No-build Condition Operations Analysis

Based on the Synchro™ and CLV-based Excel worksheet analysis, many of the signalized study area intersections operate at acceptable overall conditions during the morning and afternoon peak hours. However, the following intersections in the study area operate with overall unacceptable conditions:

- Edmonston Road (MD 201) and Sunnyside Avenue (Intersection #12) during the PM peak hour
- Edmonston Road (MD 201) and Powder Mill Road (Intersection #13) during the PM peak hour

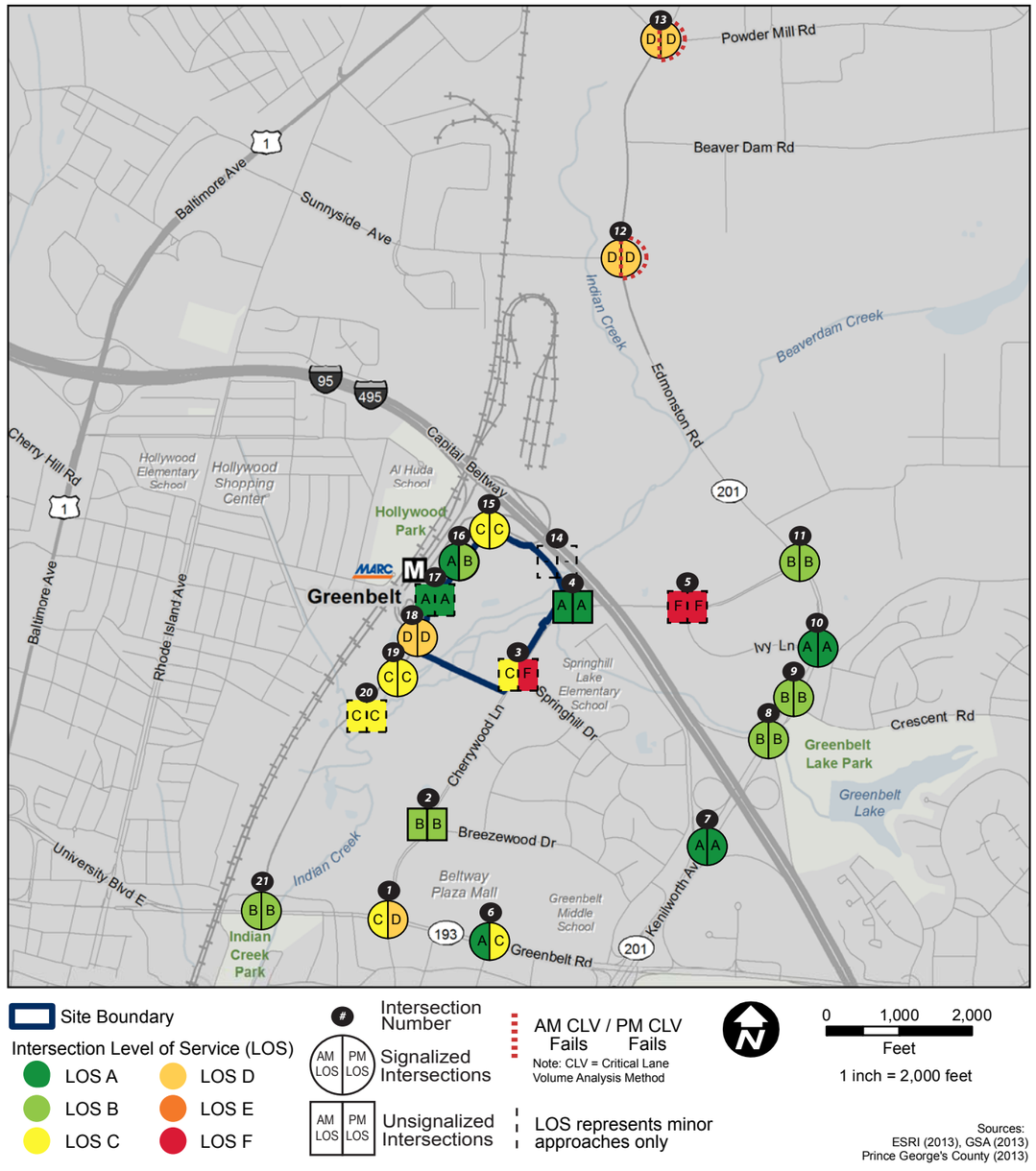
A total of 10 signalized and 2 unsignalized intersections would experience an unacceptable conditions for one or more turning movements. Compared to the Existing Condition, the No-build Condition would have no change in the number of intersections failing during the AM peak hour and there would be one more intersection failing during the PM peak hour. The Greenbelt TIA (Appendix C) contains a more detailed No-build Condition traffic operations analysis.

The overall intersection LOS grades for the No-build Condition are depicted in figure 5-42 for the AM and PM peak hour.

Table 5-36: No-build Condition AM and PM Peak Hour Operations Analysis

Type of Change Between Conditions	AM	PM
New Failing Approach	1	2
Additional Failing Approaches	0	1
No Change	11	9
Fewer Failing Approaches	1	0
No Failing Approaches	0	1
Total Signalized and Unsignalized Intersections	13	13

Figure 5-42: Greenbelt No-build Condition Intersection LOS for AM and PM Peak Hours



GREENBELT PEDESTRIAN ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: Direct, long-term, beneficial impacts.

GREENBELT BICYCLE NETWORK ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: No measurable impacts.

No-build Condition Queuing Analysis

Based on the Synchro™ and SimTraffic™ analysis, eight signalized intersections and one unsignalized intersection would experience queuing lengths that would exceed the available storage capacity. The remaining intersections in the study area would provide sufficient storage for the anticipated demand. Compared to the Existing Condition, the No-build Condition would have no change in the number of intersections with failing queues during the AM peak hour and would have one more intersection with failing queues during the PM peak hour. The Greenbelt TIA (Appendix C) contains a more detailed No-build Condition traffic queuing analysis.

Summary of Traffic Conditions: No-build Condition

Overall, the PM peak hour would experience corridor-based delays along Edmonston Road (MD 201) in the northbound direction beginning at Powder Mill Road and extending to Cherrywood Lane resulting in indirect, long-term, major adverse impacts. There would also be isolated intersection impacts during the AM peak hour at the Edmonston Road and Sunnyside Avenue and during both peak hours at the Cherrywood Lane and Ivy Lane intersection (Ivy Lane approaches only) resulting in indirect, long-term, adverse impacts.

5.2.9.2 Build Condition (FBI HQ Consolidation)

This section introduces the Build Condition for the Greenbelt site and summarizes the potential impacts to the pedestrian network, bicycle network, public transit system, parking conditions, truck access, and traffic operations from the consolidation of the FBI HQ on the Greenbelt site.

Build Condition Pedestrian Network

Under the Build Condition, because the roadways adjacent to the Greenbelt site would already have sidewalks due to the Greenbelt Station development proposal, only localized pedestrian improvements are anticipated at the locations of the remaining ECFs to provide ADA compliance and pedestrian access, as needed. Within the site, multiple pedestrian pathways would provide access to the Main Building and between elements on the site; the location of these pedestrian accommodations would be determined in the final site design process.

Based on the anticipated mode split percentages, a large number of pedestrians would access the Greenbelt site via the surrounding pedestrian network. The large increase in pedestrians would be related to the location of the Greenbelt site (within a 0.5-mile walking distance of several transit options) and because reduced parking was designed per NCPC guidance to encourage employees to access the site via transit. It is anticipated that most transit riders would follow sidewalks or the proposed direct connection between the Greenbelt Metro Station and the pedestrian gate at the western edge of the Greenbelt site. The direct pedestrian connection between the Greenbelt Metro Station and the Greenbelt site would not enter the FBI security perimeter. These sidewalks or the connection would be built with future roadways planned in the No-build Condition.

Therefore, due to the large increase in pedestrians expected to access the site on foot via the pedestrian network, the Build Condition as planned would have direct, long-term, beneficial impacts to the pedestrian network. The pedestrian impacts would overall be beneficial, rather than adverse, because the sidewalks would be designed for the large number of pedestrians anticipated, the sidewalks or direct pedestrian connection would create a safe convenient travel route for pedestrians, and the sidewalk improvements at the ECFs would reduce barriers to accessing the site.

Because there is a plan under the No-build Condition to remove the existing sidewalks serving the Greenbelt Metro Station and construct a new network of sidewalks on both sides of Greenbelt Station Parkway, there would be no measurable direct construction impacts to the pedestrian network. However, there could be direct, short-term, adverse impacts to the proposed pedestrian network during construction if the proposed sidewalks along Greenbelt Station Parkway are constructed before the start of the Greenbelt site construction as a result of construction vehicles crossing the sidewalk and intermittent sidewalk closures.

Build Condition Bicycle Network

As noted in the No-build Condition Bicycle Network section (section 5.2.9.1), the Prince George's County Bicycle Master Plan (Prince George's County 2009) recommends several bicycle facilities within the Greenbelt study area. Because there is no dated implementation plan in the Master Plan, it is unknown whether any of these recommendations would be completed by 2022. However, the bicycle improvements adjacent to roadways and proposed as part of development of the North Core should be complete by 2022. Development of the Build Condition would possibly limit the extent of the proposed mixed-use trail on the Greenbelt site. Due to substantial improvements planned with the North Core development, no off-site bicycle improvements are planned as part of the Greenbelt Build Condition.

The overall bicycle mode split to the site is projected to be 2.0 percent, resulting in approximately 226 bicycle roundtrips daily. It is assumed that there would be bicycle facilities on-site to encourage the use of the bicycle mode of travel.

The increase in bicycle trips from the Greenbelt Build Condition would increase overall bicycle volumes in the study area. Given the existing bicycle facilities that serve the site and the study area (including those along Cherrywood Lane and Rhode Island Avenue [U.S. Route 1]) and those expected through development of the North Core (Greenbelt Station Parkway and others), the increase in projected bicycle volumes would have no measurable long-term impact to the study area bicycle network.

Because there is a plan under the No-build Condition to revise the existing multi-use path serving the Greenbelt Metro Station via Greenbelt Metro Drive and construct a new network of bicycle lanes along Greenbelt Station Parkway and Greenbelt Metro Drive, there would be no measurable short-term impacts to the bicycle network during construction of the Build Condition. However, there could be direct, short-term, adverse construction impacts to the proposed bicycle network if the proposed bicycle lanes along Greenbelt Station Parkway and Greenbelt Metro Drive are constructed before the start of the Greenbelt site construction as a result of construction vehicles crossing the lanes and intermittent lane closures.

Build Condition Public Transit

The following sections describe the Build Condition for the Metrorail and bus modes within the Greenbelt study area. It is anticipated that there would be an increase in people commuting to the site via commuter bus or shuttle given the overall increase in total trips in the Build Condition.

Projected Trips

Section 3.10.4.2 details the basis of the Greenbelt Build Condition trip generation calculation.

Metrorail Analysis

The Greenbelt Build Condition passenger trips were assigned to Metrorail peak hours using the Metrorail/commuter rail mode split of 47.33 percent, and a further reduction of passenger trips to account for passengers who could use MARC trains instead of Metrorail to access the site. MARC service operates in both directions to the Greenbelt Metro Station on weekdays. The MARC passenger trip reduction was calculated using the 2014 proportion of daily passengers that use MARC instead of Metrorail to and from the station, as shown in table 5-37.

Overall, with a Metrorail/commuter rail mode split of 47.33 percent and the MARC passenger reduction (minus one percent), a total of 1,544 additional AM peak hour passenger trips and 1,427 additional PM peak hour passenger trips are projected. Table 5-38 summarizes the additional Metrorail trips associated with the Greenbelt Build Condition.

Table 5-37: Greenbelt MARC/Metrorail Station Weekday Ridership Proportions

Greenbelt Metro Station	Average Weekday Entries	
	Total	Percent of Total
MARC	63	1.0%
Metrorail	6,098	99.0%
Total	**6,161**	**100.0%**

Sources: WMATA (2014b); Metrorail Faregate Data. October, 2014. Received on 12/16/14; MTA (2015)

GREENBELT PUBLIC TRANSIT ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: No measurable impacts to public transit capacity. Direct, long-term, major adverse impacts to bus operations.

Table 5-38: Greenbelt Build Condition Additional Peak Hour Metrorail Passenger Trips

Employees	Time Period	IN	OUT	Proportion of Daily Total	Rail Mode Split	Metro Percent[a]	IN	OUT	TOTAL
11,055	AM Peak Hour	93%	7%	29%	47.33%	99.0%	1,397	105	1,502
	PM Peak Hour	5%	95%	26.9%	47.33%	99.0%	70	1,323	1,393
Briefing Center	**Time Period**	**IN**	**OUT**	**Proportion of Daily Total**	**Rail Mode Split**	**Metro Percent[a]**	**IN**	**OUT**	**TOTAL**
250	AM Peak Hour	100%	-	36%	47.33%	99.0%	42	-	42
	PM Peak Hour	-	100%	29%	47.33%	99.0%	-	34	34
Total People							**Exits**	**Entries**	**TOTAL**
11,305	**AM Peak Hour**						**1,439**	**105**	**1,544**
	PM Peak Hour						**70**	**1,357**	**1,427**

[a] *These figures represent the percentage of passengers who would use Metrorail instead of MARC, and constitute the "MARC Reduction" previously referenced.*
Sources: Greenbelt Site Transportation Agreement (Appendix A)

Table 5-39: Greenbelt Build Condition Additional Peak 15-Minute Metrorail Passenger Trips

Employees	Time Period	IN	OUT	TOTAL	Peak Hour Factor	Time Period	IN	OUT	TOTAL
11,055	AM Peak Hour	1,397	105	1,502	27.7%	AM Peak 15-Minute	387	29	416
	PM Peak Hour	70	1,323	1,393	28.0%	PM Peak 15-Minute	19	371	390
Briefing Center	**Time Period**	**IN**	**OUT**	**TOTAL**	**Peak Hour Factor**	**Time Period**	**IN**	**OUT**	**TOTAL**
250	AM Peak Hour	42	-	42	27.7%	AM Peak 15-Minute	12	--	12
	PM Peak Hour	-	34	34	28.0%	PM Peak 15-Minute	--	10	10
Total People	**Time Period**	**Exits**	**Entries**	**TOTAL**	**Peak Hour Factor**	**Time Period**	**Exits**	**Entries**	**TOTAL**
11,305	**AM Peak Hour**	**1,439**	**105**	**1,544**	**27.7%**	**AM Peak 15-Minute**	**399**	**29**	**428**
	PM Peak Hour	**70**	**1,357**	**1,427**	**28.0%**	**PM Peak 15-Minute**	**20**	**380**	**400**

Sources: Greenbelt Site Transportation Agreement (Appendix X); WMATA (2014b); Metrorail Faregate Data, October 2014. Received on 12|16|14

Table 5-40: Weekday 2022 Projected Metrorail Ridership at Greenbelt

Metro Station	Average Weekday Entries					
	2014	2022 Background Growth	2022 Planned Development Projects	2022 Total No-build	2022 Additional Build Trips	2022 Total Build Trips
Greenbelt	6,098	7,185	271	7,456	5,296	12,752

Source: WMATA (2014b); Metrorail Faregate Data, October 2014. Received on 12|16|14; MWCOG (2015); Greenbelt Site Transportation Agreement (Appendix A)

Table 5-41: Greenbelt Build Condition Peak Metrorail Passenger Loads

Measure (PM Peak 15-Minute Entries)	Unit
2014 Maximum Passengers	55
2022 Passengers with Background Growth	65
2022 Passengers with Development Projects	44
2022 Total No-build Passengers	109
2022 Minimum Trains[a]	3
2022 Train Cars[b]	18
2022 Total No-build Passengers Per Car	6
2022 Greenbelt Build Additional Passengers	380
2022 Total Greenbelt Build Passengers	489
2022 Total Greenbelt Build Passengers Per Car	**27**

[a] A 4-minute headway equates to 3.75 trains every 15 minutes. This figure was rounded down to 3 minutes in order to provide the most conservative load estimate.
[b] Assumes all six car trains to provide the most conservative estimate. Source: WMATA (2014b); Metrorail Faregate Data, October 2014. Received on 12|16|14; MWCOG (2015); Greenbelt Site Transportation Agreement (Appendix A)

The additional peak hour Metrorail passenger trips were further disaggregated into AM and PM peak 15-minute periods using existing PHF at the Greenbelt Metro Station. Overall, this resulted in an additional 428 passenger trips during the AM peak 15-minute period and an additional 400 passenger trips during the PM peak 15-minute period, as summarized in table 5-39.

Overall, the Greenbelt Build Condition would result in an additional 5,296 weekday entries at the Greenbelt Metro Station, bringing the weekday station entry total to 12,752 passengers (see table 5-40). Average weekday exits would theoretically be the same or similar to the average weekday entries.

Metrorail Passenger Loads

Refer to section 3.10.4.3 for a detailed explanation of how Metrorail passenger loads were calculated. At Greenbelt under the Build Condition, the PM peak period entries were used to calculate loads, since they were the highest of AM peak entries, AM peak exits, PM peak entries, and PM peak exits, and therefore would result in the highest passenger load.

Projected passenger loads of 27 passengers under the Greenbelt Build Condition at the station is well below 100 passengers per car, and therefore would be considered acceptable. Table 5-41 summarizes passenger loads per car under future development conditions using PM peak 15-minute entries.

Station Capacity Analysis

Refer to section 3.10.4.3 for a detailed description of how station capacity was analyzed. Table 5-40 summarizes ridership during the peak exiting period at the Greenbelt Metro Station. With the introduction of the Build Condition passengers, the peak 15-minute entering period at the Greenbelt Metro Station shifts from 7:15 AM to 5:00 PM (also the peak exiting period). Table 5-42 summarizes ridership during this period.

Overall, vertical elements, faregate aisles, and fare vending machines at the station are projected to operate within capacity, or below a v/c of 0.7. Additionally, platform peak pedestrian LOS (based on the available spacing between passengers) on the busiest platform sections are projected to be at the acceptable LOS B. Further details on the station capacity analysis and the emergency evacuation analysis are found in the Greenbelt TIA (Appendix C).

Bus Analysis

The additional local bus trips associated with the Greenbelt Build Condition are summarized in table 5-43. At a local bus mode split of 6.0 percent, approximately 198 additional AM peak hour bus passenger trips and 183 additional PM peak hour bus passenger trips are projected in the study area.

The additional peak hour bus passenger trips associated with the Greenbelt Build Condition were added to the peak hour bus volumes calculated for the study area in the 2022 No-build Condition. The trips were added proportionally to each route within the study area based on No-build Condition ridership. The overall analysis was limited to Metrobus service, as no ridership data was available for TheBus and the Central Maryland RTA Route G only serves the study area on weekends. It can be assumed, however, that TheBus would see some minor increases in ridership on routes that serve the site.

Table 5-42: Greenbelt Build Condition Weekday Peak 15-Minute Entering and Exiting Period Bus Passenger Trips

Metro Station	Time	2014		2022 No-build		2022 Build	
		Entries	Exits	Entries	Exits	Entries	Exits
Greenbelt	5:00 PM – 5:15 PM	55	353	109	456	489	476

Source: WMATA (2014b); Metrorail Faregate Data, October 2014. Received on 12|16|14; MWCOG (2015); Greenbelt Site Transportation Agreement (Appendix A)

Table 5-43: Greenbelt Build Condition Additional Peak Hour Local Bus Passenger Trips

Employees	Time Period	Proportion of Daily Total	Local Bus Mode Split	TOTAL LOCAL BUS TRIPS
11,055	AM Peak Hour	29%	6.0%	192
	PM Peak Hour	26.9%	6.0%	179
Briefing Center	**Time Period**	**Proportion of Daily Total**	**Rail Mode Split**	**TOTAL LOCAL BUS TRIPS**
250	AM Peak Hour	36%	6.0%	6
	PM Peak Hour	29%	6.0%	4
Total People	**Time Period**			**TOTAL LOCAL BUS TRIPS**
11,305	**AM Peak Hour**			**198**
	PM Peak Hour			**183**

Source: Greenbelt Site Transportation Agreement (Appendix A)

Table 5-44: Greenbelt Build Condition Bus Capacity Analysis

Measure	2014		2022 No-build		2022 Build Condition	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Total Volume	671	654	813	803	1,011	985
Total Capacity	1,337	1,273	1,593	1,609	1,593	1,609
Volume to Capacity Ratio (V/C)	0.50	0.51	0.51	0.50	0.63	0.61

Sources: Greenbelt Site Transportation Agreement (Appendix A); Greenbelt Site Trip Generation Summary; WMATA (2014a); Metrobus Automatic Passenger Count Data, October 2014. Received 11/19/14; MWCOG (2015)

GREENBELT PARKING ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: Under the Greenbelt Build Condition, there would be no measurable impacts to parking in the Greenbelt study area.

GREENBELT TRUCK ACCESS ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: Under the Greenbelt Build Condition, there would be no measurable impacts to truck access at the Greenbelt site.

Overall, AM peak hour Greenbelt Build Condition Metrobus volumes are projected to total 1,011 passengers, and PM peak hour volumes are projected to total 985 passengers. These totals are both below the overall capacity of services (see table 5-44) in the study area, meaning the additional passenger trips projected can be adequately handled by current service levels. The capacity of services includes the additional capacity associated with the added bus trips in the No-build Condition (five AM peak hour and eight PM peak hour). Additionally, no individual routes are expected to experience capacity issues, primarily due to the additional bus trips added in the No-build Condition. Appendix C has further details on the bus capacity analysis.

Summary of Transit Analysis

The increase in public transit trips from the Greenbelt Build Condition would have the following impacts to transit:

- No individual Metrobus routes would see capacity issues under the Build Condition, due to the additional peak hour bus trips planned under the No-build Condition. Therefore, the overall capacity of bus services in the study area would accommodate the projected ridership.
- Metrorail car passenger loads through the study area are projected to be at acceptable levels.
- Overall, Metrorail vertical elements, faregate aisles, and fare vending machines at the Greenbelt Metro Station are projected to operate below capacity.
- Metrorail platform peak pedestrian LOS (based on the available spacing between passengers) on the busiest platform sections are projected to be at the acceptable LOS B at the Greenbelt Metro Station.
- Platform and station evacuation times would increase slightly over the No-build Condition; however, they would continue to meet NFPA 130 standards.

Therefore, the Greenbelt Build Condition would have no measurable direct, long-term impacts to public transit capacity based on the impacts definitions described in section 3.9.5. In addition, bus operation delays along Edmonston Road would impact three bus routes, resulting in direct, long-term, major adverse impacts to bus operations. Because buses regularly service Greenbelt Metro Drive, there could be direct, short-term, adverse construction impacts caused by construction vehicles blocking some or all of the lanes and intermittent road closures.

Build Condition Parking

Under the Build Condition, employee parking garages would be located to the north of the Main Building Developable Area along the northern site boundary, adjacent to Greenbelt Metro Drive. Given the distance to the nearest transit station, and in accordance with NCPC parking policy, a parking ratio of one parking space for every three employees would be maintained, equating to approximately 3,600 spots. In the conceptual site layout analyzed in the EIS, these spaces would be accommodated in two, eight-story parking structures. The final number and layout of the parking structures to accommodate the required employee and fleet vehicle parking would be determined during the design process. Up to 135 visitor parking spaces would be provided near the Visitor Center.

While all employee and visitor parking is envisioned to be accommodated on-site, it is likely that there would be more employee demand for driving than there are parking spaces due to the less than 1:1 ratio of parking spaces to employees (not all employees would have a parking spot) as recommended by NCPC policies. As an “end-of-the-line” station, Metrorail may not seem like the best travel option from other sides of the city. Therefore, some employees may try to park on local streets or park on local residential streets that do not have parking restrictions, and possibly even try to park on those residential streets with parking restrictions. Still others may choose to pay to park in local area parking garages that would be built as part of the Greenbelt Station development. Development and implementation

of a TMP, which includes Transportation Demand Management (TDM) measures that would encourage employees to use transit and discourage employees from driving and parking off-site, would address these issues and reduce any adverse parking impacts anticipated under the Greenbelt Alternative. With implementation, monitoring, and enforcement of a TMP, and revisions as needed, the Build Condition would result in no measurable direct, long-term impacts to local area parking. Assuming all construction equipment and employee parking areas would be contained to the Greenbelt site, there would be no measurable direct, short-term impacts to parking in the study area during the construction period.

Build Condition Truck Access

Truck access for the Greenbelt site would occur at the southwestern corner of the site off of Greenbelt Station Parkway. Trucks would enter through the South Access and exit through a separate driveway from the RDF to Greenbelt Station Parkway. Trucks would also only be permitted to enter and exit during non-peak hours; therefore, peak traffic hours on adjacent roadways would not be impacted. Truck entrance and exit locations and restricted hours would be noted at entrance locations and communicated to those services that would provide regular truck delivery to the site.

Therefore, under the Build Condition, there would be no measurable direct, long-term impacts to truck access given communication of truck access regulations. Assuming the Greenbelt site would have access entrances and exits assigned for construction equipment and general trucks during the construction period, there would be no measurable direct, short-term impacts to truck access.

Build Condition Traffic Analysis

Refer to section 3.10.4.2 for a detailed description of the process the study followed to project future traffic volumes through three primary assumptions: trip generation, modal split, and trip distribution, followed by the impacts as a result of the proposed alternative.

Total Vehicle Trips

Based on the trip generation rates combined with the SOV and HOV modal split and persons per carpool, the total vehicle trips are forecasted to be 1,025 inbound and 75 outbound during the AM peak hour and 49 inbound and 966 outbound during the PM peak hour.

Tables 5-45 and 5-46 summarize the vehicle trips based on the trip generation and the mode split.

Table 5-45: Greenbelt Build Condition AM Peak Hour Vehicle Trips

Calculated Steps	AM Peak Hour (7:45 AM - 8:45 AM)									
	FBI Employees				Briefing Center[a]					
	Inbound		Outbound		Inbound		Outbound		Total	
	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	In-bound	Out-bound
Employees or Seats	11,055				250					
Trip Generation	29%				36%					
Inbound/ Outbound Split	93%		7%		100%		0%			
Modal Split	29.7%	11.0%	29.7%	11.0%	29.7%	11.0%	29.7%	11.0%		
Total Trips w/o HOV adjustment	886	328	67	25	27	10	0	0		
HOV Vehicle Occupancy		3		3		3		3		
Total Trips	**886**	**109**	**67**	**8**	**27**	**3**	**0**	**0**	**1,025**	**75**

[a] *Assumes a 500-seat facility where external trips represent 50% of attendees.*

Table 5-46: Greenbelt Build Condition PM Peak Hour Vehicle Trips

Calculated Steps	PM Peak Hour (5:00 PM - 6:00 PM)									
	FBI Employees				Briefing Center[a]					
	Inbound		Outbound		Inbound		Outbound		Total	
	SOV	HOV	SOV	HOV	SOV	HOV	SOV	HOV	In-bound	Out-bound
Employees or Seats	11,055				250					
Trip Generation	26.9%				29%					
Inbound/ Outbound Split	5%		95%		0%		100%			
Modal Split	29.7%	11.0%	29.7%	11.0%	29.7%	11.0%	29.7%	11.0%		
Total Trips w/o HOV adjustment	44	16	839	311	0	0	22	8		
HOV Vehicle Occupancy		3		3		3		3		
Total Trips	**44**	**5**	**839**	**104**	**0**	**0**	**22**	**3**	**49**	**967**

[a] *Assumes a 500-seat facility where external trips represent 50% of attendees.*

GREENBELT TRAFFIC ENVIRONMENTAL CONSEQUENCES SUMMARY

Build Condition: Direct, long-term, adverse impacts to traffic at intersections; direct, short-term, adverse impacts during construction.

Major adverse impacts would occur as a result of the failure of 2 freeway facilities. This is described in the Freeway Analysis Summary in section 5.2.9.3

Figure 5-43: Greenbelt Build Condition Trip Distribution

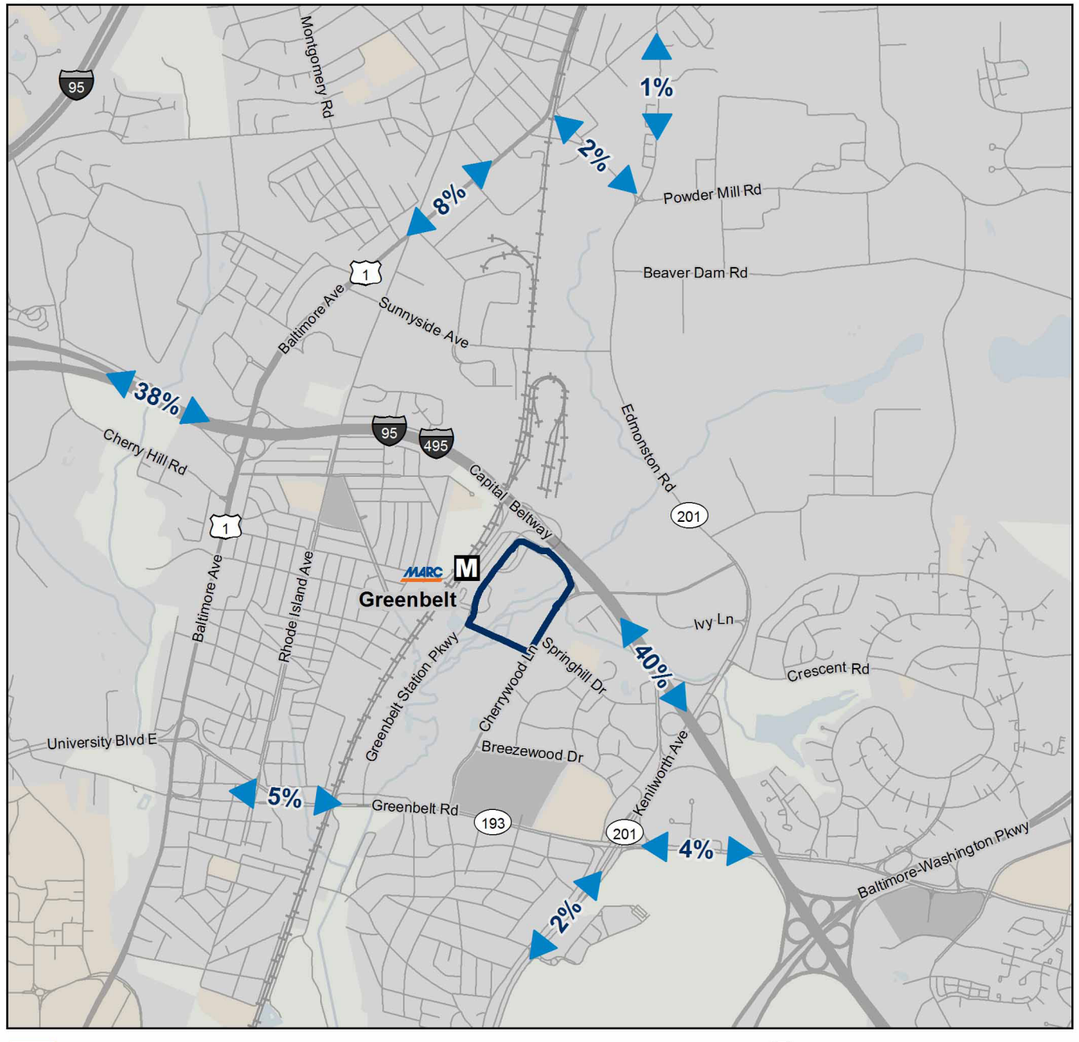


Table 5-47: Greenbelt Build Condition Trip Distribution Summary

Roadway and Direction	Percentages		AM Trips		PM Trips	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
I-95/I-495 NB	38.0%	38.0%	389	29	19	367
I-95/I-495 SB	40.0%	40.0%	410	30	20	386
U.S. Route 1 NB	8.0%	8.0%	82	6	4	77
Powder Mill Road	2.0%	2.0%	20	2	1	19
MD 193 WB	5.0%	5.0%	51	4	2	48
MD 193 EB	4.0%	4.0%	41	3	2	39
MD 201 NB	1.0%	1.0%	10	1	0	10
MD 201 SB	2.0%	2.0%	20	2	1	19
Total	**100.0%**	**100.0%**	**1,025**	**75**	**49**	**966**

Trip Distribution

The process for determining trip distribution is detailed in section 3.10.4.2. Table 5-47 shows the blended trip distribution percentages to/from each origin/destination. Figure 5-43 contains the Greenbelt site trip distribution.

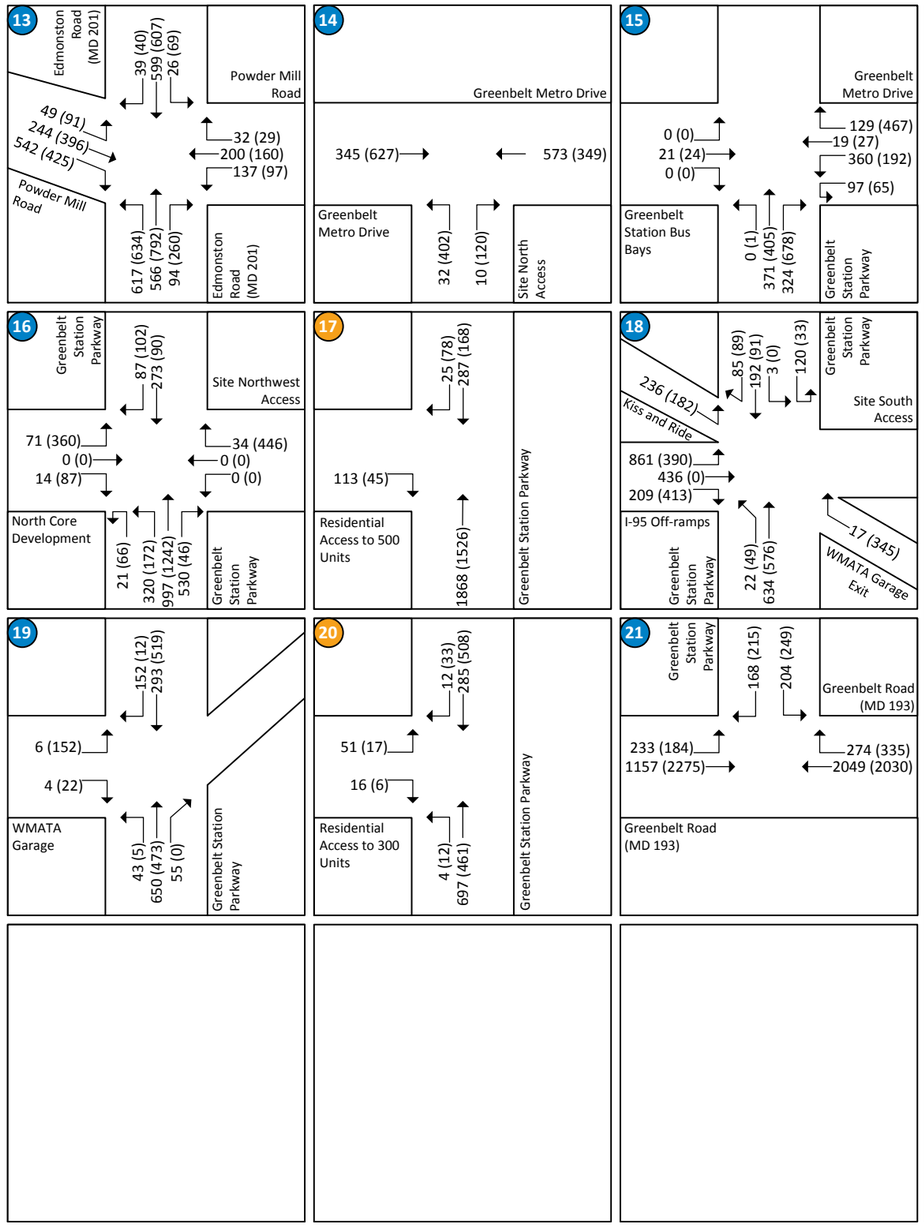
Development of Build Condition

Refer to section 3.10.4.3 for a brief description of how the Build Condition was developed for traffic analysis.

Figure 5-44 contains the Build Condition turning movement volumes. A diagram of Build Condition lane geometry can be found in the Greenbelt TIA (Appendix C).

Figure 5-44: Greenbelt Build Condition Turning Movement Volumes

Figure 5-43: Greenbelt Build Condition Turning Movement Volumes (continued)



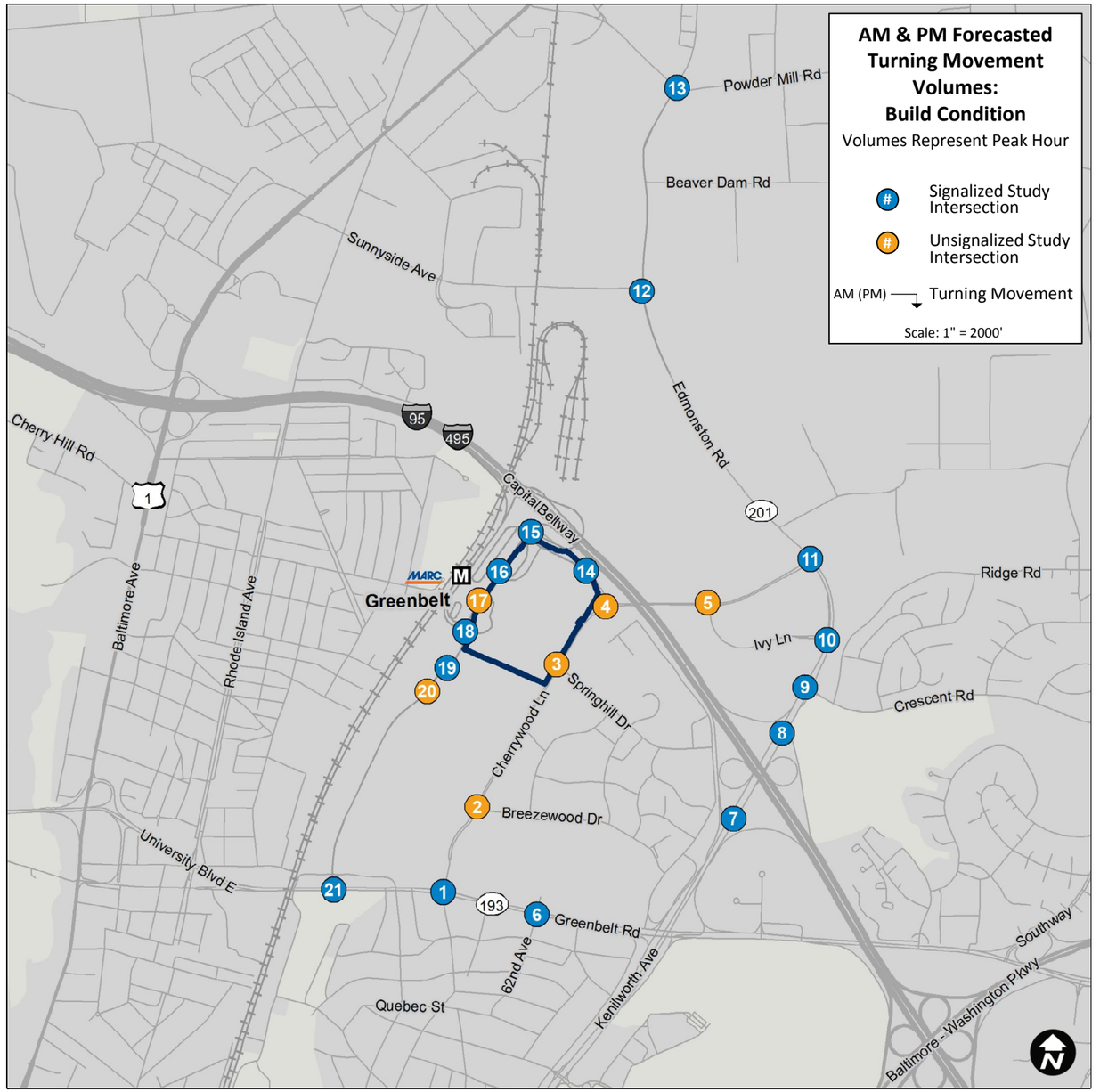
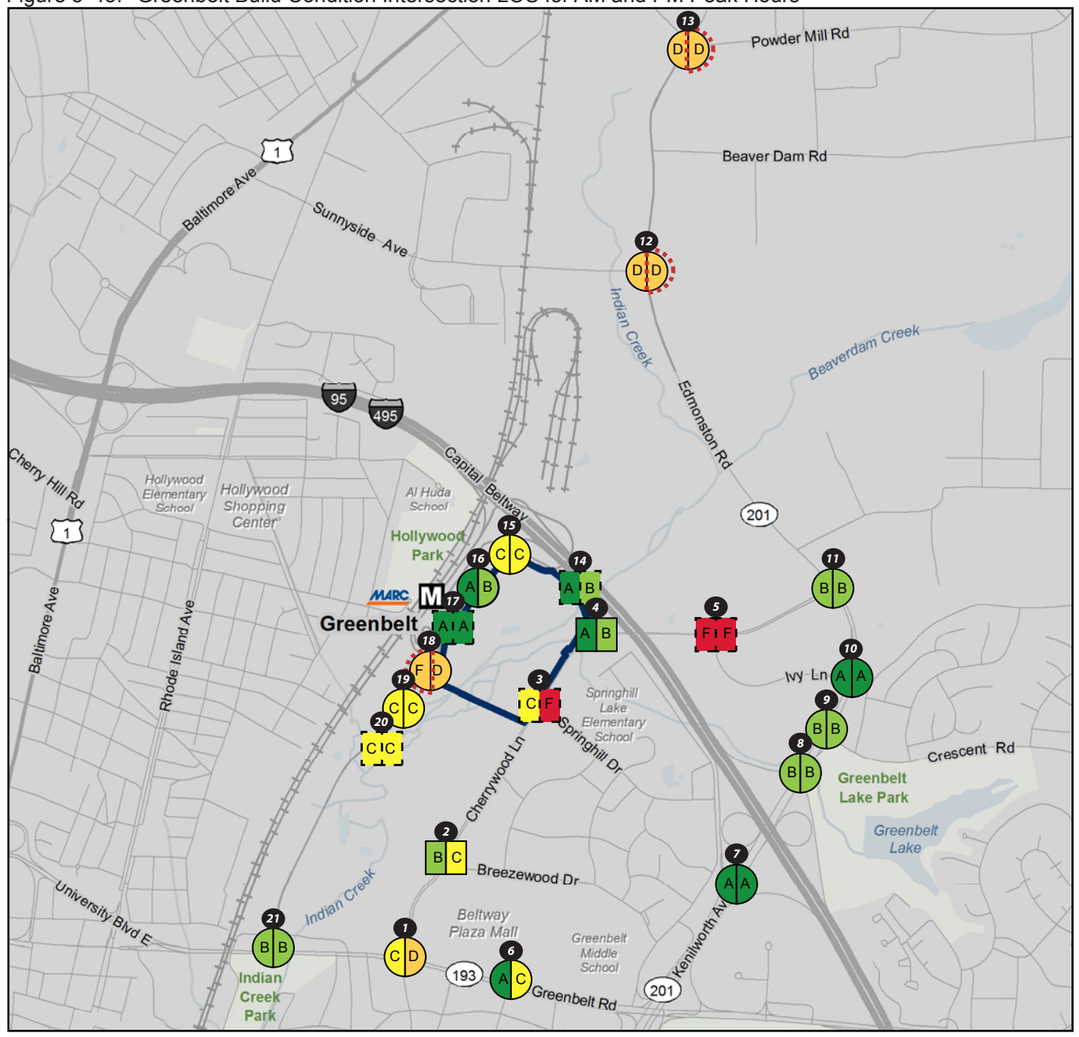


Figure 5-45: Greenbelt Build Condition Intersection LOS for AM and PM Peak Hours



Build Condition Operations Analysis

Based on the Synchro™ and CLV-based Excel worksheet analysis, many of the signalized study area intersections would operate at acceptable overall conditions during the morning and afternoon peak hours. However, the following intersections in the study area would operate with overall unacceptable conditions:

- Edmonston Road (MD 201) and Sunnyside Avenue (Intersection #12) during the PM peak hour
- Edmonston Road (MD 201) and Powder Mill Road (Intersection # 13) during the PM peak hour

A total of 10 signalized and 2 unsignalized intersections would experience unacceptable conditions for one or more turning movements. Compared to the No-build Condition, the Build Condition would have one more intersection failing during the AM peak hour and there would be no change in the number of intersections failing during the PM peak hour. The Greenbelt TIA (Appendix C) contains a more detailed Build Condition traffic operations analysis.

The overall intersection LOS grades for the Build Condition are depicted in figure 5-45 for the AM and PM peak hours. Table 5-48 shows the results of the LOS capacity analysis and the intersection projected delay under the Build Condition during the AM and PM peak hours.

Table 5-48: Greenbelt Build Condition Intersection AM and PM Peak Hour Operations Analysis

#	Intersection	No-build Condition										Build Condition									
		AM Peak Hour					PM Peak Hour					AM Peak Hour					PM Peak Hour				
		HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV		
		Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check
1	**Greenbelt Road (MD 193) & Cherrywood Lane/60th Avenue (Signalized)**																				
		28.5	C	1,315	D	Pass	42.2	D	1,504	E	Pass	28.9	C	1,335	D	Pass	48.3	D	1,552	E	Pass
2	**Cherrywood Lane & Breezewood Drive (AWSC)**																				
		11.2	B	N/A	N/A	Pass	12.5	B	N/A	N/A	Pass	11.3	B	N/A	N/A	Pass	15.2	C	N/A	N/A	Pass
3	**Cherrywood Lane & Springhill Drive (TWSC)**																				
		5.2	-	N/A	N/A	Pass	27.0	-	N/A	N/A	Pass	5.2	-	N/A	N/A	Pass	34.3	-	N/A	N/A	Pass
4	**Cherrywood Lane & Greenbelt Metro Drive (Roundabout)** [a]																				
		6.0	A	N/A	N/A	Pass	9.8	A	N/A	N/A	Pass	5.8	A	N/A	N/A	Pass	10.0	B	N/A	N/A	Pass
5	**Cherrywood Lane & Ivy Lane (TWSC)**																				
		6.0	-	N/A	N/A	Pass	^	-	N/A	N/A	Fail	6.6	-	N/A	N/A	Pass	^	-	N/A	N/A	Fail
6	**Greenbelt Road (MD 193) & 62nd Avenue/Beltway Plaza Driveway (Signalized)**																				
		7.5	A	742	A	Pass	20.4	C	1,206	C	Pass	7.6	A	757	A	Pass	20.7	C	1,220	C	Pass
7	**Kenilworth Avenue (MD 201) & I-95/I-495 SB Off-ramp (Signalized)**																				
		9.1	A	730	A	Pass	6.8	A	593	A	Pass	9.1	A	730	A	Pass	6.8	A	594	A	Pass
8	**Kenilworth Avenue (MD 201) & I-95/I-495 NB Off-ramp (Signalized)**																				
		16.7	B	868	A	Pass	13.3	B	779	A	Pass	16.7	B	868	A	Pass	13.3	B	781	A	Pass
9	**Kenilworth Avenue (MD 201) & Crescent Road/Maryland SHA Office (Signalized)**																				
		15.1	B	962	A	Pass	12.9	B	796	A	Pass	15.1	B	965	A	Pass	12.9	B	798	A	Pass
10	**Kenilworth Avenue (MD 201) & Ivy Lane (Signalized)**																				
		2.3	A	784	A	Pass	1.3	A	761	A	Pass	2.3	A	784	A	Pass	1.3	A	761	A	Pass
11	**Kenilworth Avenue/Edmonston Road (MD 201) & Cherrywood Lane (Signalized)**																				
		18.8	B	1,212	C	Pass	14.7	B	990	A	Pass	19.2	B	1,221	C	Pass	15.2	B	1,008	B	Pass
12	**Edmonston Road (MD 201) & Sunnyside Avenue (Signalized)**																				
		40.1	D	1,486	E	Pass	46.7	D	1,692	F	Fail	43.6	D	1,516	E	Pass	47.1	D	1,722	F	Fail
13	**Edmonston Road (MD 201) & Powder Mill Road (Signalized)**																				
		42.5	D	1,593	E	Pass	50.9	D	1,867	F	Fail	43.2	D	1,595	E	Pass	52.6	D	1,897	F	Fail

Table 5-48: Greenbelt Build Condition Intersection AM and PM Peak Hour Operations Analysis (continued)

#	Intersection	No-build Condition										Build Condition									
		AM Peak Hour					PM Peak Hour					AM Peak Hour					PM Peak Hour				
		HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV		
		Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check
14	**Greenbelt Metro Drive & Site North Access (TWSC) [b]**																				
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.9	A	605	A	Pass	18.2	B	1,029	B	Pass
15	**Greenbelt Station Bus Bays/Greenbelt Metro Drive & Greenbelt Station Boulevard (Signalized)**																				
		31.4	C	644	A	Pass	23.3	C	603	A	Pass	34.3	C	682	A	Pass	25.2	C	813	A	Pass
16	**Greenbelt Station Parkway & North Core Development/Site Northwest Access (Signalized)**																				
		5.4	A	600	A	Pass	11.0	B	460	A	Pass	5.7	A	976	A	Pass	18.3	B	952	A	Pass
17	**Greenbelt Station Parkway & Residential Access to 500 Units (TWSC)**																				
		0.6	-	N/A	N/A	Pass	0.2	-	N/A	N/A	Pass	0.5	-	N/A	N/A	Pass	0.2	-	N/A	N/A	Pass
18	**Greenbelt Station Parkway & I-95/I-495 Off-ramps/Site South Access/Kiss & Ride (Signalized)**																				
		40.0	D	950	A	Pass	36.9	D	1,103	B	Pass	141.0	F	1,514	E	Fail	37.1	D	1,129	B	Pass
19	**Greenbelt Station Parkway & WMATA Garage (Signalized)**																				
		31.4	C	429	A	Pass	27.8	C	524	A	Pass	32.0	C	480	A	Pass	27.8	C	524	A	Pass
20	**Greenbelt Station Parkway & Residential Access to 300 Units (TWSC)**																				
		1.5	-	N/A	N/A	Pass	0.6	-	N/A	N/A	Pass	1.6	-	N/A	N/A	Pass	0.6	-	N/A	N/A	Pass
21	**Greenbelt Road (MD 193) & Greenbelt Station Parkway (Signalized)**																				
		11.1	B	988	A	Pass	12.7	B	1,100	B	Pass	11.7	B	1,020	B	Pass	12.7	B	1,101	B	Pass

Notes:

AWSC = All-way STOP-Controlled unsignalized intersection

LOS = Level of Service

TWSC = Two-way STOP-Controlled unsignalized intersection (TWSC intersections do not have an overall LOS)□

Delay is Measured in Seconds Per Vehicle.

Red cells denote intersections operating at unacceptable conditions.

^ Highway Capacity Manual unable to report accurate delay using default gap acceptance values

[a] Highway Capacity Software 2010 results

[b] Intersection would be included under the Build Condition, but was included as part of the No-build Condition design provided by Renard Development Company, LLC.

GREENBELT PEDESTRIAN BUILD ENVIRONMENTAL CONSEQUENCES SUMMARY

Build with Mitigation Condition:
Direct, long-term, beneficial impacts.

GREENBELT TRANSIT ENVIRONMENTAL CONSEQUENCES SUMMARY

Build with Mitigation Condition:
No measurable impacts to public transit capacity. Direct, long-term, beneficial impacts to bus operations.

GREENBELT PARKING ENVIRONMENTAL CONSEQUENCES SUMMARY

Build with Mitigation Condition:
No measurable impacts to parking in the Greenbelt study area.

GREENBELT TRAFFIC ENVIRONMENTAL CONSEQUENCES SUMMARY

Build with Mitigation Condition:
Direct, long-term, beneficial impacts for isolated intersections; regional traffic impacts would continue to be direct, long-term, and major adverse. Direct, short-term, major adverse impacts during construction.

Build Condition Queuing Analysis

Based on the Synchro™ and SimTraffic™ analysis, 10 signalized and 2 unsignalized intersections would experience queuing lengths that would exceed the available storage capacity. The remaining intersections in the study area would provide sufficient storage for the anticipated demand. Compared to the No-build Condition, the Build Condition would have no change in the number of intersections with failing queues during the AM peak hour and three more intersections would have failing queues during the PM peak hour. The Greenbelt TIA (Appendix C) contains a more detailed Build Condition traffic queuing analysis.

Summary of Traffic Analysis: Build Condition

Overall, the PM peak hour would experience isolated intersection impacts at the Edmonston Road (MD 201) at Powder Mill Road, Edmonston Road (MD 201) and Sunnyside Avenue, and Cherrywood Lane and Ivy Lane intersection. Together these conditions would result in direct, long-term, adverse impacts at intersections.

Because the intersections along Edmonston Road at Sunnyside Avenue and Powder Mill Road are forecasted to be failing during the No-build Condition, adding construction-related trips along this route caused by trucks, employees, and equipment would result in isolated impacts. These conditions would result in direct, short-term, adverse impacts during the construction period.

5.2.9.3 Build with Mitigation Condition

To reduce impacts to the transportation system caused as a result of the Greenbelt Alternative, mitigation measures are recommended in this section for each mode of transportation analyzed. Overall, the Greenbelt site requires mitigation to reduce direct impacts of the Proposed Action.

The following transportation resources do not require any mitigation under the Greenbelt Alternative: pedestrian network, bicycles, public transit, and truck access.

Build with Mitigation Condition Parking

As mentioned in the Build Condition section, parking impacts would largely be addressed through development and implementation of a TMP, which would include preferred strategies for discouraging employees from parking on local streets. Because the TMP would be implemented as part of the Build Condition, there would be no changes in parking impacts between the Build and Build with Mitigation Conditions.

Build with Mitigation Condition Traffic Analysis

Development of Mitigated Network

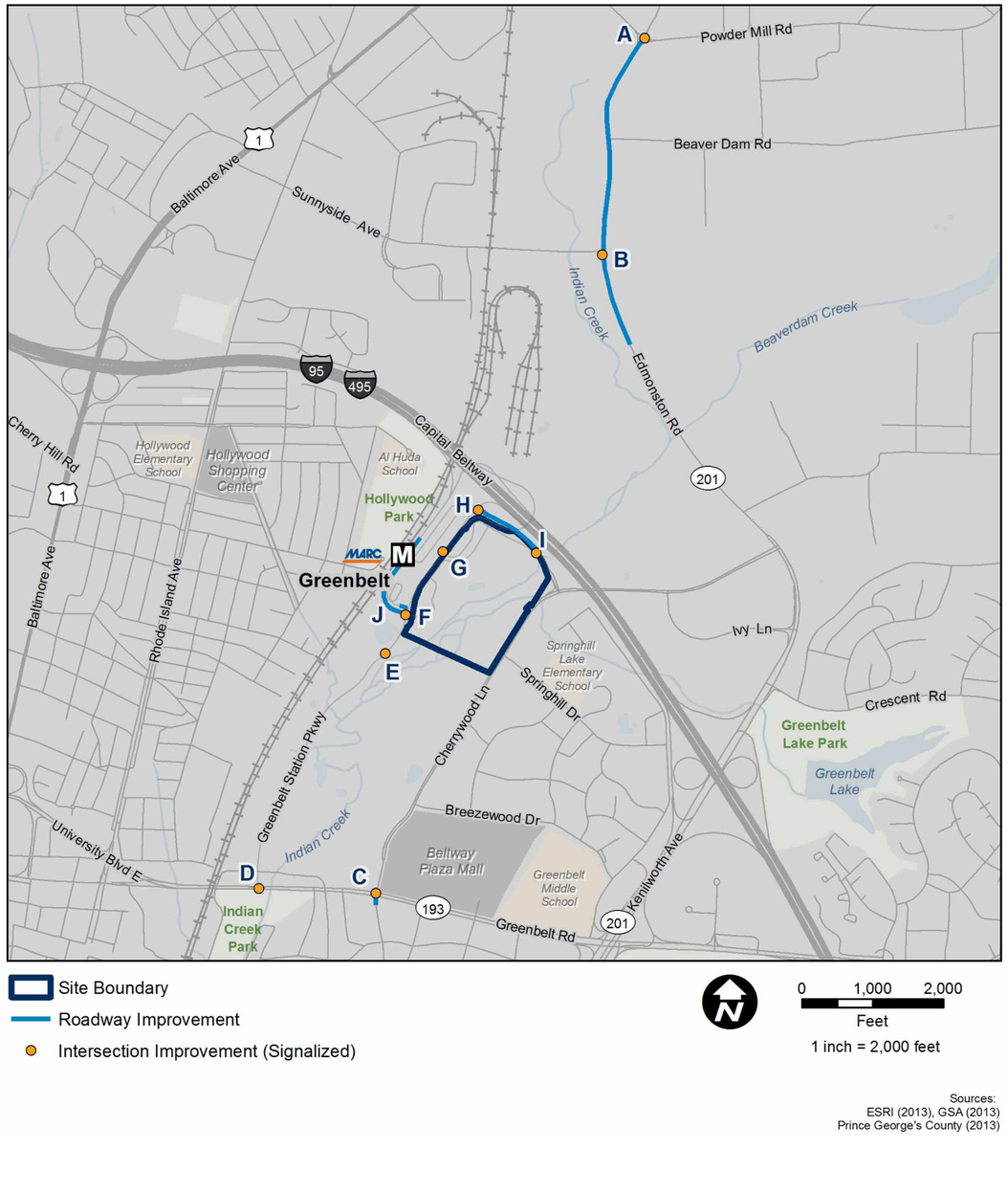
Based on the Build Condition traffic operations and queueing analysis (defined in section 3.10.4.3), most of the intersections would not fail or require mitigation; therefore a second dynamic traffic assignment process (see section 3.10.4.3) was not necessary.

Section 3.10.4.3 contains the process followed to develop the full list of mitigation. Table 5-49 contains the list of recommended mitigation measures. Figure 5-46 shows the locations of the mitigation measures.

Table 5-49: Greenbelt Alternative Recommended Mitigation Measures

Map ID	Location	Mitigation	Strip Land Taking (Approximate Linear Feet)
A	Edmonston Road (MD 201) and Powder Mill Road	• For the Edmonston Road northbound approach, create a new 400-foot left-turn lane and lengthen the right turn-lane by 50 feet resulting in a 325-foot right-tune lane, resulting in two left-turn lanes, one through lane, and one right-turn lane. • Extend the existing northbound left-turn lane back to the previous intersection at Sunnyside Avenue resulting in widening the northbound direction by one lane. • Add a second departing lane totaling approximately 700 feet along westbound Powder Mill Road resulting in two westbound travel lanes for 700 feet. • Optimize the traffic signal for AM and PM peak periods.	3,100
B	Edmonston Road (MD 201) and Sunnyside Avenue	• For the Edmonston Road northbound approach, create a new through lane extending back 450 feet to match the left-turn lane distance resulting in one left-turn lane and two through lanes. • For the Edmonston Road southbound approach, create a new through lane extending back 600 feet resulting in two through lanes and one right-turn lane. • Add a second departing lane totaling approximately 1,500 feet along southbound Edmonston Road resulting in two southbound travel lanes for 1,500 feet. • Optimize the traffic signal for AM and PM peak periods.	2,550
C	Greenbelt Road (MD 193) and Cherrywood Lane/60th Avenue	• For the 60th Avenue northbound approach, create a new 120-foot lane resulting in one left-turn lane and one shared through/right turn lane. • Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
D	Greenbelt Road (MD 193) and Greenbelt Station Parkway	• Coordinate timings with nearby key intersections for the AM peak hour.	None
E	Greenbelt Station Parkway and WMATA Garage	• Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
F	Greenbelt Station Parkway and I-95/I-495 off-ramp/Site South Access	• For the Greenbelt Metro Station Kiss & Ride approach, revise the planned roadway improvement design to include a second lane totaling 200 feet (50 feet more if space exists). • Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
G	Greenbelt Station Parkway and North Core Mixed Use/Site Northwest Access	• Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
H	Greenbetl Station Parkway and Greenbelt Metro Drive	• Optimize the traffic signal for AM and PM peak periods and coordinate timings with nearby key intersections for AM and PM peak periods.	None
I	Greenbelt Metro Drive and Site North Access	• Install a traffic signal. • Add a second departing lane approximately 500 feet along westbound Greenbelt Metro Drive connecting into the left-turn lane at the next intersection. • Optimize the traffic signal for AM and PM peak periods.	None
J	I-95/I-495 Off-ramp from the Interstate to Greenbelt Station Parkway	• Revise the planned roadway improvement design to stripe the exit ramp for the right lane to lead directly into the WMATA Garage, the center lane to lead to the right lane at the Greenbelt Station Parkway intersection, and the left lane to service the Kiss & Ride and center and left lanes at the Greenbelt Station Parkway intersection.	None

Figure 5-46: Greenbelt Build with Mitigation Condition Improvement Locations



Build with Mitigation Condition Intersection Operations Analysis

Based on the Synchro™ and CLV-based Excel worksheet analysis, all but one signalized study area intersection would operate at acceptable overall conditions during the morning and afternoon peak hours. The following intersection in the study area would operate with overall unacceptable conditions:

- Edmonston Road (MD 201) and Powder Mill Road (Intersection #13) during the PM peak hour

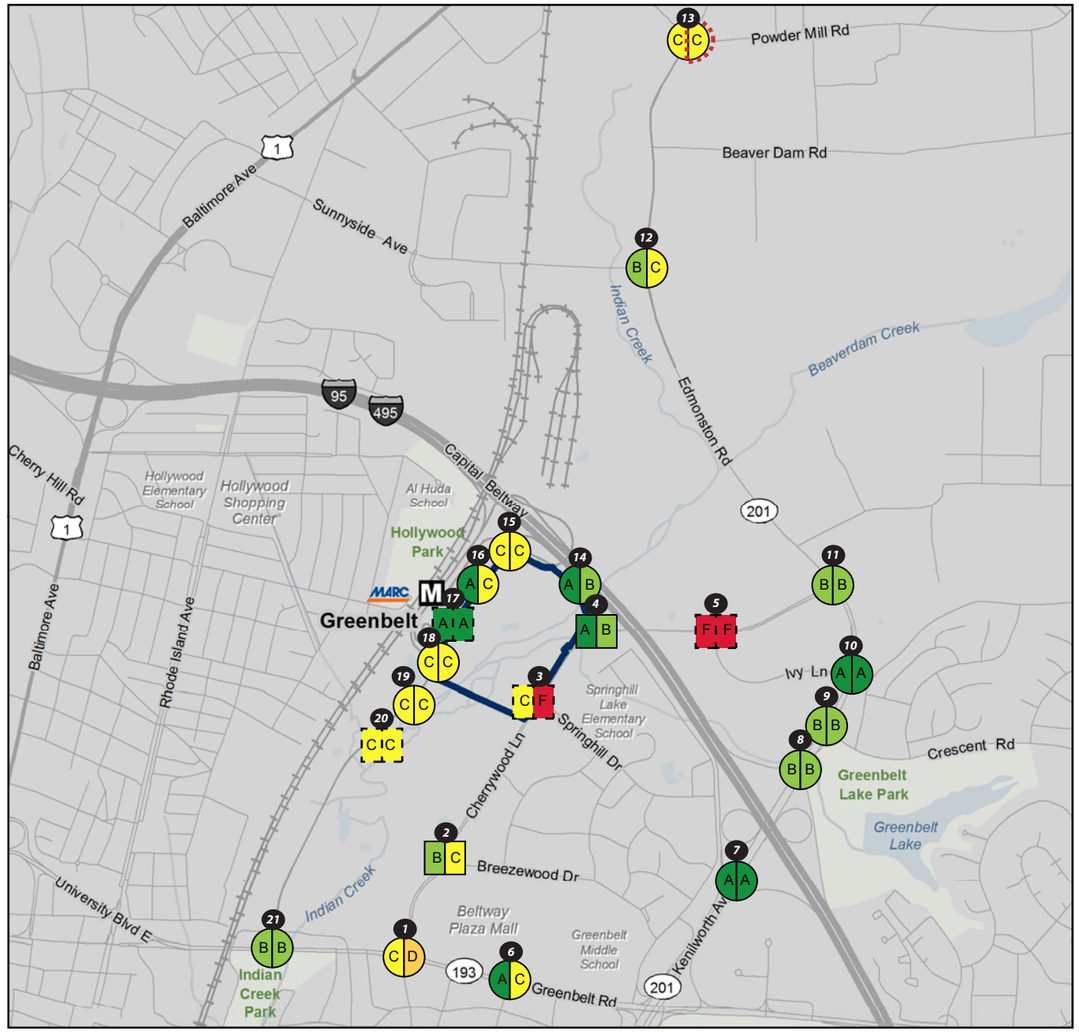
Based on the Synchro™ analysis, two unsignalized intersections would have turning movements or overall operations with LOS degradation from an acceptable condition to an unacceptable condition when compared to the No-build Condition during the morning or afternoon peak hours. Both intersections would pass a secondary test for unsignalized intersections following the Prince George's County Guidelines where the CLV value results in a value lower than 1,150 when modeled as a signalized intersection. The Greenbelt TIA (Appendix C) contains a more detailed Build with Mitigation Condition traffic operations analysis.

The overall intersection LOS grades for the Build with Mitigation Condition are depicted in figure 5-47 for the AM and PM peak hours. Table 5-50 shows the results of the LOS capacity analysis and the intersection projected delay under the Build with Mitigation Condition during the AM and PM peak hours.

Build with Mitigation Condition Queuing Analysis

Based on the Synchro™ and SimTraffic™ analysis, there would be no signalized or unsignalized intersection approaches that would experience failing queue lengths in excess of 150 feet of the No-build Condition length. The results of the Build with Mitigation Condition queuing analysis for both signalized and unsignalized intersections are contained in the Greenbelt TIA (Appendix C).

Figure 5-47: Greenbelt Build with Mitigation Condition Intersection LOS for AM and PM Peak Hours



TRANSPORTATION EVALUATION SUMMARY AND CONCLUSIONS

A total of 3,296 AM peak hour and 3,047 PM peak hour person trips are projected to be added to all modes of transportation. Total Metro transit trips are projected to be 1,742 trips in the AM peak hour and 1,610 trips in the PM peak hour. Total vehicle trips are projected to be 1,100 trips in the AM peak hour and 1,016 trips in the PM peak hour. The remaining trips would be commuter rail, bicycle, or walking trips.

The pedestrian network would expand under the No-build Condition with the inclusion of Greenbelt Station Parkway providing a new connection between the Greenbelt Metro Station and Greenbelt Road serving North and South Core developments. The inclusion of the Greenbelt site would allow for the same connections as the No-build Condition. It is assumed that all sidewalk curb ramps located adjacent to the parcel would be constructed to ADA compliance.

The bicycle network would expand with the inclusion of Greenbelt Station Parkway providing a new connection between the Greenbelt Metro Station and Greenbelt Road serving the North and South Core developments. The inclusion of the Greenbelt site would not change the bicycle connections. These new connections would provide for an interconnected bicycle network linking all proposed bicycle facilities in the study area and would encourage bicycle use to access to the Greenbelt site.

The transit network (Metrorail and Metrobus) would not be affected by the Greenbelt Site. The Greenbelt Metro Station and all bus service would operate below capacity with the addition of the forecasted background growth and transit trips. It is assumed that WMATA would follow their long-term plan to address growth-related capacity issues for both bus and rail operations.

Parking availability would remain the same because the Greenbelt site would accommodate all parking needs on-site and implement a robust TMP to discourage employees from seeking alternative parking options in the nearby neighborhoods.

Truck access would be designed to accommodate the Greenbelt site from the Greenbelt Station Parkway site south access. This plan is not the official plan, but a plan to evaluate as part of the EIS. The Greenbelt Station Parkway site south access would operate as a truck only access point during off-peak hours because it would be assumed that all truck deliveries would be scheduled during the off-peak hours.

The traffic operations at two intersections (Edmonson Road at Powder Mill Road and Kenilworth Avenue at I-95/I-495 Southbound off-ramp) currently operates at an unacceptable LOS under the Existing Condition. Once the background growth, planned developments, and planned improvements are added (No-build Condition), the same intersection would continue to fail. There are a number of planned roadway improvements within the Greenbelt site study area to compensate for the vehicle trips added from the background growth.

The addition of the Greenbelt site to the traffic network would result in three intersections operating at an unacceptable LOS. These three failing intersections would experience equal or better operations than the No-build Condition as a result of recommended mitigation that include new turning lanes, extended turning lane lengths, and new travel lanes. Overall, the roadway non-interstate network would operate much better and experience shorter queues with the addition of the recommended mitigation when compared to the No-build Condition.

There are forecasted to be two failing interstate facilities that directly serve access between the Capital Beltway and the Greenbelt site. The Maryland SHA is working to determine the best course of action to address these issues. It is assumed, at a minimum, there would be required changes to the interstate ramps along the Capital Beltway between the U.S. Route 1 and Baltimore Washington Memorial Parkway Interchanges.

Table 5-50: Greenbelt Build with Mitigation Condition Intersection AM and PM Peak Hour Operations Analysis

#	Intersection	No-build Condition										Build with Mitigation Condition									
		AM Peak Hour					PM Peak Hour					AM Peak Hour					PM Peak Hour				
		HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV		
		Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check
1	**Greenbelt Road (MD 193) & Cherrywood Lane/60th Avenue (Signalized)**																				
		28.5	C	1,315	D	Pass	42.2	D	1,504	E	Pass	27.1	C	1,283	C	Pass	42.4	D	1,501	E	Pass
2	**Cherrywood Lane & Breezewood Drive (AWSC)**																				
		11.2	B	N/A	N/A	Pass	12.5	B	N/A	N/A	Pass	11.3	B	N/A	N/A	Pass	15.2	C	N/A	N/A	Pass
3	**Cherrywood Lane & Springhill Drive (TWSC)**																				
		5.2	-	N/A	N/A	Pass	27.0	-	N/A	N/A	Pass	5.2	-	N/A	N/A	Pass	34.3	-	N/A	N/A	Pass
4	**Cherrywood Lane & Greenbelt Metro Drive (Roundabout)** [a]																				
		6.0	A	N/A	N/A	Pass	9.8	A	N/A	N/A	Pass	5.8	A	N/A	N/A	Pass	10.0	B	N/A	N/A	Pass
5	**Cherrywood Lane & Ivy Lane (TWSC)**																				
		6.0	-	N/A	N/A	Pass	^	-	N/A	N/A	Fail	6.6	-	N/A	N/A	Pass	^	-	N/A	N/A	Fail
6	**Greenbelt Road (MD 193) & 62nd Avenue/Beltway Plaza Driveway (Signalized)**																				
		7.5	A	742	A	Pass	20.4	C	1,206	C	Pass	7.9	A	757	A	Pass	25.4	C	1,220	C	Pass
7	**Kenilworth Avenue (MD 201) & I-95/I-495 SB Off-ramp (Signalized)**																				
		9.1	A	730	A	Pass	6.8	A	593	A	Pass	9.1	A	730	A	Pass	6.8	A	594	A	Pass
8	**Kenilworth Avenue (MD 201) & I-95/I-495 NB Off-ramp (Signalized)**																				
		16.7	B	868	A	Pass	13.3	B	779	A	Pass	16.7	B	868	A	Pass	13.3	B	781	A	Pass
9	**Kenilworth Avenue (MD 201) & Crescent Road/Maryland SHA Office (Signalized)**																				
		15.1	B	962	A	Pass	12.9	B	796	A	Pass	15.1	B	965	A	Pass	12.9	B	798	A	Pass
10	**Kenilworth Avenue (MD 201) & Ivy Lane (Signalized)**																				
		2.3	A	784	A	Pass	1.3	A	761	A	Pass	2.3	A	784	A	Pass	1.3	A	761	A	Pass
11	**Kenilworth Avenue/Edmonston Road (MD 201) & Cherrywood Lane (Signalized)**																				
		18.8	B	1,212	C	Pass	14.7	B	990	A	Pass	19.2	B	1,221	C	Pass	15.2	B	1,008	B	Pass
12	**Edmonston Road (MD 201) & Sunnyside Avenue (Signalized)**																				
		40.1	D	1,486	E	Pass	46.7	D	1,692	F	Fail	13.8	B	1,015	B	Pass	21.7	C	1,188	C	Pass
13	**Edmonston Road (MD 201) & Powder Mill Road (Signalized)**																				
		42.5	D	1,593	E	Pass	50.9	D	1,867	F	Fail	26.3	C	1,348	D	Pass	28.3	C	1,643	F	Fail
14	**Greenbelt Metro Drive & Site North Access (TWSC)** [b]																				
		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.7	A	605	A	Pass	12.9	B	1,029	B	Pass
15	**Greenbelt Station Bus Bays/Greenbelt Metro Drive & Greenbelt Station Boulevard (Signalized)**																				
		31.4	C	644	A	Pass	23.3	C	603	A	Pass	26.6	C	682	A	Pass	22.4	C	813	A	Pass

Table 5-50: Greenbelt Build with Mitigation Condition Intersection AM and PM Peak Hour Operations Analysis (continued)

#	Intersection	No-build Condition										Build with Mitigation Condition									
		AM Peak Hour					PM Peak Hour					AM Peak Hour					PM Peak Hour				
		HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV			HCM 2000		CLV		
		Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check	Delay (sec/ veh)	LOS	Critical Lane Vol	LOS	Check
16	**Greenbelt Station Parkway & North Core Development/Site Northwest Access (Signalized)**																				
		5.4	A	600	A	Pass	11.0	B	460	A	Pass	4.7	A	976	A	Pass	22.5	C	952	A	Pass
17	**Greenbelt Station Parkway & Residential Access to 500 Units (TWSC)**																				
		0.6	-	N/A	N/A	Pass	0.2	-	N/A	N/A	Pass	0.5	-	N/A	N/A	Pass	0.2	-	N/A	N/A	Pass
18	**Greenbelt Station Parkway & I-95/I-495 Off-ramps/Site South Access/Kiss & Ride (Signalized)**																				
		40.0	D	950	A	Pass	36.9	D	1,103	B	Pass	34.8	C	1,420	D	Pass	24.7	C	1,056	B	Pass
19	**Greenbelt Station Parkway & WMATA Garage (Signalized)**																				
		31.4	C	429	A	Pass	27.8	C	524	A	Pass	21.3	C	480	A	Pass	27.1	C	524	A	Pass
20	**Greenbelt Station Parkway & Residential Access to 300 Units (TWSC)**																				
		1.5	-	N/A	N/A	Pass	0.6	-	N/A	N/A	Pass	1.6	-	N/A	N/A	Pass	0.6	-	N/A	N/A	Pass
21	**Greenbelt Road (MD 193) & Greenbelt Station Parkway (Signalized)**																				
		11.1	B	988	A	Pass	12.7	B	1,100	B	Pass	12.6	B	1,020	B	Pass	13.2	B	1,101	B	Pass

Notes:

AWSC = All-way STOP-Controlled unsignalized intersection

LOS = Level of Service

TWSC = Two-way STOP-Controlled unsignalized intersection (TWSC intersections do not have an overall LOS)

Delay is Measured in Seconds Per Vehicle.

Red cells denote intersections operating at unacceptable conditions.

^ Highway Capacity Manual unable to report accurate delay using default gap acceptance values

[a] Highway Capacity Software 2010 results

[b] Intersection would be included under the Build Condition, but was included as part of the No-build Condition design provided by Renard Development Company, LLC.

Summary of Traffic Analysis: Build with Mitigation Condition

Overall, the study area would experience isolated intersection improvements, specifically along Edmonston Road. These improvements would result in changing the impacts from direct, long-term, adverse impacts to direct, long-term, beneficial impacts because the operations would improve to a better operation than the No-build Condition.

There would also be two failing interstate facilities, one caused by the volume of vehicles added to the I-95/I-495 southbound off-ramp to Greenbelt Station Parkway during the AM peak hour and the second caused by the volume of vehicles added to the I-95/I-495 northbound on-ramp from Greenbelt Station Parkway during the PM peak hour. The two failing interstate facilities would result in direct, long-term, major adverse impacts due to the regional nature of the Interstate system (see Freeway Analysis Summary in this section).

The construction impacts could change from direct, short-term, adverse impacts under the Build Condition to direct, short-term, major adverse impacts under the Build with Mitigation Condition during the construction period. This change in impact level reflects the short-term impacts from adding construction-related trips caused by trucks, employees, and equipment as well as intermittent lane or road closures within Greenbelt site and locations where the roadway improvements would occur.

Recommended Traffic Mitigation

Table 5-51 contains the traffic results for all study area intersections covering each condition from No-build through Build with Mitigation. The results include a pass or fail rating for the traffic operations and queue length. Based on the worsening condition from the added vehicle trips from the Build Condition, recommended traffic mitigation measures were developed to address the substantial traffic impacts caused by the addition of the consolidated FBI HQ in Greenbelt. These included traffic signal optimization, road widening, lane geometry improvements at intersections, installation of new traffic signals, and lane striping adjustments. If implemented, the recommended traffic mitigation measures would maintain acceptable traffic flow conditions based on the Greenbelt Site Transportation Agreement.

Freeway Analysis Summary

Section 3.10.4.3 defines the interstate system and the software utilized to analyze interstate operations. Based on the proposed FBI trip distribution, 86 percent of forecasted FBI vehicle trips would use the interstate system (I-95/I-495) to access the proposed site. Because the interstate system is vital to serving the Greenbelt site, the interstates were evaluated to determine whether or not the added vehicle trips would cause any failing interstate facilities.

Based on the Greenbelt Site Transportation Agreement (Appendix A), the evaluated interstate facilities focused on the peak direction only and at the primary off-ramps serving the inbound forecasted FBI vehicle trips during the AM peak hour and the on-ramps serving the outbound forecasted FBI vehicle trips during the PM peak hour.

The analysis concluded that two interstate facilities would fail based on the forecasted volumes. This included I-95/I-495 Southbound between U.S. Route 1 and Greenbelt Station Parkway/Greenbelt Metro Station during the AM peak hour and I-95/I-495 Northbound between Greenbelt Station Parkway/ Greenbelt Metro Station and U.S. Route 1 during the PM peak hour. These facilities were not mitigated but are part of an ongoing study by Maryland SHA. The Greenbelt TIA provides the detailed freeway analysis (Appendix C).

Entry Control Facility Summary

The entry control facility (ECF) analysis was performed once the complete set of external roadway mitigation was established. All mitigation measures were coded into TransModeler™, and the several scenarios were tested to determine the minimum number of lanes capable of handling the AM peak hour forecasted FBI vehicle trips. It was determined that three lanes at the Site South Access and three lanes at the Site Northwest Access were required to handle the forecasted demand.

The Greenbelt TIA provides the detailed ECF analysis (Appendix C).

Table 5-51: Greenbelt Overall Traffic Impacts

#	Intersection and Approach	No-build Condition						Build Condition						Build with Mitigation Condition						Recommended Mitigation
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
		HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	
1	Greenbelt Road (MD 193) & Cherrywood Lane/60th Avenue (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Add a new turn lane along the 60th Street northbound approach and optimize traffic signal
2	Cherrywood Lane & Breezewood Drive (AWSC)																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	None Required
3	Cherrywood Lane & Springhill Drive (TWSC)																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	None Required
4	Cherrywood Lane & Greenbelt Metro Drive (Roundabout) [a]																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Fail	Pass	N/A	Pass	Pass	N/A	Pass	None Required
5	Cherrywood Lane & Ivy Lane (TWSC)																			
		Pass	N/A	Pass	Fail	N/A	Fail	Pass	N/A	Pass	Fail	N/A	Fail	Pass	N/A	Pass	Fail	N/A	Fail	None Required
6	Greenbelt Road (MD 193) & 62 Avenue/Beltway Plaza Driveway (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
7	Kenilworth Avenue (MD 201) & I-95/I-495 SB Off-ramp (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
8	Kenilworth Avenue (MD 201) & I-95/I-495 NB Off-ramp (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
9	Kenilworth Avenue (MD 201) & Crescent Road/Maryland SHA Office (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
10	Kenilworth Avenue (MD 201) & Ivy Lane (Signalized)																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	None Required
11	Kenilworth Avenue/Edmonston Road (MD 201) & Cherrywood Lane (Signalized)																			
		Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Add a second left-turn lane along the Edmonston Road northbound approach and extend first left-turn lane back into the previous intersection
12	Edmonston Road (MD 201) & Sunnyside Avenue (Signalized)																			
		Pass	Pass	Fail	Pass	Fail	Fail	Pass	Pass	Fail	Pass	Fail	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Add a second through lane along the Edmonston Road southbound approach, extend the second lane through intersection about halfway to Cherrywood Lane intersection. Add a second through lane along the Edmonston Road northbound approach.

Table 5-51: Greenbelt Overall Traffic Impacts (continued)

#	Intersection and Approach	No-build Condition						Build Condition						Build with Mitigation Condition						Recommended Mitigation
		AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			
		HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	HCM 2000	Critical Lane Volume	Queue	
13	**Edmonston Road (MD 201) & Powder Mill Road (Signalized)**																			
		Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	**None Required**
14	**Greenbelt Metro Drive & Site North Access (Signalized)** [a]																			
		N/A	N/A	N/A	N/A	N/A	N/A	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Install new traffic signal
15	**Greenbelt Station Bus Bays/Greenbelt Metro Drive & Greenbelt Station Parkway (Signalized)**																			
		Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Optimize traffic signal
16	**Greenbelt Station Parkway & North Core Development/Site Northwest Access (Signalized)**																			
		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Pass	Optimize traffic signal
17	**Greenbelt Station Parkway & Residential Access to 500 Units (TWSC)**																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	**None Required**
18	**Greenbelt Station Parkway & I-95/I-495 Off-ramps/Site South Access/Kiss & Ride (Signalized)**																			
		Pass	Pass	Fail	Pass	Pass	Pass	Fail	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Add a second turn lane along the Kiss & Ride eastbound approach
19	**Greenbelt Station Parkway & WMATA Garage (Signalized)**																			
		Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Optimize traffic signal
20	**Greenbelt Station Parkway & Residential Access to 300 Units (TWSC)**																			
		Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	Pass	N/A	Pass	**None Required**
21	**Greenbelt Road (MD 193) & Greenbelt Station Parkway (Signalized)**																			
		Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Pass	Pass	Pass	Pass	Pass	Fail	Optimize traffic signal

Notes:

AWSC = All-way STOP-Controlled intersection

EB = Eastbound, WB = Westbound, NB= Northbound, SB = South

TWSC = Two-way STOP-Controlled unsignalized intersection (TWSC intersections do not have an overall LOS)

Orange cell denote intersection operating at unacceptable HCM 2000 level of service; however, the unacceptable operations is being caused by another proposed development that will need to install a traffic light to mitigate their added impact.

Red cells denote intersections operating at unacceptable HCM 2000 and/or Critical Lane Volume level of service, or queueing exceeds lane storage capacity.

Yellow cells denote intersections operating at unacceptable HCM 2000 and/or Critical Lane Volume level of service; however, the operations is equal or better than the No-build Condition (or less than 150 feet greater in queue length than the No-build Condition).

[a] Intersection would be included under the Build Condition, but was included as part of the No-build Condition design provided by Renard Development Company, LLC.

5.2.10 Greenhouse Gas Emissions and Air Quality

This section provides a summary of the analysis results for air quality and GHG emissions. Additional technical supporting data and tables for this section are provided in Appendix F.

GREENHOUSE GAS EMISSIONS AND AIR QUALITY ASSESSMENT OF SIGNIFICANCE

Impacts to air quality and GHG emissions would not result in significant impacts, as defined in section 3.11.3.

5.2.10.1 Global Climate Change and Greenhouse Gases

No-action Alternative

Under the No-action Alternative at the Greenbelt site, mixed-use development would result in GHG emissions from stationary sources, purchased electricity, and mobile sources.

Stationary and Building-related Sources

Table 5-52 summarizes the building-related GHG emissions associated with the Greenbelt site mixed-use development under the No-action Alternative. Based on the District Department of Energy and Environment building energy benchmarking data for the specific land use types involved, electricity consumption would be the predominant source of building-related GHG emissions. Total building-related emissions would be approximately 37,892 metric tons CO_2e per year.

Mobile Sources

The No-action mixed-use development would generate 1,595 peak hour vehicle trips (north core plus south core for both the AM and PM peak hours). Off-peak trip generation information is not available. Assuming an average travel distance of 25 miles (actual travel distance could vary substantially depending on specific trip purpose), peak hour emissions could be approximately 10.1 metric tons CO_2e. Actual daily total emissions would be higher.

Table 5-52: Greenbelt No-action Alternative Building-Related Greenhouse Gas Emissions

Source	Annual Consumption	Annual CO_2e-Metric Tons	Assumptions
Natural Gas Boilers	76.59 MMscf	4,605.0	Consumption per sf averages by land use type from DOEE Private Building Energy Benchmarking Disclosure. Emission factors from EPA AP-42 Table 1.4-2
Purchased Electricity[1]	72,878,103 kWh	33,287	kWh per sf averages by land use type from DOEE Private Building Energy Benchmarking Disclosure. Emission factors from EPA eGRID.
Building-related total		37,892	

[1] Direct consumption only, not including transmission losses etc.
Note: MMscf = million standard cubic feet; kwh = kilowatt-hour; sf = square feet

GREENBELT GLOBAL CLIMATE CHANGE AND GREENHOUSE GASES ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, long-term, adverse impacts.

Greenbelt Alternative: Direct, long-term, adverse impacts.

Table 5-53: Greenbelt Building-Related Greenhouse Gas Emissions

Source	Annual Consumption	Annual CO_2e- Metric Tons	Assumptions
Fuel Oil No.2 Backup Generators	3,357 gallons	34.4	Same as JEH existing
Natural Gas Boilers	386.04 MMscf	23,211.6	Based on CJIS natural gas consumption of 154 cf per SF and AP-42 Table 1.4-2
Purchased Electricity	63,149,204 kWh	27,286.98	kWh per SF and Emission per kWh from 2013 FBI GHG inventory for JEH
Building-related Total		50,532.98	

Note: MMscf = million standard cubic feet; kwh = kilowatt-hour; cf = cubic feet; sf = square feet

Table 5-54: Greenbelt Alternative Employee Commute Vehicle Miles Traveled and Greenhouse Gas Emissions (2025)

Parameter	Greenbelt
Annual VMT (250 days)	60,429,027
Annual CO_2e- Metric Tons	15,372.7
Change in VMT from FBI HQ Remaining at JEH/off-site locations	+20,368,214
Change in CO_2e from No-action FBI HQ Remaining at JEH/off-site locations (metric tons)	+5,181.5
Percent Change	**+50.84%**

Greenbelt Alternative

Stationary and Building-related Sources

Table 5-53 summarizes the building-related GHG emissions associated with the Greenbelt Alternative, including backup generators, natural gas boilers, and purchased electricity. Total GHG emissions would be approximately 33 percent higher than the emissions of the Greenbelt No-action mixed-use development. This difference in emissions is attributable to the relatively high natural gas consumption per square foot of the FBI Criminal Justice Information Services Division (CJIS) (the basis for the Greenbelt Alternative natural gas consumption estimate) compared to the commercial, office, residential and hotel-specific consumption data reported to the District Department of Energy and Environment (the basis for the Greenbelt No-action natural gas consumption estimate).

The estimated emissions represent a worst-case or upper bound scenario because they do not account for the building energy efficiency measures, the details of which would be determined during the design phase. The total building-related emissions is not directly comparable to the No-action Alternative because the off-site space is not accounted for in the emissions estimate presented in section 4.1.10.1. Although it is not possible to quantify the reduction at this stage, with incorporation of modern design measures and potentially renewable energy technologies, the FBI HQ consolidation would reduce building-related GHG emissions relative to the continued use of the JEH building and off-site locations.

Mobile Sources

Table 5-54 summarizes the development of mobile source vehicle miles traveled (VMT) estimates for employee and contractor commutes to the Greenbelt site. The average one-way travel distance is based on existing FBI employee zip codes. If the Greenbelt site is selected, it is expected that over time new employees would locate closer to the Greenbelt site, reducing the average distance traveled. However, the data based on existing zip codes provide a realistic upper bound impact scenario.

Overall driving would increase relative to existing conditions based on the mode share assumptions developed for the transportation analyses and the increase in the average distance traveled relative to existing employee home locations. These factors combined result in an estimated 51 percent increase in mobile source GHG emissions from FBI employee/contractor commuting relative to the JEH No-action Alternative. Overall, there would be direct, long-term, adverse impacts to GHG emissions.

The Greenbelt Alternative mobile source GHG emissions are not directly comparable to the Greenbelt No-action Alternative mobile source emissions because information on trip generation of the No-action mixed-use development is not available outside the AM and PM peak hours.

5.2.10.2 Air Quality

No-action Alternative

Stationary and Building-related Sources

Table 5-55 summarizes the potential criteria pollutant emissions associated with the Greenbelt mixed-use development natural gas boilers. The total emissions are well below the General Conformity de minimis criteria and therefore considered adverse, but less than significant.

Mobile Sources

The traffic analysis results for the No-action Alternative show all analyzed intersections operating at LOS D or better, therefore additional screening for CO hotspots is not necessary.

Greenbelt Alternative

Stationary Source Impacts

Table 5-56 summarizes the annual emissions for criteria pollutants from the potential natural gas boilers and diesel backup power generators. Stationary source emissions of criteria pollutants would be well below (less than 25 percent) the applicable General Conformity de minimis criteria, and therefore would be considered adverse, but less than significant based on the impact criteria presented in section 3.11.3.

Table 5-57 summarizes the NO_2 dispersion modeling analysis results, including the background concentration, project impact at the receptor with the highest concentration, and the total concentration. Annual average and 1-hr average NO_2 concentrations would be below the NAAQS. The highest 1-hr NO_2 concentration under the Greenbelt Alternative occurs west of the site, in the vicinity of the bus drop-off area for the Greenbelt Metro Station (see figure 5-48). Impacts would be lower at other locations in the surrounding communities and well below the NAAQS.

Table 5-55: Greenbelt No-action Alternative Annual Criteria Pollutant Emissions (Natural Gas Boilers)

Pollutant	Tons Per Year	General Conformity de minimis threshold (tons per year)
CO	3.22	100
VOC	0.21	50
NO_x	1.91	100
PM	0.29	100
SO_2	0.02	100

Table 5-56: Greenbelt Alternative Annual Criteria Pollutant Emissions (Natural Gas Boilers and Diesel Emergency Generators)

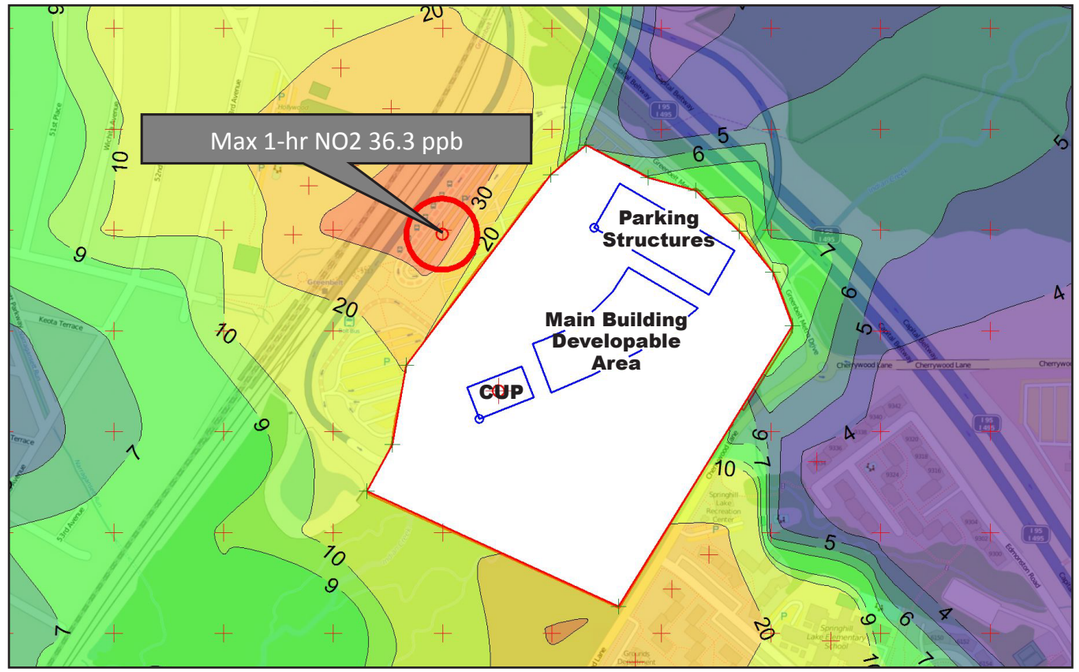
Pollutant	Tons Per Year	General Conformity de minimis threshold (tons per year)
CO	16.4	100
VOC	1.1	50
NO_x	10.4	100
PM	1.5	100
SO_2	0.1	100

Table 5-57: Greenbelt Preliminary NO_2 Analysis Results

NO_2 1-hr (PPB)				NO_2 Annual Average (PPB)			
Background	Max Project Increment	Total	NAAQS	Background	Max Project Increment	Total	NAAQS
39.2	36.3	75.5	100	8.2	1.6	9.8	53

ppm = parts per billion

Figure 5-48: Greenbelt 1-hr NO_2 Project Increment Results



GREENBELT AIR QUALITY ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short- and long-term, adverse impacts.

Greenbelt Alternative: Direct, short- and long-term, adverse impacts.

Table 5-58: Greenbelt Preliminary $PM_{2.5}$ Analysis Results

$PM_{2.5}$ 24-hr (µg/m³)				$PM_{2.5}$ Annual Average (µg/m³)			
Background	Max Project Increment	Total	NAAQS	Background	Max Project Increment	Total	NAAQS
23.0	2.1	25.1	35	10.2	0.5	10.7	12

µg/m³ = micrograms per cubic meter

Figure 5-49: Greenbelt 24-hr $PM_{2.5}$ Project Increment Results

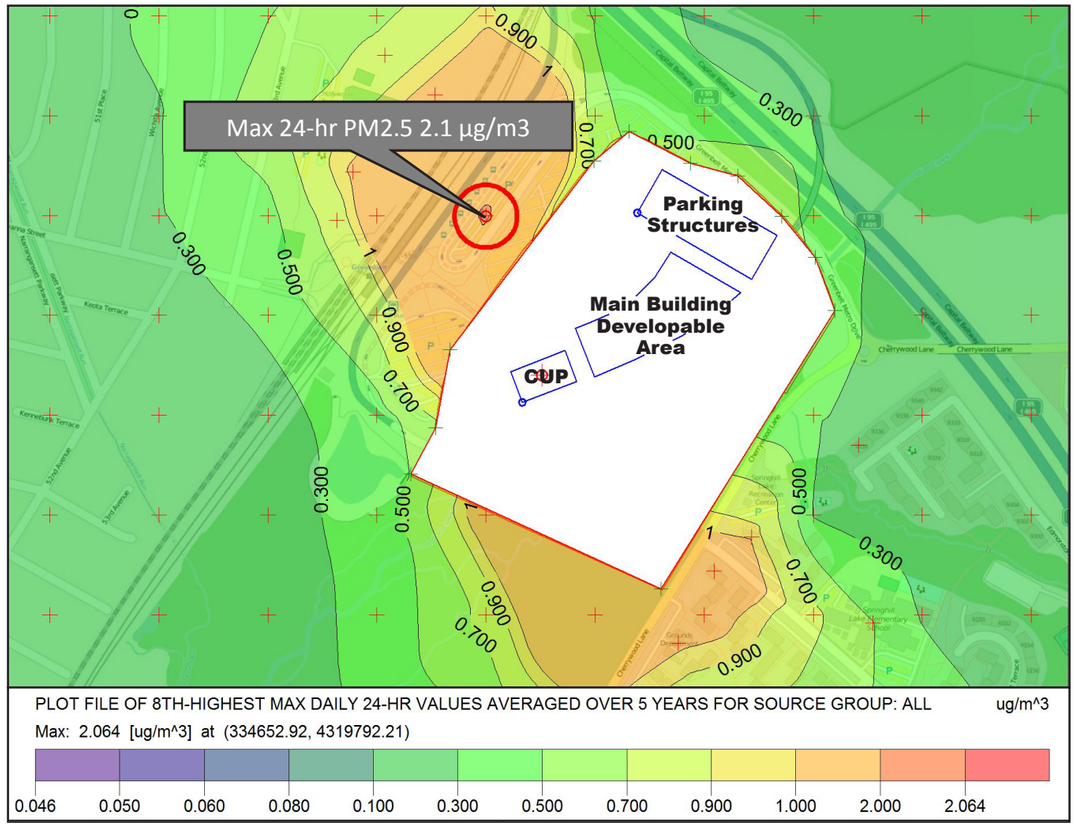


Table 5-58 summarizes the $PM_{2.5}$ analysis results, including the background concentration, project impact at the receptor with the highest concentration, and the total concentration. Annual average and 24-hr average $PM_{2.5}$ concentrations would be below the NAAQS. Similar to the NO_2 results, the maximum concentration occurs just west of the Greenbelt site. As a result, there would be direct, long-term, adverse impacts to air quality from stationary sources as a result of the Greenbelt Alternative.

Mobile Source Impacts

Incorporating mitigation measures, all signalized intersections affected by the Greenbelt Alternative would operate at LOS C or better, except for Greenbelt Road (MD 193) & Cherrywood Lane/60th Avenue intersection that would be at LOS D in the PM peak hour. Further CO hotspot screening is not necessary. There would be no additional impacts to the airshed from mobile source emissions beyond those described under climate change and GHG.

Temporary Construction Impacts

Table 5-59 summarizes the construction equipment and fugitive dust emissions for the Greenbelt site. The fugitive dust analysis was based on a construction site area of 33 acres. Annual construction emissions would be below the General Conformity de minimis thresholds for all criteria pollutants, indicating short-term adverse impacts per the intensity criteria presented in section 3.11.3.

Construction at the Greenbelt site would incorporate the same construction air quality mitigation measures and BMPs discussed in section 3.11.3.2.

5.2.11 Noise

5.2.11.1 No-action Alternative

Under the No-action Alternative at the Greenbelt site, the entirety of the Greenbelt Metro Station would be redeveloped as a mixed-use community which would include both residential and retail space as well as office space and hotels. Construction activities associated with the redevelopment of the site as a mixed-use community would generate noise in the project area. Noise levels are also anticipated to increase during operation of the site land uses. This noise would have the potential to affect nearby residencies, commercial facilities, wildlife, and other sensitive receptors.

Table 5-59: Greenbelt Construction Emissions

	VOC (tons)	CO (tons)	NO_x (tons)	SO_2 (tons)	PM_{10} (tons)	$PM_{2.5}$ (tons)
Total Construction Emissions per year	4.0	65.2	53.4	1.2	50.4	7.6
General Conformity de minimis threshold (per year)	50	100	100	100	100	100

Construction activities would create intermittent and short-term noise occurring only when such activities are ongoing. Potential sources of noise from construction include the use of construction access roads to the site, materials delivery, staff vehicle transportation, site preparation, construction equipment operation, and construction staff interactions and activities.

Noise stemming from construction-related activities, would occur at various locations throughout the Greenbelt site, but would primarily be limited to those areas where construction workers are conducting activities. Any increase in noise would be a concern if sensitive noise receptors (residences, schools, religious institutions, libraries, or other community resources) are located near the Greenbelt site and associated construction activities to experience the increases in noise. The majority of land surrounding the Greenbelt site has previously been developed. Most of the surrounding property is used for residential areas, particularly west and east of the proposed site with a number of residences to the west, located within 500 feet of the project area. Other sensitive noise receptors in the nearby project area include the Springhill Lake Elementary School, the Al-Huda School, and Hollywood Park. Ambient noise levels in the area are substantial primarily due to automobile traffic from residential throughways and from the Capital Beltway as well as from existing Metrorail service and associated parking at the Greenbelt Metro Station. Based on these existing conditions, and the localized and short-term nature of construction activities, an increase in noise levels exceeding 50 dBA would be considered minimal.

Construction activities in all areas with nearby sensitive noise receptors would be temporary and highly localized, and impacts would be short-term and minimal based on existing noise generation at the site. Noise would be increased during site clearing, construction of the new facility, and from the movement of heavy material haul trucks and workers. All construction impacts would be short-term and only occur when construction activities are ongoing. All construction activities would adhere to noise control regulations as established in the Greenbelt Code of Ordinances.

Noise during operation of the different site land uses is expected to result in indirect, long-term, adverse impacts. The use of the site would result in automobile traffic from residents, employees, and visitors coming and going from the site, generalized noise from daily activities, and general building operation and maintenance activities. Since the site is currently developed and used by automobiles it is not anticipated that vehicular traffic impacts associated with employees would be a considerable increase in noise from traffic currently using the site. In addition, the increase of traffic surrounding the site is not anticipated to increase noise levels as surrounding roadways currently create a notable amount of noise, thereby minimizing noticeable impacts to the noise environment.

The use of the Greenbelt Metro Station by residents, employees, and visitors is not anticipated to result in noticeable increases in noise as the Metro station use and operation would not change. Any potential increases in ridership from increased use would be similar to existing noise levels, resulting in no measurable impacts to the noise environment.

5.2.11.2 Greenbelt Alternative

Under the Greenbelt Alternative, there would be no measurable long-term or short-term impacts to noise, as the Greenbelt Alternative would impact noise in the same manner as the mixed-use development would under the No-action Alternative. Therefore, under the Greenbelt Alternative there would be no measurable impacts to noise.

5.2.12 Infrastructure and Utilities

The following sections describe the environmental consequences for infrastructure and utilities under both the No-action Alternative at Greenbelt and the Greenbelt Alternative.

INFRASTRUCTURE AND UTILITIES ASSESSMENT OF SIGNIFICANCE

Impacts to infrastructure and utilities would result in significant impacts to natural gas as defined in section 3.11.3. Other resources considered under infrastructure and utilities would not result in significant impacts.

5.2.12.1 Water Supply

No-action Alternative

Under the No-action Alternative, there would be a range of impacts to the water supply. The No-action Alternative at the Greenbelt site would result in an increased water demand for the site. WSSC representatives stated that adequate water supply exists within the area to support development of the site (WSSC 2015d); however, a final determination of potential off-site improvements (length of water mains, location of upgrades, etc.) would be determined through the Hydraulic Planning Analysis process. Through this process, WSSC reviews the

GREENBELT NOISE ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: No measurable impacts.

Greenbelt Alternative: No measurable impacts.

GREENBELT WATER SUPPLY ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts, and indirect, long-term, beneficial impacts.

Greenbelt Alternative: No measurable impacts.

HYDRAULIC PLANNING ANALYSIS

A hydraulic review performed by WSSC on an applicant-, owner-, or developer-proposed development for property/properties having a County-issued Service Category status of 1 to 4 and requesting water and/or sewer service that requires system extension.

GREENBELT WASTEWATER COLLECTION & TREATMENT ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: No measurable impacts.

GREENBELT ELECTRIC POWER ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Indirect, short-term, adverse impacts.

demands associated with the project and models the system performance under the new hydraulic load to determine potential impacts to the existing water supply and storage systems and associated infrastructure improvements (WSSC 2015d).

For any future development at the Greenbelt site, WSSC would require connection of the 10-inch water main on Cherrywood Lane, near the intersection of Springhill Drive, to the 12-inch water main to the south (Railroad Avenue). A Systems Extension Project would be required to connect to either of the existing trunk lines. Initial discussion with WSSC indicates that this Systems Extension Project would be the responsibility of the mixed-use developer. After construction, WSSC would own and maintain sewer line outside of the property. This extension may require construction within the existing wetlands and crossing Indian Creek. This connection would include approximately 3,500 linear feet of new 12-inch water main. Although adequate water supply to support the proposed development currently exists, indirect, short-term, adverse impacts associated with construction of the connection of the water mains on Cherrywood Lane and Railroad Avenue are anticipated.

The proposed interstate ramp construction would adversely impact an existing 96-inch-high pressure water line which serves a substantial portion of southern Prince George's County. Per WSSC's previous discussions with Maryland SHA and Renard Development, the new interchange ramps would interfere with this existing line. The ramp's construction would require a shutdown of the water main which runs parallel to the north side of the Capital Beltway There is an available 66-inch water line that could be used during the construction, but that takes roughly a month-long process to switch over involving inspection and maintenance of the existing 66-inch line. Additionally, the 66-inch line cannot provide equivalent water pressures. WSSC indicated that crossing the 96-inch water line perpendicular to minimize the amount of crossing is the strongly preferred option but still problematic for long-term maintenance and inspections.

Water Service Categories are determined and maintained through Prince George's County. The site lies within the Category 4 water service area (no service) which would need to be revised to Category 3 (water service provided). The mixed-use developer would be required to undertake this process with Prince George's County. Pressures on-site are anticipated to be over 80 pounds per square inch (psi) and pressure reducing valves may be required for development (WSSC 2015d). Over the long-term, the enhanced redundancy provided to the regional eater distribution system via the connection of the water mains on Cherrywood Lane and Railroad Avenue is expected to result in indirect, beneficial impacts

Greenbelt Alternative

Although the square footage of development under the Greenbelt Alternative is generally less than that associated with the No-action Alternative, water usage is expected to be similar because the consolidated FBI HQ would be occupied for multiple shifts. WSSC would continue to require the connection of the existing 12-inch water main associated with the Greenbelt South Core to the existing 10-inch water main near the intersection of Cherrywood Lane and Springhill Drive. This would be accomplished by routing the new pipes along Cherrywood Lane and under the bridge along Greenbelt Metro Drive. Because the impacts under the Greenbelt Alternative are similar to those under the No-action Alternative, there would be no measurable impacts.

By confining utility extensions to the alignments of existing roadways and ROW, significant adverse environmental impacts can be avoided. The design and construction of utility system improvements would follow applicable local and state regulations and permitting procedures. For the majority of Federal property in WSSC's service area, WSSC maintains and services infrastructure in public ROWs or easements which do not extend past the Federal property line.

5.2.12.2 Wastewater Collection and Treatment

No-action Alternative

The No-action Alternative at the Greenbelt site would result in increased wastewater flow from the site. WSSC developed a preliminary estimate for sewer flows of 420,000 gallons per day. At that flow both the 30-inch and 48-inch trunk lines have available capacity without any downstream improvements required. Final determination of potential off-site improvements (length, location, etc.) would be determined through the Hydraulic Planning Analysis. Through this process, WSSC reviews the demands associated with the project and models the system performance under the new hydraulic load to determine potential impacts to the existing wastewater collection and conveyance systems (WSSC 2015d). The WSSC Planning Group deals with trunk lines greater than 100,000 gallons per day. A dynamic sewer model would be required to determine capacity and impacts.

As described for water service, coordination with Prince George's County would be required to revise the current wastewater service area designation from Category 4 to Category 3 (WSSC 2015d).

Because connection to the trunk lines dictated by WSSC may require construction through wetlands and crossing Indian Creek, additional indirect, short-term, adverse impacts are possible. These impacts can be mitigated by employing appropriate design and construction practices. No indirect, long-term, adverse impacts are anticipated to the wastewater collection and conveyance systems, or to current and future customers.

Greenbelt Alternative

The impacts under the Greenbelt Alternative are expected to be the same as the No-action Alternative because the wastewater connection point would be the same and the hours of occupation would offset the reduction of developed square footage on an order of magnitude basis. WSSC stated that wastewater lines required under the Greenbelt Alternative should connect to the large diameter trunk sewers east of the site. This would be accomplished by routing the new pipes along Cherrywood Lane and under the bridge along Greenbelt Metro Drive, thereby avoiding adverse impacts to water resources associated with Indian Creek. WSSC reports these sewers, as well as downstream assets, should have sufficient capacity to support the proposed development (WSSC 2015d). Therefore, there would be no measurable impacts.

5.2.12.3 Electric Power

No-action Alternative

PEPCO is no longer extending 34.5kV lines; therefore only 13.2kV or 69kV services would be available to extend electrical service to the mixed-use development at the Greenbelt site. The anticipated electrical demand associated with the No-action Alternative at the Greenbelt site would likely be fed with multiple 13.2kV lines, which would be extended from existing infrastructure along Cherrywood lane. Although most of the work would likely occur within existing ROW and/or easements, indirect, short-term, adverse impacts to electric power are anticipated during the construction period under the No-action Alternative.

Greenbelt Alternative

In order to meet FBI mission requirements, the anticipated load requirement for the consolidated FBI HQ campus is between 20 and 35 megavolt-amperes. Under the Greenbelt Alternative, this would require at least one high voltage feed with several potential configurations to provide adequate electric service the site: multiple 13.2kV lines from different substations, two 69kV lines from different buses within the same substation, or two 69kV lines from different substations. Based on the operational requirement for redundancy and the anticipate electrical load associated with the Greenbelt Alternative, in conjunction with the ability for future expansion, provision of 69kV service with an on-site substation would best meet the needs of the Greenbelt Alternative and allow the greatest flexibility.

As previously stated, the Branchville substation has 69kV capability and is within 1 to 3 miles of the site. The next closest 69kV substation is the Takoma substation which is located 6 to 8 miles southeast of the site.

Similarly to the No-action Alternative, most of the work would likely occur within existing ROW and/or easements. Even so, direct, short-term, adverse impacts are anticipated due to the additional several mile length of the service extensions required to provide the desired level of redundancy and to meet the FBI HQ campus's demand.

5.2.12.4 Natural Gas

No-action Alternative

It is anticipated that natural gas service would be extended to the mixed-use development under the No-action Alternative. Service would likely be extended from existing infrastructure along Cherrywood Lane. Indirect, short-term, adverse impacts associated with the construction of new infrastructure are therefore anticipated. Long-term, indirect impacts of this extension could potentially be beneficial to current and future customers.

Greenbelt Alternative

Washington Gas representatives stated that it would be necessary to extend transmission pressure service to the site from an existing transmission pressure line to support the anticipated demand associated with the Greenbelt Alternative (Washington Gas 2015e). The nearest main operating at transmission pressure is approximately 2 miles from the Greenbelt site. Extension of transmission pressure service to the site would require crossing I-495, a major highway (Washington Gas 2015e). Direct, short-term, major adverse impacts associated with the extension of transmission pressure service are anticipated under the Greenbelt Alternative.

5.2.12.5 Telecommunications

No-action Alternative

Providing telecommunications service to the Greenbelt site would not measurably impact current or future customers of the region over the long term. Development of this site would require coordination of the telecommunications needs with the appropriate providers, but no indirect, long-term, adverse impacts to availability or quality of telecommunications services to existing customers is expected. Under the No-action Alternative at the Greenbelt site, only indirect, short-term, adverse impacts associated with disruptions to surrounding uses required during construction to connect to the adjacent communications networks are expected.

Greenbelt Alternative

It is anticipated that the impacts under the Greenbelt Alternative would be similar to the No-action Alternative. There would be an additional direct, short-term impact during the construction period associated with disruptions to surrounding uses to connect to the secure fiber network approximately three-quarters of a mile from the Greenbelt site.

GREENBELT NATURAL GAS ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Direct, short-term, major adverse impacts.

GREENBELT TELECOMMUNICATIONS ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, short-term, adverse impacts.

Greenbelt Alternative: Direct, short-term, adverse impacts.

GREENBELT STORMWATER MANAGEMENT ENVIRONMENTAL CONSEQUENCES SUMMARY

No-action Alternative: Indirect, long-term, beneficial impacts to stormwater.

Greenbelt Alternative: Direct, long-term, beneficial impacts to stormwater.

5.2.12.6 Stormwater Management

No-action Alternative

Development of the site would require compliance with the Prince George's County Department of the Environment's Clean Water Program and the Water Quality Resources and Grading Code, as well as the State of Maryland's Stormwater Management program. Permitting and design requirements associated with stormwater management can be found in the County's Stormwater Management Design Manual (September 2014). LID measures and on-site stormwater BMPs would be incorporated into the design. This would curtail, and potentially reduce, stormwater runoff from the site so as to not adversely affect downstream properties or facilities. Therefore, indirect, long-term, beneficial impacts are expected under the No-action Alternative as a result of the incorporation of on-site stormwater BMPs.

Greenbelt Alternative

It is anticipated that the impacts under the Greenbelt Alternative would be similar to the No-action Alternative because of the incorporation of on-site stormwater BMPs. However, the Greenbelt Alternative would be required to comply with EISA Section 438, as described in section 3.3.4.2, resulting in additional direct, long-term, beneficial impacts.

5.2.13 Summary of Impacts

Table 5-60 presents a summary of the impacts associated with the Greenbelt Alternative to the resource topics analyzed in this EIS, including the No-action Alternative at Greenbelt.

Table 5-60: Greenbelt Summary of Impacts

Resource	Impact	
Earth Resources		
Geology and Topography	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts to topography and indirect, long-term, adverse impacts to geology.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Soils	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts.
Water Resources		
Surface Water	N	Under the No-action Alternative, there would be no measurable impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Hydrology	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Groundwater	N	Under the No-action Alternative, there would be no measurable impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Wetlands and Floodplains	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts to wetlands.
	N	Under the No-action Alternative, there would be no measurable impacts to floodplains.
	N	Under the Greenbelt Alternative, there would be no measurable long-term impacts to wetlands.
	ADV	Under the Greenbelt Alternative, there would be direct, short- and long-term, adverse impacts to floodplains.

Resource	Impact	
Biological Resources		
Vegetation	N	Under the No-action Alternative, there would be no measurable impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts at the Greenbelt site.
	ADV	Under the Greenbelt Alternative, there would direct, long-term, adverse impacts off-site.
Aquatic Species	N	Under the No-action Alternative, there would be no measurable impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Terrestrial Species	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, long-term, adverse impacts.
Special Status Species	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, long-term, adverse impacts.
Regional Land Use, Planning Studies, and Zoning		
Regional Land Use, Planning Studies, and Zoning.	N	Under the No-action Alternative, there would be no measurable impacts to zoning.
	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts to land use.
	ADV	Under the No-action Alternative, there would be indirect, long-term, adverse impacts to land use.
	N	Under the Greenbelt Alternative, there would be no measurable impacts to zoning.
	ADV	Under the Greenbelt Alternative, there would be direct, long-term, adverse impacts to land use.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts to land use.

N	No Measurable Impact or Insufficient Information	ADV	Adverse Impact	MAJ ADV	Major Adverse (Significant) Impact	BEN	Beneficial Impact

Table 5-60 Greenbelt Summary of Impacts (continued)

Resource	Impact	
Visual Resources		
Visual Resources	ADV	Under the No-action Alternative, there would be indirect, long-term, adverse impacts.
	MAJ ADV	Under the Greenbelt Alternative, there would be direct, long-term, major adverse impacts.
Cultural Resources		
Archaeological	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Historic Resources	N	Under the No-action Alternative, there would no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Socioeconomics		
Population and Housing	N	Under the No-action Alternative, there would be indirect, long-term impacts to population. Insufficient information available to determine the impacts to housing.
	N	Under the Greenbelt Alternative, there would be no measurable impacts to population in Prince George's County or the Washington, D.C., MSA. There is insufficient information to assess impacts to housing in Prince George's County.
Employment and Income	BEN	Under the No-action Alternative, there would be indirect, short- and long-term, beneficial impacts.
	BEN	Under the Greenbelt Alternative, there would be indirect, short- and long-term, beneficial impacts.
Taxes	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts to property tax revenues.
	BEN	Under the Greenbelt Alternative, there would be indirect, long-term, beneficial impacts to sales and income tax revenues.
Schools and Community Services	N	Under the No-action Alternative, there is insufficient information available to determine impacts to community services. No measurable short-term impacts to schools. Insufficient information available to determine long-term impacts to schools.
	N	Under the Greenbelt Alternative, there are no measurable impacts to schools in the Washington D.C. MSA. Insufficient information to determine impacts to schools in Prince George's County. No measurable short-term impacts to community services. Insufficient information to determine long-term impacts to community services.
Recreation and Other Community Facilities	N	Under the No-action Alternative, insufficient information available to determine the impacts.
	N	Under the Greenbelt Alternative, there is insufficient information available to determine impacts.
Environmental Justice	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no short- or long-term adverse impacts to minority or low-income communities.
Protection of Children	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, no mitigation of disproportionate and adverse impacts to children is required under EO 13045.
Public Health and Safety/Hazardous Materials		
Public Health and Safety/ Hazardous Materials	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Hazardous Materials	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.

N	No Measurable Impact or Insufficient Information	ADV	Adverse Impact	MAJ ADV	Major Adverse (Significant) Impact	BEN	Beneficial Impact

Table 5-60 Greenbelt Summary of Impacts (continued)

Resource	Impact	
Transportation		
Pedestrian Network	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.
Bicycle Network	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Public Transit	N	Under the No-action Alternative, there would be no measurable impacts to public transit capacity.
	MAJ ADV	Under the No-action Alternative, there would be indirect, long-term, major adverse impacts to bus operations.
	N	Under the Greenbelt Alternative, there would be no measurable impacts to public transit capacity.
	MAJ ADV	Under the Greenbelt Alternative, there would be direct, long-term, major adverse impacts to bus operations.
Parking	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Truck Access	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Traffic Analysis	MAJ ADV	Under the No-action Alternative, there would be indirect, long-term, major adverse impacts to corridors.
	ADV	Under the No-action Alternative, there would be indirect, long-term, adverse impacts to intersections.
	MAJ ADV	Under the Greenbelt Alternative, there would be indirect, long-term, major adverse impacts to corridors.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts, and direct, long-term, adverse impacts to intersections.
Greenhouse Gas Emissions and Air Quality		
Global Climate Change/ Greenhouse Gases	ADV	Under the No-action Alternative, there would be indirect, long-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, long-term, adverse impacts.
Air Quality	ADV	Under the No-action Alternative there would be indirect, short- and long-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short- and long-term, adverse impacts.
Noise		

N	No Measurable Impact or Insufficient Information	ADV	Adverse Impact	MAJ ADV	Major Adverse (Significant) Impact	BEN	Beneficial Impact

Table 5-60 Greenbelt Summary of Impacts (continued)

Resource	Impact	
Noise	N	Under the No-action Alternative, there would be no measurable impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Infrastructure and Utilities		
Water Supply	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	N	Under the Greenbelt Alternative, there would no measurable impacts.
Wastewater Collection and Treatment	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	N	Under the Greenbelt Alternative, there would be no measurable impacts.
Electric Power	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be indirect, short-term, adverse impacts.
Natural Gas	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	MAJ ADV	Under the Greenbelt Alternative, there would be direct, short-term, major adverse impacts.
Telecommunications	ADV	Under the No-action Alternative, there would be indirect, short-term, adverse impacts.
	ADV	Under the Greenbelt Alternative, there would be direct, short-term, adverse impacts.
Stormwater Management	BEN	Under the No-action Alternative, there would be indirect, long-term, beneficial impacts.
	BEN	Under the Greenbelt Alternative, there would be direct, long-term, beneficial impacts.

N	No Measurable Impact or Insufficient Information	ADV	Adverse Impact	MAJ ADV	Major Adverse (Significant) Impact	BEN	Beneficial Impact