfill is located within a naturally occurring sinkhole.	Building rubble and demolition debris, waste oils, solvents, insulation materials, PCB-containing oils, and oil filters	SI field work complete. No significant health hazards other than low levels of lead below MCL have been observed from sampling events (dry and wet seasons) at this Landfill.
IR NAVACTS Site 35: Tear Gas Burial Site	This site is located in the northwest corner of the Naval magazine in southern Guam. Approximately 350 pounds of tear gas were buried in the 1960s in one gallon metal canisters about 8 ft deep.	Chloroacetophenone (CN) or mace and chlorobenzylidene malononitrile (CS) and other debris and burn area-related chemicals	Planned activities include a RI to evaluate the extent of the site. If necessary, based on the results of the RI, an evaluation of cleanup alternatives will be conducted.
MRP NAVACTS UXO 3: Naval Magazine Small Arms Range	The range is located close to Bona Spring in the northern portion of former Naval Magzine. The range was last used by Marines units in the 1980s.	Metals	SI field work complete. Preliminary results indicate that elevated concentrations of lead may present a risk. Further is study is required.

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