Appendix 4.9-A

Air Quality Modeling Documentation

Appendix
Air Quality

- DEP Protocol Letter
- MOBILE6.2 Input Files
  - Carbon Monoxide (CO)
  - Particulate Matter 10 (PM_{10})
  - Particulate Matter 2.5 ($PM_{2.5}$)
- MOBILE6.2 Output Files
  - Carbon Monoxide (CO)
  - Particulate Matter 10 (PM_{10})
  - Particulate Matter 2.5 ($PM_{2.5}$)
- Hot Spot: Microscale (Local) Analysis
  - Intersection Receptor Maps
  - CAL3QHC Input Files
    - Carbon Monoxide (CO)
    - Particulate Matter 10 (PM_{10})
    - Particulate Matter 2.5 ($PM_{2.5}$)
  - CAL3QHC Output Files
    - Carbon Monoxide (CO)
    - Particulate Matter 10 (PM_{10})
    - Particulate Matter 2.5 ($PM_{2.5}$)
  - Microscale Results
    - Carbon Monoxide (CO)
    - Particulate Matter 10 (PM_{10})
    - Particulate Matter 2.5 ($PM_{2.5}$)
- Mesoscale (Regional) Analysis
  - CTPS Model Data
  - Rapid Bus Alternative
  - Train Emissions
- Layover Facilities Emissions
- Emission Factors for Locomotives

This Page Intentionally Left Blank.

DEP Protocol Letter

This Page Intentionally Left Blank.

Transportation
Land Development
Environmental
Services

VHB imagination | innovation | energy Creating results for our clients and benefits for our communities

Vanasse Hangen Brustlin, Inc.

May 27, 2009

Ref: 10111.00

Ms. Susan Lyon
Chief, Transportation Management Programs
Bureau of Waste Prevention
Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Department of Environmental Protection
One Winter Street
Boston, Massachusetts 02108

Re: The South Coast Rail Project
Air Quality Modeling Protocol

Dear Ms. Lyon:

I am writing to request your office's concurrence on the air quality modeling approach for the South Coast Rail Project generally in Norton, Fall River, East Taunton, Easton, Freetown, New Bedford, North Easton, Raynham, and Taunton, Massachusetts.

A Draft Environmental Impact Report (DEIR) is currently being prepared. This DEIR will include a detailed air quality and traffic study. The air quality study will evaluate the regional (mesoscale) impacts of the proposed project and the local (microscale) impacts of the proposed project.

Mesoscale Analysis

The Central Transportation Planning Staff (CTPS) will be providing the mesoscale emissions for each of the alternatives being reviewed and we will extract the areas that cover, at a minimum, all roadway links that are projected to experience an increase of 10% in traffic due to the project and that experience level-of-service (LOS) designation of "D" or lower under existing and/or future conditions.

The air quality study will follow the Massachusetts DEP May 1991 guidelines for preparing mesoscale analyses. This analysis will calculate the VOC, NO_X ,PM_{10}, $PM_{2.5}$,CO and CO_2emissions from motor vehicle traffic in the project area. The modeling parameters will include lengths of roadway, vehicle speeds, and the average daily traffic volumes. This analysis will evaluate the change in emissions during the ozone season (summer) due to the changes in these parameters for the existing (2008) and future 2030 No-Build, and 2030 Build for each Alterative being reviewed.

101 Walnut Street
Post Office Box 9151
Watertown, Massachusetts 02471-9151
617.924.1770 ▪ FAX 617.924.2286
email: info@vhb.com
www.vhb.com

Microscale Analysis

The microscale analysis will use the Environmental Protection Agency's (EPA) CAL3QHC computer model and will be based on the procedures outlined in the EPA's "Guideline for Modeling Carbon Monoxide from Roadway Intersections." The microscale analysis will analyze the year 2008 as existing, 2016 as the year of completion and 2030 as the future analysis year. The microscale analysis will include existing and future proposed roadway geometry, traffic signal timings, and peak-hour traffic volumes. This analysis will evaluate the carbon mondoxide (CO) concentrations, Particulate Matter (PM_{10}) and $PM_{2.5}$ during the CO season (winter) at sensitive receptor locations.

The air quality study will include a microscale analysis that evaluates the CO, PM_{10} and $PM_{2.5}$ at nearby intersections. The intersections that will be modeled will be selected based upon an evaluation of the traffic data (Level-of-Service and traffic volumes). In addition to the required highest three traffic volume and worst three level-of-service intersections, one intersection in the vicinity of each proposed station will be assessed for emissions. The emissions from the trains at these study intersections will also be included. The microscale modeling parameters that will be used are included in Exhibit 3.

The emission factors used in the mesoscale and microscale analysis will be obtained from the EPA's MOBILE6.2 emissions model (official update to MOBILE 6 as of May 19, 2004) for use in the air quality study. MOBILE6.2 will be run using input files consistent with the current State Implementation Plan emission factors, which will reflect Massachusetts' specific emission control programs and registration distribution.

Background Values

The background concentrations for CO, PM_{10} and $PM_{2.5}$ that will be used for the microscale analysis are based on the most recent three years of monitoring data available (2005 through 2007)[1]. The background concentrations for CO will be assumed to be 3.0 ppm for the 1-hour concentrations. A Persistence Factor of 0.70 was calculated for use in determining the 8-hour concentrations from the 1-hour concentrations. A background concentration of 30.7 ug/m^3 for the PM_{10} 24-hour concentrations, 26.7 ug/m^3 for the $PM_{2.5}$ 24-hour concentrations and 9.2 ug/m^3 for the annual $PM_{2.5}$ concentrations are proposed based on area monitoring sites.

If you have any questions regarding the air quality analysis, please feel free to contact me at (617) 924-1770. Your cooperation in this matter is greatly appreciated.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Thomas F. Wholley
Director of Air Quality Services

Enclosures

---

[1] 2005 through 2007 Annual Reports on Air Quality in New England, United States Environmental Protection Agency, Region 1, Office of Environmental Measurement and Evaluation, North Chelmsford, MA 01863, Ecosystems Assessment Unit, http://www.epa.gov/region01/lab/reportsdocuments.html

Table 1

Mobile 6.2 Input File	Commands	Description
* MA DEP Input File for Summer Ozone File originally prepared by Craig Woleader * Filename = MA10_SUM.inp		Input File Note Input File Note Input File Note
**********Header Section ********** MOBILE6 INPUT FILE POLLUTANTS: HC CO NOX CO2 REPORT FILE: MA10_SUM.txt REPLACE RUN DATA	 POLLUTANTS: REPORT FILE:	 Hydrocarbons, Carbon Monoxide, Nitrogen Oxide Name of Output file
**********Run Section ********** > ********** SUMMER**********		Input File Note Echo to Output file
* Pollutant output format EXPRESS HC AS VOC:	EXPRESS HC AS VOC:	Expresses Hydrocarbons as Volatile Organic Compounds
* Mass. specific user inputs -- require external data file REG DIST: MA_REG05.D I/M DESC FILE: 09NEWIM.D	 REG DIST: I/M DESC FILE: **Note:** See Table 2 for details.	Input File Note Massachusetts registration file Massachusetts Enhanced I/M program inputs for 2000+ calendar year.
STAGE II REFUELING: 91 3 84. 84.	STAGE II REFUELING:	This Stage II Program started in 1991, was phased in over 3 years and was 84% efficient for LDGVs, LDGTs, and HDGVs
* Inputs for LEV II 94+ LDG IMP: MA_LEV2.D T2 EXH PHASE-IN: LEV2EXH.D	 94+ LDG IMP: T2 EXH PHASE-IN:	Input File Note 94+ LDG IMPLEMENTATION FOR LEVII EXHAUST - LEV II in 2004 w/ ZEV Defines phase-in schedules to be modeled for the Tier 2 exhaust standards
T2 EVAP PHASE-IN: LEV2EVAP.D	T2 EVAP PHASE-IN:	Defines phase-in schedules to be modeled for the Tier 2 evaporative emission standards

Mobile 6.2 Input File	Commands	Description
T2 CERT: LEV2CERT.D	T2 CERT:	Specifies alternative Tier 2 50,000 mile certification standards and used to model effects of California's LEV II program.
* Meteorological inputs		Input File Note
MIN/MAX TEMP: 70.4 93.7	MIN/MAX TEMP:	Minimum and Maximum temperatures as set forth in the Massachusetts SIP
* Fuel Inputs		Input File Note
FUEL RVP: 6.8	FUEL RVP:	Specifies the fuel Reid Vapor Pressure (RVP) representing the average fuel volatility for the Massachusetts area
FUEL PROGRAM: 2 N	FUEL PROGRAM:	Models a reformulated gasoline (RFG) program for a northern region
**********Scenario Section **********		Input File Note
**********Summer Freeway **********		Input File Note
SCENARIO RECORD: MA Freeway 2.71 mph	SCENARIO RECORD:	Labels the individual scenarios
CALENDAR YEAR: 2010	CALENDAR YEAR:	Calendar year of scenario evaluated
EVALUATION MONTH: 7	EVALUATION MONTH:	Specifies July 1 as time period for evaluation
AVERAGE SPEED: 2.71 Freeway 92.0 0.0 0.0 8.0	AVERAGE SPEED:	Sets an average speed of 2.71 for the Freeway roadway classification (this is the minimum speed input for Freeways) and shows 92% of VMT on freeways and 8% of VMT on freeway ramps

NOTE: The scenario records for freeways continue in increments of 1 MPH to a maximum of 60.7 MPH. For arterials, the scenario records begin at a minimum of 2.5 MPH and continue in increments of 1 MPH to a maximum of 65 MPH

Table 2

Mobile 6.2 I/M File	Commands	Description
> Mass. Enhanced I/M program inputs for 2009 calendar year, filename = MA_IM09.D File originally prepared by Craig Woleader, revised 7/6/04.		Echo to Output file Input File Note
********** I/M Program #1 ********** >New Annual OBD Exhaust I/M program for Light Duty MY 1996-2007 vehicles <=8,500 lb GVWR * I/M Grace Period Set to 1 (i.e. exempt 1 newest model year) to Reflect New Vehicle Exemption and LEP		Echo to Output file Input File Note
I/M PROGRAM: 1 2009 2050 1 TRC OBD I/M	I/M PROGRAM:	This I/M program started in 2009 and ends in 2050
I/M MODEL YEARS: 1 1996 2007	I/M MODEL YEARS:	This I/M program tests model years 1996 through 2007
I/M VEHICLES: 1 22222 11111111 1	I/M VEHICLES:	This command calculates I/M benefits for light-duty gasoline vehicles (cars and light-duty trucks) as well as the class HDGV2B
I/M STRINGENCY: 1 20.0	I/M STRINGENCY:	This command sets the stringency rate (the expected exhaust inspection failure rate for pre-1981 model year vehicles) at 20 percent.
I/M COMPLIANCE: 1 96.0	I/M COMPLIANCE:	This command sets the compliance (the percentage of vehicles in the fleet that complete the I/M program and receive either a certificate of compliance or waiver) at 96 percent.
I/M WAIVER RATES: 1 0.0 1.0	I/M WAIVER RATES:	This command sets the waiver rate at 0.0 percent for pre-1981 model years and 1.0 percent for 1981 and later model years
I/M GRACE PERIOD: 1 1	I/M GRACE PERIOD:	This command sets the age at which vehicles first become subject to I/M testing at 1 year old.
********** I/M Program #2 ********** > New Annual OBD Exhaust I/M program for Light Duty and Medium duty MY 2008 and later vehicles <=14,000 lb GVWR		Echo to Output file
* I/M Grace Period Set to 1 (i.e. exempt 1 newest model year) to Reflect New Vehicle Exemption and LEP		Input File Note
I/M PROGRAM: 2 2009 2050 1 TRC OBD I/M	I/M PROGRAM:	This I/M program started in 2009 and ends in 2050
I/M MODEL YEARS: 2 2008 2050	I/M MODEL YEARS:	This I/M program tests model years 2008 through 2050
I/M VEHICLES: 2 11111 12222222 2	I/M VEHICLES:	This command calculates I/M benefits for gasoline buses and heavy-duty gasoline vehicle classes with the exception of the HDGV2B class

Mobile 6.2 I/M File	Commands	Description
I/M STRINGENCY: 2 20.0	I/M STRINGENCY:	This command sets the stringency rate (the expected exhaust inspection failure rate for pre-1981 model year vehicles) at 20 percent.
I/M COMPLIANCE: 2 96.0	I/M COMPLIANCE:	This command sets the compliance (the percentage of vehicles in the fleet that complete the I/M program and receive either a certificate of compliance or waiver) at 96 percent.
I/M WAIVER RATES: 2 0.0 1.0	I/M WAIVER RATES:	This command sets the waiver rate at 0.0 percent for pre-1981 model years and 1.0 percent for 1981 and later model years
I/M GRACE PERIOD: 2 1	I/M GRACE PERIOD:	This command sets the age at which vehicles first become subject to I/M testing at 1 year old.
********** I/M Program #3 **********		
> New OBD Exhaust I/M program for Light Duty MY 1996-2007 vehicles <=8,500 lb GVWR		Echo to Output file
* I/M Grace Period Set to 1 (i.e. exempt 1 newest model year) to Reflect New Vehicle Exemption and LEP		Input File Note
I/M PROGRAM: 3 2009 2050 1 TRC EVAP OBD	I/M PROGRAM:	This I/M program started in 2009 and ends in 2050, is a biennial program, and is a test only program with an OBD I/M inspection test type
I/M MODEL YEARS: 3 1996 2007	I/M MODEL YEARS:	This I/M program tests model years 1996 through 2007
I/M VEHICLES: 3 22222 11111111 1	I/M VEHICLES:	This command calculates I/M benefits for light-duty gasoline vehicles (cars and light-duty trucks) as well as the class HDGV2B
I/M STRINGENCY: 3 20.0	I/M STRINGENCY:	This command sets the stringency rate (the expected exhaust inspection failure rate for pre-1981 model year vehicles) at 20 percent.
I/M COMPLIANCE: 3 96.0	I/M COMPLIANCE:	This command sets the compliance (the percentage of vehicles in the fleet that complete the I/M program and receive either a certificate of compliance or waiver) at 96 percent.
I/M WAIVER RATES: 3 0.0 1.0	I/M WAIVER RATES:	This command sets the waiver rate at 0.0 percent for pre-1981 model years and 1.0 percent for 1981 and later model years
I/M GRACE PERIOD: 3 1	I/M GRACE PERIOD:	This command sets the age at which vehicles first become subject to I/M testing at 1 year old.
********** I/M Program #4 **********		
> New Annual OBD Evap I/M program MY 2008 and later for all Light Duty vehicles <=14,000 lb GVWR		Echo to Output file

Mobile 6.2 I/M File	Commands	Description
* I/M Grace Period Set to 1 (i.e. exempt 5 newest model year) to Reflect New Vehicle Exemption and LEP		Input File Note
I/M PROGRAM: 4 2009 2050 1 TRC EVAP OBD	I/M PROGRAM:	This I/M program started in 2009 and ends in 2050
I/M MODEL YEARS: 4 2008 2050	I/M MODEL YEARS:	This I/M program tests model years 2008 through 2050
I/M VEHICLES: 4 22222 11111111 1	I/M VEHICLES:	This command calculates I/M benefits for light-duty gasoline vehicles (cars and light-duty trucks)
I/M STRINGENCY: 4 20.0	I/M STRINGENCY:	This command sets the stringency rate (the expected exhaust inspection failure rate for pre-1981 model year vehicles) at 20 percent.
I/M COMPLIANCE: 4 96.0	I/M COMPLIANCE:	This command sets the compliance (the percentage of vehicles in the fleet that complete the I/M program and receive either a certificate of compliance or waiver) at 96 percent.
I/M WAIVER RATES: 4 0.0 1.0	I/M WAIVER RATES:	This command sets the waiver rate at 0.0 percent for pre-1981 model years and 1.0 percent for 1981 and later model years
I/M GRACE PERIOD: 4 1	I/M GRACE PERIOD:	This command sets the age at which vehicles first become subject to I/M testing at 1 year old.

Exhibit 3

MICROSCALE MODELING PARAMETERS

Idle Emission Factor

The Idling Emission Factor was developed using MOBILE 6.2 with the settings as indicated for the microscale free-flow analysis, except with the speed set at 2.5 miles per hour. The resulting gram per vehicle-mile factor was converted to grams per vehicle per hour by multiplying by 2.5 miles per hour.

CAL3QHC Inputs

Averaging Time	60 Minutes
Surface Roughness	175 cm (office)
Settling and Deposition velocity	0 cm/second
Windspeed	1 meter/second
Range of Wind Directions	10° increments from 0° to 360°
Stability Class	Use Class "D"
Mixing Height	1000 meters
Source Height	0.33 meters

PM 2.5 Background Calculation

Data from Annual Reports on Air Quality in New England 2005 through 2007

Year	Arithmetic Mean* (Micrograms/meter3)	24-Hour** (Micrograms/meter3)
2005	10.2	29.5
2006	8.1	24.5
2007	9.2	26.0

*** Values represent annual arithmetic mean**

**** 24-Hour values represent 98th percentile**

Annual Background Calculation

(659 Globe Street, Fall River Massachusetts)

Pollutant	Arithmetic Mean (Micrograms/meter3)	Molecular Weight	Background Concentration (Micrograms/meter3)
PM2.5	9.2	---	9.2

* Average value of 2005, 2006, and 2007

24-Hour Background Calculation

(659 Globe Street, Fall River Massachusetts)

Pollutant	24-Hour (Micrograms/meter3)	Molecular Weight	Background Concentration (Micrograms/meter3)
PM2.5	26.7	---	26.7

* Average value of 2005, 2006, and 2007

PM 10 Background Calculation

Data from Annual Reports on Air Quality in New England 2005 through 2007

Year	Arithmetic Mean* (Micrograms/meter3)	24-Hour** (Micrograms/meter3)
2005	18.6	37.0
2006	15.4	31.0
2007	13.7	24.0

*** Values represent annual arithmetic mean**

**** 24-Hour values represent 2nd highest**

Background Calculation

(Harrison Avenue, Boston Massachusetts)

Pollutant	Arithmetic Mean (Micrograms/meter3)	Molecular Weight	Background Concentration (Micrograms/meter3)
PM10	15.9	---	15.9

* Average value of 2005, 2006, and 2007

24-Hour Background Calculation

(Harrison Avenue, Boston Massachusetts)

Pollutant	24-Hour (Micrograms/meter3)	Molecular Weight	Background Concentration (Micrograms/meter3)
PM10	30.7	---	30.7

* Average value of 2005, 2006, and 2007

MOBILE6.2
Input Files

- Carbon Monoxide (CO)
- Particulate Matter 10 (PM_{10})
- Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank.

MOBILE6.2
Input Files

- Carbon Monoxide (CO)

This Page Intentionally Left Blank.

```
* 2008 Inventory Analysis - Typical Ozone Day for RFP
* Filename 08_RFP.INP created by Craig Woleader 8/2/08
*
***************     Header Section     ***************
MOBILE6 INPUT FILE
*
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
SPREADSHEET        :
EMISSIONS TABLE    : MA08_WIN.tb1 REPLACE
REPORT FILE        :MA08_WIN.txt REPLACE
*
RUN DATA
***************     Run Section     ***************
> *** Mass. 2008 with LEV II Program ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST           : 2005_REG.D
I/M DESC FILE      : MA_IM08.D

ANTI-TAMP PROG     :
00 84 50 11111 12222222 2 12 096. 22112122

STAGE II REFUELING :
91 3 84. 84.

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS    : 0.10

* Inputs for LEV II
94+ LDG IMP        : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT            : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMPERATURE:  22.8 38.3

* Fuel inputs
FUEL RVP           : 13.5
FUEL PROGRAM       : 2 N

DIESEL FRACTIONS   :
```

0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.002	0.002	0.002
0.002	0.001	0.001	0.001	0.000	0.001	0.001	0.003	0.001	0.002
0.000	0.015	0.009	0.056	0.070					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003
0.003	0.006	0.013	0.017	0.019					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003
0.003	0.006	0.013	0.017	0.019					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006
0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017	0.014	0.018
0.016	0.021	0.048	0.065	0.060					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006
0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017	0.014	0.018
0.016	0.021	0.048	0.065	0.060					
0.176	0.176	0.176	0.176	0.176	0.170	0.207	0.202	0.206	0.243
0.176	0.285	0.267	0.212	0.255	0.295	0.249	0.251	0.188	0.175
0.182	0.186	0.219	0.184	0.170					
0.385	0.385	0.385	0.385	0.385	0.407	0.433	0.467	0.464	0.480
0.375	0.472	0.480	0.366	0.400	0.344	0.285	0.333	0.314	0.253
0.208	0.197	0.168	0.130	0.106					
0.674	0.674	0.674	0.674	0.674	0.634	0.664	0.719	0.717	0.744
0.715	0.565	0.810	0.803	0.644	0.654	0.605	0.525	0.389	0.356
0.376	0.108	0.136	0.154	0.148					
0.830	0.830	0.830	0.830	0.830	0.845	0.860	0.840	0.819	0.813
0.610	0.686	0.570	0.733	0.607	0.729	0.685	0.725	0.631	0.350
0.305	0.186	0.209	0.343	0.091					
0.884	0.884	0.884	0.884	0.884	0.840	0.887	0.931	0.917	0.914
0.923	0.901	0.908	0.898	0.903	0.876	0.804	0.844	0.782	0.702
0.679	0.554	0.529	0.568	0.628					
0.977	0.977	0.977	0.977	0.977	0.972	0.953	0.993	0.992	0.992
0.990	0.981	0.976	0.975	0.959	0.982	0.965	0.963	0.945	0.902
0.875	0.857	0.791	0.796	0.846					
0.972	0.972	0.972	0.972	0.972	0.955	0.984	0.995	0.992	0.991
0.995	0.993	0.993	0.995	0.992	0.986	0.995	0.981	0.993	0.971
0.982	0.977	0.993	0.987	0.986					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.917	0.884	0.925	0.968	0.961
0.972	0.985	0.971	0.941	0.905	0.965	0.940	0.907	0.964	0.609
0.880	1.000	0.778	0.500	1.000					

********** Scenario Section PM 2.5 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2008
EVALUATION MONTH : 1
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH*****

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 1
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2008
EVALUATION MONTH : 1
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH*****

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 1
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** End of This Run **********
END OF RUN

```
* Massachusetts DEP - MA 2016 WINTER
* Filename MA16_WIN.INP
* revised 8/24/07 with new temperatures and IM program inputs
* revised 4/25/08 to remove 15 year vehicle age exemption from IM program file per Don Cooke
*
***************     Header Section     ***************
MOBILE6 INPUT FILE
*
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
SPREADSHEET        :
EMISSIONS TABLE    : MA16_WIN.tb1 REPLACE
REPORT FILE        : MA16_WIN.txt REPLACE
*
RUN DATA
***************     Run Section     ***************
> *** Mass. 2016 with LEV II Program ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST           : 2005_REG.D
I/M DESC FILE      : 09NEWIM.D

STAGE II REFUELING :
91 3 84. 84.

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS    : 0.10

* Inputs for LEV II
94+ LDG IMP        : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT            : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP       : 22.8  38.3

* Fuel inputs
FUEL RVP           : 13.5
FUEL PROGRAM       : 2 N

* 2005 Diesel Sales fractions adjusted for Calendar year 2016
DIESEL FRACTIONS   :
```

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.003	0.002	0.002	0.002	0.002	0.001
0.001	0.001	0.000	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001
0.001	0.001	0.001	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001
0.001	0.001	0.001	0.001	0.001					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.012
0.012	0.017	0.015	0.014	0.016					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.012
0.012	0.017	0.015	0.014	0.016					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.170	0.207	0.202	0.206	0.243	0.176	0.285
0.267	0.212	0.255	0.295	0.249					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.407	0.433	0.467	0.464	0.480	0.375	0.472
0.480	0.366	0.400	0.344	0.285					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.634	0.664	0.719	0.717	0.744	0.715	0.565
0.810	0.803	0.644	0.654	0.605					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.845	0.860	0.840	0.819	0.813	0.610	0.686
0.570	0.733	0.607	0.729	0.685					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.840	0.887	0.931	0.917	0.914	0.923	0.901
0.908	0.898	0.903	0.876	0.804					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.972	0.953	0.993	0.992	0.992	0.990	0.981
0.976	0.975	0.959	0.982	0.965					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.955	0.984	0.995	0.992	0.991	0.995	0.993
0.993	0.995	0.992	0.986	0.995					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.917	0.884	0.925	0.968	0.961	0.972	0.985
0.971	0.941	0.905	0.965	0.940					

********** Scenario Section **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2016
EVALUATION MONTH : 1
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0

*****THROUGH*****

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 1
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2016
EVALUATION MONTH : 1
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0

*****THROUGH*****

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 1
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0

********** End of This Run **********
END OF RUN

MA30_WIN.INP

```
* Massachusetts DEP - MA 2030 WINTER
* Filename MA30_WIN.INP
* revised 8/24/07 with new temperatures and IM inputs
* revised 12/7/07 for PM2.5/10 and CO2 for Anne McGahan
* revised 4/25/08 to remove 15 year vehicle age exemption from IM program file per Don Cooke
*
***************     Header Section     ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
SPREADSHEET       :
EMISSIONS TABLE    : MA30_WIN.tb1 REPLACE
REPORT FILE       : MA30_WIN.txt REPLACE
*
RUN DATA
***************     Run Section     ***************
> *** Mass. 2030 with LEV II Program ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

STAGE II REFUELING :
91 3 84. 84.

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS    : 0.10

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP      : 22.8  38.3

* Fuel inputs
FUEL RVP          : 13.5
```

FUEL PROGRAM : 2 N

* 2005 Diesel Sales Fractions adjusted for Calendar Year 2030
DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.176	0.176					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.385	0.385					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.674	0.674					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.830	0.830					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.884	0.884					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.977	0.977					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.972	0.972					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.786	0.786					

********** Scenario Section PM 2.5 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

****THROUGH****

SCENARIO RECORD : MA Freeway speed 61 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 62 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0

PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

****THROUGH****

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Scenario Section PM 10 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

****THROUGH****

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

****THROUGH****

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 1
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********** End of This Run **********
END OF RUN

This Page Intentionally Left Blank

MOBILE6.2 Input Files

- Particulate Matter 10 (PM_{10})

This Page Intentionally Left Blank.

```
* 2008 Inventory Analysis - Typical Ozone Day for RFP
* Filename 08_RFP.INP created by Craig Woleader 8/2/08
*
***************     Header Section     ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
SPREADSHEET        :
EMISSIONS TABLE    : MA08_SUM.tb1 REPLACE
REPORT FILE        :MA08_SUM.txt REPLACE
*
RUN DATA
***************     Run Section     ***************
> *** Mass. 2008 with LEV II Program ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST           : 2005_REG.D
I/M DESC FILE      : MA_IM08.D

ANTI-TAMP PROG     :
00 84 50 11111 12222222 2 12 096. 22112122

STAGE II REFUELING :
91 3 84. 84.

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS    : 0.10

* Inputs for LEV II
94+ LDG IMP        : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT            : LEV2CERT.D

* Meteorological inputs
```

MIN/MAX TEMPERATURE: 70.4 93.7

* Fuel inputs
FUEL RVP : 6.8
FUEL PROGRAM : 2 N

DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.002	0.002	0.002
0.002	0.001	0.001	0.001	0.000	0.001	0.001	0.003	0.001	0.002
0.000	0.015	0.009	0.056	0.070					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003
0.003	0.006	0.013	0.017	0.019					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003
0.003	0.006	0.013	0.017	0.019					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006
0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017	0.014	0.018
0.016	0.021	0.048	0.065	0.060					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006
0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017	0.014	0.018
0.016	0.021	0.048	0.065	0.060					
0.176	0.176	0.176	0.176	0.176	0.170	0.207	0.202	0.206	0.243
0.176	0.285	0.267	0.212	0.255	0.295	0.249	0.251	0.188	0.175
0.182	0.186	0.219	0.184	0.170					
0.385	0.385	0.385	0.385	0.385	0.407	0.433	0.467	0.464	0.480
0.375	0.472	0.480	0.366	0.400	0.344	0.285	0.333	0.314	0.253
0.208	0.197	0.168	0.130	0.106					
0.674	0.674	0.674	0.674	0.674	0.634	0.664	0.719	0.717	0.744
0.715	0.565	0.810	0.803	0.644	0.654	0.605	0.525	0.389	0.356
0.376	0.108	0.136	0.154	0.148					
0.830	0.830	0.830	0.830	0.830	0.845	0.860	0.840	0.819	0.813
0.610	0.686	0.570	0.733	0.607	0.729	0.685	0.725	0.631	0.350
0.305	0.186	0.209	0.343	0.091					
0.884	0.884	0.884	0.884	0.884	0.840	0.887	0.931	0.917	0.914
0.923	0.901	0.908	0.898	0.903	0.876	0.804	0.844	0.782	0.702
0.679	0.554	0.529	0.568	0.628					
0.977	0.977	0.977	0.977	0.977	0.972	0.953	0.993	0.992	0.992
0.990	0.981	0.976	0.975	0.959	0.982	0.965	0.963	0.945	0.902
0.875	0.857	0.791	0.796	0.846					
0.972	0.972	0.972	0.972	0.972	0.955	0.984	0.995	0.992	0.991
0.995	0.993	0.993	0.995	0.992	0.986	0.995	0.981	0.993	0.971

0.982 0.977 0.993 0.987 0.986
1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
1.000 1.000 1.000 1.000 1.000
0.786 0.786 0.786 0.786 0.786 0.917 0.884 0.925 0.968 0.961
0.972 0.985 0.971 0.941 0.905 0.965 0.940 0.907 0.964 0.609
0.880 1.000 0.778 0.500 1.000

********** Scenario Section PM 2.5 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH*****

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH******

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15
********** End of This Run **********
END OF RUN

```
* Massachusetts DEP - MA 2016
* Filename MA16_SUM.INP
* revised 8/24/07 with new temperatures and IM inputs
* revised 12/7/07 to add PM2.5/10 and CO2 for Anne McGahan
* revised 4/25/08 to remove 15 year vehicle age exemption from IM program file per Don Cooke
*
***************     Header Section     ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT  :
SPREADSHEET       :
EMISSIONS TABLE   : MA16_SUM.tb1 REPLACE
REPORT FILE       : MA16_SUM.txt REPLACE
*
RUN DATA
***************     Run Section     ***************
> *** Mass. 2016 with LEV II Program ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

STAGE II REFUELING :
91 3 84. 84.

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS   : 0.10

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN   : LEV2EXH.D
T2 EVAP PHASE-IN  : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP      : 70.4 93.7

* Fuel inputs
FUEL RVP          : 6.8
FUEL PROGRAM      : 2 N
```

* 2005 Diesel Sales Fractions adjusted for Calendar Year 2016
DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.003	0.002	0.002	0.002	0.002	0.001
0.001	0.001	0.000	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001
0.001	0.001	0.001	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001
0.001	0.001	0.001	0.001	0.001					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.012
0.012	0.017	0.015	0.014	0.016					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.012
0.012	0.017	0.015	0.014	0.016					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.170	0.207	0.202	0.206	0.243	0.176	0.285
0.267	0.212	0.255	0.295	0.249					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.407	0.433	0.467	0.464	0.480	0.375	0.472
0.480	0.366	0.400	0.344	0.285					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.634	0.664	0.719	0.717	0.744	0.715	0.565
0.810	0.803	0.644	0.654	0.605					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.845	0.860	0.840	0.819	0.813	0.610	0.686
0.570	0.733	0.607	0.729	0.685					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.840	0.887	0.931	0.917	0.914	0.923	0.901
0.908	0.898	0.903	0.876	0.804					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.972	0.953	0.993	0.992	0.992	0.990	0.981
0.976	0.975	0.959	0.982	0.965					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.955	0.984	0.995	0.992	0.991	0.995	0.993
0.993	0.995	0.992	0.986	0.995					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.917	0.884	0.925	0.968	0.961	0.972	0.985
0.971	0.941	0.905	0.965	0.940					

********** Scenario Section PM 2.5 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH*****

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2016
EVALUATION MONTH : 7

AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH*****
SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** End of This Run **********
END OF RUN

MA30_SUM.INP

```
* Massachusetts DEP - MA 2030
* Filename MA30_SUM.INP
* revised 8/24/07 with new temperatures and IM inputs
* revised 12/7/07 to add PM2.5/10 and CO2 for Anne McGahan
* revised 4/25/08 to remove 15 year vehicle age exemption from IM program file per Don Cooke
*
***************     Header Section     ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
SPREADSHEET       :
EMISSIONS TABLE    : MA30_SUM.tb1 REPLACE
REPORT FILE       : MA30_SUM.txt REPLACE
*
RUN DATA
***************     Run Section     ***************
> *** Mass. 2030 with LEV II Program ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

STAGE II REFUELING :
91 3 84. 84.

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS    : 0.10

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP      : 70.4 93.7

* Fuel inputs
FUEL RVP          : 6.8
```

FUEL PROGRAM : 2 N

* 2005 Diesel Sales Fractions adjusted for Calendar Year 2030
DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.176	0.176					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.385	0.385					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.674	0.674					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.830	0.830					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.884	0.884					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.977	0.977					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.972	0.972					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.786	0.786					

********** Scenario Section PM 2.5 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********THROUGH**********

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********THROUGH**********

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Scenario Section PM 10 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********THROUGH*********

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********THROUGH*********

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********** End of This Run **********
END OF RUN

This Page Intentionally Left Blank

MOBILE6.2 Input Files

- Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank

```
* 2008 Inventory Analysis - Typical Ozone Day for RFP
* Filename 08_RFP.INP created by Craig Woleader 8/2/08
*
***************     Header Section     ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
SPREADSHEET        :
EMISSIONS TABLE    : MA08_SUM.tb1 REPLACE
REPORT FILE        :MA08_SUM.txt REPLACE
*
RUN DATA
***************     Run Section     ***************
> *** Mass. 2008 with LEV II Program ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST           : 2005_REG.D
I/M DESC FILE      : MA_IM08.D

ANTI-TAMP PROG     :
00 84 50 11111 12222222 2 12 096. 22112122

STAGE II REFUELING :
91 3 84. 84.

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS    : 0.10

* Inputs for LEV II
94+ LDG IMP        : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT            : LEV2CERT.D

* Meteorological inputs
```

MIN/MAX TEMPERATURE: 70.4 93.7

* Fuel inputs
FUEL RVP : 6.8
FUEL PROGRAM : 2 N

DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.002	0.002	0.002
0.002	0.001	0.001	0.001	0.000	0.001	0.001	0.003	0.001	0.002
0.000	0.015	0.009	0.056	0.070					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003
0.003	0.006	0.013	0.017	0.019					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003
0.003	0.006	0.013	0.017	0.019					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006
0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017	0.014	0.018
0.016	0.021	0.048	0.065	0.060					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006
0.005	0.012	0.012	0.017	0.015	0.014	0.016	0.017	0.014	0.018
0.016	0.021	0.048	0.065	0.060					
0.176	0.176	0.176	0.176	0.176	0.170	0.207	0.202	0.206	0.243
0.176	0.285	0.267	0.212	0.255	0.295	0.249	0.251	0.188	0.175
0.182	0.186	0.219	0.184	0.170					
0.385	0.385	0.385	0.385	0.385	0.407	0.433	0.467	0.464	0.480
0.375	0.472	0.480	0.366	0.400	0.344	0.285	0.333	0.314	0.253
0.208	0.197	0.168	0.130	0.106					
0.674	0.674	0.674	0.674	0.674	0.634	0.664	0.719	0.717	0.744
0.715	0.565	0.810	0.803	0.644	0.654	0.605	0.525	0.389	0.356
0.376	0.108	0.136	0.154	0.148					
0.830	0.830	0.830	0.830	0.830	0.845	0.860	0.840	0.819	0.813
0.610	0.686	0.570	0.733	0.607	0.729	0.685	0.725	0.631	0.350
0.305	0.186	0.209	0.343	0.091					
0.884	0.884	0.884	0.884	0.884	0.840	0.887	0.931	0.917	0.914
0.923	0.901	0.908	0.898	0.903	0.876	0.804	0.844	0.782	0.702
0.679	0.554	0.529	0.568	0.628					
0.977	0.977	0.977	0.977	0.977	0.972	0.953	0.993	0.992	0.992
0.990	0.981	0.976	0.975	0.959	0.982	0.965	0.963	0.945	0.902
0.875	0.857	0.791	0.796	0.846					
0.972	0.972	0.972	0.972	0.972	0.955	0.984	0.995	0.992	0.991
0.995	0.993	0.993	0.995	0.992	0.986	0.995	0.981	0.993	0.971

0.982 0.977 0.993 0.987 0.986
1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
1.000 1.000 1.000 1.000 1.000
0.786 0.786 0.786 0.786 0.786 0.917 0.884 0.925 0.968 0.961
0.972 0.985 0.971 0.941 0.905 0.965 0.940 0.907 0.964 0.609
0.880 1.000 0.778 0.500 1.000

********** Scenario Section PM 2.5 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH*****

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH******

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2008
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15
********** End of This Run **********
END OF RUN

```
* Massachusetts DEP - MA 2016
* Filename MA16_SUM.INP
* revised 8/24/07 with new temperatures and IM inputs
* revised 12/7/07 to add PM2.5/10 and CO2 for Anne McGahan
* revised 4/25/08 to remove 15 year vehicle age exemption from IM program file per Don Cooke
*
***************     Header Section     ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT   :
WITH FIELDNAMES   :
AGGREGATED OUTPUT  :
SPREADSHEET       :
EMISSIONS TABLE   : MA16_SUM.tb1 REPLACE
REPORT FILE       : MA16_SUM.txt REPLACE
*
RUN DATA
***************     Run Section     ***************
> *** Mass. 2016 with LEV II Program ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

STAGE II REFUELING :
91 3 84. 84.

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS   : 0.10

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN   : LEV2EXH.D
T2 EVAP PHASE-IN  : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP      : 70.4 93.7

* Fuel inputs
FUEL RVP          : 6.8
FUEL PROGRAM      : 2 N
```

* 2005 Diesel Sales Fractions adjusted for Calendar Year 2016
DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.003	0.003	0.002	0.002	0.002	0.002	0.001
0.001	0.001	0.000	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001
0.001	0.001	0.001	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001
0.001	0.001	0.001	0.001	0.001					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.012
0.012	0.017	0.015	0.014	0.016					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.012
0.012	0.017	0.015	0.014	0.016					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.170	0.207	0.202	0.206	0.243	0.176	0.285
0.267	0.212	0.255	0.295	0.249					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.407	0.433	0.467	0.464	0.480	0.375	0.472
0.480	0.366	0.400	0.344	0.285					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.634	0.664	0.719	0.717	0.744	0.715	0.565
0.810	0.803	0.644	0.654	0.605					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.845	0.860	0.840	0.819	0.813	0.610	0.686
0.570	0.733	0.607	0.729	0.685					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.840	0.887	0.931	0.917	0.914	0.923	0.901
0.908	0.898	0.903	0.876	0.804					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.972	0.953	0.993	0.992	0.992	0.990	0.981
0.976	0.975	0.959	0.982	0.965					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.955	0.984	0.995	0.992	0.991	0.995	0.993
0.993	0.995	0.992	0.986	0.995					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.917	0.884	0.925	0.968	0.961	0.972	0.985
0.971	0.941	0.905	0.965	0.940					

********** Scenario Section PM 2.5 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH*****

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2016
EVALUATION MONTH : 7

AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

*****THROUGH*****
SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2016
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** End of This Run **********
END OF RUN

MA30_SUM.INP

```
* Massachusetts DEP - MA 2030
* Filename MA30_SUM.INP
* revised 8/24/07 with new temperatures and IM inputs
* revised 12/7/07 to add PM2.5/10 and CO2 for Anne McGahan
* revised 4/25/08 to remove 15 year vehicle age exemption from IM program file per Don Cooke
*
***************     Header Section     ***************
MOBILE6 INPUT FILE
*
PARTICULATES      :
POLLUTANTS        : HC CO NOX CO2
DATABASE OUTPUT    :
WITH FIELDNAMES    :
AGGREGATED OUTPUT  :
SPREADSHEET       :
EMISSIONS TABLE    : MA30_SUM.tb1 REPLACE
REPORT FILE       : MA30_SUM.txt REPLACE
*
RUN DATA
***************     Run Section     ***************
> *** Mass. 2030 with LEV II Program ***

* Pollutant output format
EXPRESS HC AS VOC  :

* Mass. specific user inputs -- require external data file
REG DIST          : 2005_REG.D
I/M DESC FILE     : 09NEWIM.D

STAGE II REFUELING :
91 3 84. 84.

* Set Diesel Rebuild effects to 10% as per EPA
REBUILD EFFECTS    : 0.10

* Inputs for LEV II
94+ LDG IMP       : MA_LEV2.D
T2 EXH PHASE-IN    : LEV2EXH.D
T2 EVAP PHASE-IN   : LEV2EVAP.D
T2 CERT           : LEV2CERT.D

* Meteorological inputs
MIN/MAX TEMP      : 70.4 93.7

* Fuel inputs
FUEL RVP          : 6.8
```

FUEL PROGRAM : 2 N

* 2005 Diesel Sales Fractions adjusted for Calendar Year 2030
DIESEL FRACTIONS :

0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001					
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
0.001	0.001	0.001	0.001	0.001					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005					
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
0.005	0.005	0.005	0.005	0.005					
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.176
0.176	0.176	0.176	0.176	0.176					
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
0.385	0.385	0.385	0.385	0.385					
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674	0.674
0.674	0.674	0.674	0.674	0.674					
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830	0.830
0.830	0.830	0.830	0.830	0.830					
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884	0.884
0.884	0.884	0.884	0.884	0.884					
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977	0.977
0.977	0.977	0.977	0.977	0.977					
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972	0.972
0.972	0.972	0.972	0.972	0.972					
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1.000	1.000	1.000	1.000	1.000					
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786	0.786
0.786	0.786	0.786	0.786	0.786					

********** Scenario Section PM 2.5 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********THROUGH**********

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********THROUGH**********

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 2.5
DIESEL SULFUR : 15

********** Scenario Section PM 10 **********

********** Freeway Scenarios **********

SCENARIO RECORD : MA Freeway 2.71 mph (= minimum allowed freeway speed)

CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 2.71 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Freeway speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********THROUGH*********

SCENARIO RECORD : MA Freeway speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 60.7 Freeway 92.0 0.0 0.0 8.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********** Arterial Scenarios **********

SCENARIO RECORD : MA Arterial 2.5 mph (= minimum allowed arterial speed)
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 2.5 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV

PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 3 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 3 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

SCENARIO RECORD : MA Arterial speed 4 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 4 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********THROUGH*********

SCENARIO RECORD : MA Arterial speed 65 mph
CALENDAR YEAR : 2030
EVALUATION MONTH : 7
AVERAGE SPEED : 65 Arterial 0.0 100.0 0.0 0.0
PARTICULATE EF : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
PARTICLE SIZE : 10
DIESEL SULFUR : 15

********** End of This Run **********
END OF RUN

This Page Intentionally Left Blank

MOBILE6.2
Output Files

- Carbon Monoxide (CO)
- Particulate Matter 10 (PM_{10})
- Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank

MOBILE6.2
Output Files

- Carbon Monoxide (CO)

This Page Intentionally Left Blank

Converting Date: 9/18/2009

Mobile Output File: C:\Run-new\MA08_WIN.TXT
Excel File: C:\Run-new\MA08_WIN.TXT

Mobile Emission Rate

Speed	Type	VOC	CO	NOx
2.7	Freeway	3.0100	27.8800	2.4400
2.7	Freeway	3.0100	27.8800	2.4400
3	Freeway	2.6800	26.2800	2.3900
3	Freeway	2.6800	26.2800	2.3900
4	Freeway	1.9000	22.5600	2.2900
4	Freeway	1.9000	22.5600	2.2900
5	Freeway	1.4300	20.3300	2.2300
5	Freeway	1.4300	20.3300	2.2300
6	Freeway	1.1900	18.7200	2.1200
6	Freeway	1.1900	18.7200	2.1200
7	Freeway	1.0500	17.5100	2.0000
7	Freeway	1.0500	17.5100	2.0000
8	Freeway	0.9400	16.6000	1.9200
8	Freeway	0.9400	16.6000	1.9200
9	Freeway	0.8600	15.8900	1.8500
9	Freeway	0.8600	15.8900	1.8500
10	Freeway	0.8000	15.3300	1.8000
10	Freeway	0.8000	15.3300	1.8000
11	Freeway	0.7500	14.8700	1.7500
11	Freeway	0.7500	14.8700	1.7500
12	Freeway	0.7100	14.5000	1.6900
12	Freeway	0.7100	14.5000	1.6900
13	Freeway	0.6700	14.1900	1.6400
13	Freeway	0.6700	14.1900	1.6400
14	Freeway	0.6500	13.9200	1.5900
14	Freeway	0.6500	13.9200	1.5900
15	Freeway	0.6200	13.6900	1.5600
15	Freeway	0.6200	13.6900	1.5600
16	Freeway	0.6000	13.5100	1.5300
16	Freeway	0.6000	13.5100	1.5300
17	Freeway	0.5900	13.4100	1.5100
17	Freeway	0.5900	13.4100	1.5100
18	Freeway	0.5700	13.3200	1.5000
18	Freeway	0.5700	13.3200	1.5000
19	Freeway	0.5600	13.2400	1.4900
19	Freeway	0.5600	13.2400	1.4900
20	Freeway	0.5500	13.1700	1.4800
20	Freeway	0.5500	13.1700	1.4800

21	Freeway	0.5400	13.1000	1.4700
21	Freeway	0.5400	13.1000	1.4700
22	Freeway	0.5300	13.0400	1.4600
22	Freeway	0.5300	13.0400	1.4600
23	Freeway	0.5300	12.9900	1.4500
23	Freeway	0.5300	12.9900	1.4500
24	Freeway	0.5200	12.9400	1.4400
24	Freeway	0.5200	12.9400	1.4400
25	Freeway	0.5100	12.8900	1.4400
25	Freeway	0.5100	12.8900	1.4400
26	Freeway	0.5100	12.8500	1.4300
26	Freeway	0.5100	12.8500	1.4300
27	Freeway	0.5000	12.8100	1.4300
27	Freeway	0.5000	12.8100	1.4300
28	Freeway	0.4900	12.7700	1.4200
28	Freeway	0.4900	12.7700	1.4200
29	Freeway	0.4900	12.7400	1.4200
29	Freeway	0.4900	12.7400	1.4200
30	Freeway	0.4800	12.7100	1.4200
30	Freeway	0.4800	12.7100	1.4200
31	Freeway	0.4800	12.7000	1.4200
31	Freeway	0.4800	12.7000	1.4200
32	Freeway	0.4700	12.7000	1.4200
32	Freeway	0.4700	12.7000	1.4200
33	Freeway	0.4700	12.7100	1.4200
33	Freeway	0.4700	12.7100	1.4200
34	Freeway	0.4700	12.7100	1.4200
34	Freeway	0.4700	12.7100	1.4200
35	Freeway	0.4600	12.7200	1.4200
35	Freeway	0.4600	12.7200	1.4200
36	Freeway	0.4600	12.7900	1.4200
36	Freeway	0.4600	12.7900	1.4200
37	Freeway	0.4600	12.8600	1.4300
37	Freeway	0.4600	12.8600	1.4300
38	Freeway	0.4500	12.9200	1.4400
38	Freeway	0.4500	12.9200	1.4400
39	Freeway	0.4500	12.9800	1.4400
39	Freeway	0.4500	12.9800	1.4400
40	Freeway	0.4500	13.0500	1.4500
40	Freeway	0.4500	13.0500	1.4500
41	Freeway	0.4500	13.1300	1.4600
41	Freeway	0.4500	13.1300	1.4600
42	Freeway	0.4500	13.2000	1.4800
42	Freeway	0.4500	13.2000	1.4800
43	Freeway	0.4400	13.2700	1.4900
43	Freeway	0.4400	13.2700	1.4900
44	Freeway	0.4400	13.3400	1.5000

44	Freeway	0.4400	13.3400	1.5000
45	Freeway	0.4400	13.4200	1.5200
45	Freeway	0.4400	13.4200	1.5200
46	Freeway	0.4400	13.5100	1.5400
46	Freeway	0.4400	13.5100	1.5400
47	Freeway	0.4400	13.5800	1.5600
47	Freeway	0.4400	13.5800	1.5600
48	Freeway	0.4400	13.6600	1.5700
48	Freeway	0.4400	13.6600	1.5700
49	Freeway	0.4300	13.7400	1.6000
49	Freeway	0.4300	13.7400	1.6000
50	Freeway	0.4300	13.8300	1.6200
50	Freeway	0.4300	13.8300	1.6200
51	Freeway	0.4300	13.9100	1.6500
51	Freeway	0.4300	13.9100	1.6500
52	Freeway	0.4300	14.0000	1.6800
52	Freeway	0.4300	14.0000	1.6800
53	Freeway	0.4300	14.0900	1.7100
53	Freeway	0.4300	14.0900	1.7100
54	Freeway	0.4300	14.1900	1.7500
54	Freeway	0.4300	14.1900	1.7500
55	Freeway	0.4300	14.2900	1.7800
55	Freeway	0.4300	14.2900	1.7800
56	Freeway	0.4200	14.3800	1.8200
56	Freeway	0.4200	14.3800	1.8200
57	Freeway	0.4200	14.4800	1.8600
57	Freeway	0.4200	14.4800	1.8600
58	Freeway	0.4200	14.5900	1.9200
58	Freeway	0.4200	14.5900	1.9200
59	Freeway	0.4200	14.7000	1.9700
59	Freeway	0.4200	14.7000	1.9700
60	Freeway	0.4200	14.8100	2.0300
60	Freeway	0.4200	14.8100	2.0300
60.7	Freeway	0.4200	14.8800	2.0600
60.7	Freeway	0.4200	14.8800	2.0600
60.7	Freeway	0.4200	14.8800	2.0600
60.7	Freeway	0.4200	14.8800	2.0600
60.7	Freeway	0.4200	14.8800	2.0600
60.7	Freeway	0.4200	14.8800	2.0600
60.7	Freeway	0.4200	14.8800	2.0600
60.7	Freeway	0.4200	14.8800	2.0600
60.7	Freeway	0.4200	14.8800	2.0600
60.7	Freeway	0.4200	14.8800	2.0600
2.5	Arterial	3.2400	28.8900	2.4100
2.5	Arterial	3.2400	28.8900	2.4100
3	Arterial	2.6200	25.9200	2.3300
3	Arterial	2.6200	25.9200	2.3300

4	Arterial	1.8400	22.2000	2.2300
4	Arterial	1.8400	22.2000	2.2300
5	Arterial	1.3700	19.9700	2.1700
5	Arterial	1.3700	19.9700	2.1700
6	Arterial	1.1900	18.4400	2.0500
6	Arterial	1.1900	18.4400	2.0500
7	Arterial	1.0600	17.3400	1.9600
7	Arterial	1.0600	17.3400	1.9600
8	Arterial	0.9600	16.5200	1.9000
8	Arterial	0.9600	16.5200	1.9000
9	Arterial	0.8800	15.8900	1.8500
9	Arterial	0.8800	15.8900	1.8500
10	Arterial	0.8200	15.3800	1.8100
10	Arterial	0.8200	15.3800	1.8100
11	Arterial	0.7700	14.9500	1.7500
11	Arterial	0.7700	14.9500	1.7500
12	Arterial	0.7400	14.6000	1.6900
12	Arterial	0.7400	14.6000	1.6900
13	Arterial	0.7100	14.3000	1.6500
13	Arterial	0.7100	14.3000	1.6500
14	Arterial	0.6800	14.0500	1.6100
14	Arterial	0.6800	14.0500	1.6100
15	Arterial	0.6600	13.8300	1.5800
15	Arterial	0.6600	13.8300	1.5800
16	Arterial	0.6300	13.6200	1.5400
16	Arterial	0.6300	13.6200	1.5400
17	Arterial	0.6100	13.4400	1.5100
17	Arterial	0.6100	13.4400	1.5100
18	Arterial	0.6000	13.2800	1.4900
18	Arterial	0.6000	13.2800	1.4900
19	Arterial	0.5800	13.1400	1.4600
19	Arterial	0.5800	13.1400	1.4600
20	Arterial	0.5700	13.0100	1.4400
20	Arterial	0.5700	13.0100	1.4400
21	Arterial	0.5600	12.9000	1.4200
21	Arterial	0.5600	12.9000	1.4200
22	Arterial	0.5400	12.8000	1.4000
22	Arterial	0.5400	12.8000	1.4000
23	Arterial	0.5300	12.7100	1.3900
23	Arterial	0.5300	12.7100	1.3900
24	Arterial	0.5200	12.6200	1.3700
24	Arterial	0.5200	12.6200	1.3700
25	Arterial	0.5100	12.5400	1.3600
25	Arterial	0.5100	12.5400	1.3600
26	Arterial	0.5100	12.5000	1.3500
26	Arterial	0.5100	12.5000	1.3500
27	Arterial	0.5000	12.4500	1.3400

27	Arterial	0.5000	12.4500	1.3400
28	Arterial	0.4900	12.4100	1.3300
28	Arterial	0.4900	12.4100	1.3300
29	Arterial	0.4900	12.3700	1.3200
29	Arterial	0.4900	12.3700	1.3200
30	Arterial	0.4800	12.3400	1.3100
30	Arterial	0.4800	12.3400	1.3100
31	Arterial	0.4800	12.3400	1.3100
31	Arterial	0.4800	12.3400	1.3100
32	Arterial	0.4700	12.3400	1.3100
32	Arterial	0.4700	12.3400	1.3100
33	Arterial	0.4700	12.3400	1.3100
33	Arterial	0.4700	12.3400	1.3100
34	Arterial	0.4600	12.3500	1.3000
34	Arterial	0.4600	12.3500	1.3000
35	Arterial	0.4600	12.3500	1.3000
35	Arterial	0.4600	12.3500	1.3000
36	Arterial	0.4500	12.4200	1.3100
36	Arterial	0.4500	12.4200	1.3100
37	Arterial	0.4500	12.4900	1.3200
37	Arterial	0.4500	12.4900	1.3200
38	Arterial	0.4500	12.5500	1.3200
38	Arterial	0.4500	12.5500	1.3200
39	Arterial	0.4500	12.6200	1.3300
39	Arterial	0.4500	12.6200	1.3300
40	Arterial	0.4400	12.6700	1.3300
40	Arterial	0.4400	12.6700	1.3300
41	Arterial	0.4400	12.7500	1.3500
41	Arterial	0.4400	12.7500	1.3500
42	Arterial	0.4400	12.8200	1.3600
42	Arterial	0.4400	12.8200	1.3600
43	Arterial	0.4400	12.8900	1.3700
43	Arterial	0.4400	12.8900	1.3700
44	Arterial	0.4400	12.9600	1.3800
44	Arterial	0.4400	12.9600	1.3800
45	Arterial	0.4400	13.0200	1.3900
45	Arterial	0.4400	13.0200	1.3900
46	Arterial	0.4300	13.1000	1.4100
46	Arterial	0.4300	13.1000	1.4100
47	Arterial	0.4300	13.1800	1.4300
47	Arterial	0.4300	13.1800	1.4300
48	Arterial	0.4300	13.2600	1.4400
48	Arterial	0.4300	13.2600	1.4400
49	Arterial	0.4300	13.3300	1.4600
49	Arterial	0.4300	13.3300	1.4600
50	Arterial	0.4300	13.3900	1.4800
50	Arterial	0.4300	13.3900	1.4800

51	Arterial	0.4300	13.4800	1.5000
51	Arterial	0.4300	13.4800	1.5000
52	Arterial	0.4200	13.5600	1.5300
52	Arterial	0.4200	13.5600	1.5300
53	Arterial	0.4200	13.6400	1.5500
53	Arterial	0.4200	13.6400	1.5500
54	Arterial	0.4200	13.7100	1.5800
54	Arterial	0.4200	13.7100	1.5800
55	Arterial	0.4200	13.7900	1.6000
55	Arterial	0.4200	13.7900	1.6000
56	Arterial	0.4200	13.8800	1.6300
56	Arterial	0.4200	13.8800	1.6300
57	Arterial	0.4200	13.9700	1.6700
57	Arterial	0.4200	13.9700	1.6700
58	Arterial	0.4200	14.0600	1.7000
58	Arterial	0.4200	14.0600	1.7000
59	Arterial	0.4200	14.1500	1.7400
59	Arterial	0.4200	14.1500	1.7400
60	Arterial	0.4100	14.2300	1.7700
60	Arterial	0.4100	14.2300	1.7700
61	Arterial	0.4100	14.3300	1.8200
61	Arterial	0.4100	14.3300	1.8200
62	Arterial	0.4100	14.4300	1.8700
62	Arterial	0.4100	14.4300	1.8700
63	Arterial	0.4100	14.5200	1.9100
63	Arterial	0.4100	14.5200	1.9100
64	Arterial	0.4100	14.6200	1.9600
64	Arterial	0.4100	14.6200	1.9600
65	Arterial	0.4100	14.7000	2.0000
65	Arterial	0.4100	14.7000	2.0000

Converting Date: 9/11/2009

Mobile Output File: C:\Run-new\MA16_WIN.TXT
Excel File: C:\Run-new\MA16_WIN.TXT

Mobile Emission Rate

Speed	Type	VOC	CO	NOx
2.7	Freeway	1.4100	19.1800	0.7600
3	Freeway	1.2600	18.1400	0.7400
4	Freeway	0.9000	15.7300	0.7100
5	Freeway	0.6800	14.2800	0.6900
6	Freeway	0.5700	13.2200	0.6600
7	Freeway	0.5000	12.4100	0.6200
8	Freeway	0.4500	11.8000	0.5900
9	Freeway	0.4100	11.3300	0.5700
10	Freeway	0.3800	10.9500	0.5600
11	Freeway	0.3600	10.6500	0.5400
12	Freeway	0.3400	10.4000	0.5200
13	Freeway	0.3200	10.1900	0.5100
14	Freeway	0.3100	10.0100	0.4900
15	Freeway	0.3000	9.8500	0.4800
16	Freeway	0.2900	9.7300	0.4700
17	Freeway	0.2800	9.6800	0.4700
18	Freeway	0.2800	9.6200	0.4600
19	Freeway	0.2700	9.5800	0.4600
20	Freeway	0.2700	9.5300	0.4600
21	Freeway	0.2600	9.5000	0.4600
22	Freeway	0.2600	9.4600	0.4500
23	Freeway	0.2500	9.4300	0.4500
24	Freeway	0.2500	9.4000	0.4500
25	Freeway	0.2500	9.3700	0.4500
26	Freeway	0.2400	9.3400	0.4500
27	Freeway	0.2400	9.3200	0.4400
28	Freeway	0.2400	9.3000	0.4400
29	Freeway	0.2400	9.2800	0.4400
30	Freeway	0.2300	9.2600	0.4400
31	Freeway	0.2300	9.2600	0.4400
32	Freeway	0.2300	9.2600	0.4400
33	Freeway	0.2300	9.2600	0.4400
34	Freeway	0.2300	9.2600	0.4400
35	Freeway	0.2200	9.2700	0.4400
36	Freeway	0.2200	9.3200	0.4400
37	Freeway	0.2200	9.3700	0.4500
38	Freeway	0.2200	9.4200	0.4500
39	Freeway	0.2200	9.4700	0.4500
40	Freeway	0.2200	9.5200	0.4500

41	Freeway	0.2200	9.5800	0.4600
42	Freeway	0.2200	9.6300	0.4600
43	Freeway	0.2200	9.6900	0.4600
44	Freeway	0.2200	9.7400	0.4700
45	Freeway	0.2100	9.8000	0.4700
46	Freeway	0.2100	9.8600	0.4800
47	Freeway	0.2100	9.9100	0.4800
48	Freeway	0.2100	9.9700	0.4900
49	Freeway	0.2100	10.0300	0.4900
50	Freeway	0.2100	10.1000	0.5000
51	Freeway	0.2100	10.1600	0.5100
52	Freeway	0.2100	10.2200	0.5200
53	Freeway	0.2100	10.2800	0.5300
54	Freeway	0.2100	10.3600	0.5400
55	Freeway	0.2100	10.4300	0.5500
56	Freeway	0.2100	10.5000	0.5600
57	Freeway	0.2100	10.5800	0.5700
58	Freeway	0.2100	10.6600	0.5900
59	Freeway	0.2100	10.7400	0.6000
60	Freeway	0.2100	10.8100	0.6200
60.7	Freeway	0.2100	10.8700	0.6300
60.7	Freeway	0.2100	10.8700	0.6300
60.7	Freeway	0.2100	10.8700	0.6300
60.7	Freeway	0.2100	10.8700	0.6300
60.7	Freeway	0.2100	10.8700	0.6300
2.5	Arterial	1.5200	19.8900	0.7500
3	Arterial	1.2300	17.9600	0.7200
4	Arterial	0.8700	15.5500	0.6900
5	Arterial	0.6600	14.1000	0.6700
6	Arterial	0.5700	13.0900	0.6400
7	Arterial	0.5100	12.3700	0.6100
8	Arterial	0.4600	11.8400	0.5900
9	Arterial	0.4300	11.4200	0.5700
10	Arterial	0.4000	11.0800	0.5600
11	Arterial	0.3800	10.8000	0.5400
12	Arterial	0.3600	10.5600	0.5300
13	Arterial	0.3400	10.3700	0.5100
14	Arterial	0.3300	10.2000	0.5000
15	Arterial	0.3200	10.0500	0.4900
16	Arterial	0.3100	9.9100	0.4800
17	Arterial	0.3000	9.7900	0.4700
18	Arterial	0.2900	9.6900	0.4600
19	Arterial	0.2800	9.5900	0.4600
20	Arterial	0.2800	9.5100	0.4500
21	Arterial	0.2700	9.4300	0.4400
22	Arterial	0.2600	9.3600	0.4400
23	Arterial	0.2600	9.3000	0.4300

24	Arterial	0.2500	9.2500	0.4300
25	Arterial	0.2500	9.1900	0.4200
26	Arterial	0.2500	9.1600	0.4200
27	Arterial	0.2400	9.1400	0.4200
28	Arterial	0.2400	9.1100	0.4100
29	Arterial	0.2400	9.0900	0.4100
30	Arterial	0.2300	9.0700	0.4100
31	Arterial	0.2300	9.0700	0.4100
32	Arterial	0.2300	9.0700	0.4100
33	Arterial	0.2300	9.0700	0.4100
34	Arterial	0.2200	9.0700	0.4100
35	Arterial	0.2200	9.0800	0.4100
36	Arterial	0.2200	9.1300	0.4100
37	Arterial	0.2200	9.1800	0.4100
38	Arterial	0.2200	9.2300	0.4100
39	Arterial	0.2200	9.2800	0.4100
40	Arterial	0.2200	9.3200	0.4200
41	Arterial	0.2200	9.3800	0.4200
42	Arterial	0.2200	9.4300	0.4200
43	Arterial	0.2100	9.4900	0.4300
44	Arterial	0.2100	9.5400	0.4300
45	Arterial	0.2100	9.5800	0.4300
46	Arterial	0.2100	9.6400	0.4400
47	Arterial	0.2100	9.7000	0.4400
48	Arterial	0.2100	9.7500	0.4500
49	Arterial	0.2100	9.8100	0.4500
50	Arterial	0.2100	9.8600	0.4600
51	Arterial	0.2100	9.9200	0.4700
52	Arterial	0.2100	9.9800	0.4700
53	Arterial	0.2100	10.0300	0.4800
54	Arterial	0.2100	10.0900	0.4900
55	Arterial	0.2100	10.1400	0.4900
56	Arterial	0.2100	10.2100	0.5000
57	Arterial	0.2100	10.2800	0.5100
58	Arterial	0.2100	10.3400	0.5200
59	Arterial	0.2100	10.4100	0.5300
60	Arterial	0.2100	10.4700	0.5400
61	Arterial	0.2100	10.5400	0.5600
62	Arterial	0.2100	10.6100	0.5700
63	Arterial	0.2100	10.6800	0.5900
64	Arterial	0.2100	10.7500	0.6000
65	Arterial	0.2100	10.8200	0.6100

Mobile Output File: C:\Run\MA30_WIN.TXT
Excel File: C:\Run\MA30_WIN.TXT

Mobile Emission Rate

Speed	Type	VOC	CO	NOx
2.7	Freeway	1.2000	19.2700	0.3000
2.7	Freeway	1.2000	19.2700	0.3000
3	Freeway	1.0600	18.2000	0.2900
3	Freeway	1.0600	18.2000	0.2900
4	Freeway	0.7500	15.6800	0.2800
4	Freeway	0.7500	15.6800	0.2800
5	Freeway	0.5600	14.1700	0.2700
5	Freeway	0.5600	14.1700	0.2700
6	Freeway	0.4600	13.0800	0.2500
6	Freeway	0.4600	13.0800	0.2500
7	Freeway	0.4000	12.2600	0.2400
7	Freeway	0.4000	12.2600	0.2400
8	Freeway	0.3600	11.6400	0.2200
8	Freeway	0.3600	11.6400	0.2200
9	Freeway	0.3300	11.1700	0.2100
9	Freeway	0.3300	11.1700	0.2100
10	Freeway	0.3000	10.7800	0.2000
10	Freeway	0.3000	10.7800	0.2000
11	Freeway	0.2800	10.4800	0.2000
11	Freeway	0.2800	10.4800	0.2000
12	Freeway	0.2700	10.2300	0.1900
12	Freeway	0.2700	10.2300	0.1900
13	Freeway	0.2600	10.0300	0.1800
13	Freeway	0.2600	10.0300	0.1800
14	Freeway	0.2400	9.8500	0.1700
14	Freeway	0.2400	9.8500	0.1700
15	Freeway	0.2300	9.7000	0.1700
15	Freeway	0.2300	9.7000	0.1700
16	Freeway	0.2300	9.5800	0.1600
16	Freeway	0.2300	9.5800	0.1600
17	Freeway	0.2200	9.5200	0.1600
17	Freeway	0.2200	9.5200	0.1600
18	Freeway	0.2200	9.4700	0.1600
18	Freeway	0.2200	9.4700	0.1600
19	Freeway	0.2100	9.4200	0.1600
19	Freeway	0.2100	9.4200	0.1600
20	Freeway	0.2100	9.3800	0.1600
20	Freeway	0.2100	9.3800	0.1600
21	Freeway	0.2000	9.3400	0.1600

21	Freeway	0.2000	9.3400	0.1600
22	Freeway	0.2000	9.3100	0.1600
22	Freeway	0.2000	9.3100	0.1600
23	Freeway	0.2000	9.2800	0.1600
23	Freeway	0.2000	9.2800	0.1600
24	Freeway	0.1900	9.2500	0.1600
24	Freeway	0.1900	9.2500	0.1600
25	Freeway	0.1900	9.2200	0.1600
25	Freeway	0.1900	9.2200	0.1600
26	Freeway	0.1900	9.1900	0.1600
26	Freeway	0.1900	9.1900	0.1600
27	Freeway	0.1900	9.1700	0.1600
27	Freeway	0.1900	9.1700	0.1600
28	Freeway	0.1800	9.1500	0.1600
28	Freeway	0.1800	9.1500	0.1600
29	Freeway	0.1800	9.1300	0.1600
29	Freeway	0.1800	9.1300	0.1600
30	Freeway	0.1800	9.1100	0.1600
30	Freeway	0.1800	9.1100	0.1600
31	Freeway	0.1800	9.1100	0.1600
31	Freeway	0.1800	9.1100	0.1600
32	Freeway	0.1800	9.1200	0.1600
32	Freeway	0.1800	9.1200	0.1600
33	Freeway	0.1700	9.1200	0.1600
33	Freeway	0.1700	9.1200	0.1600
34	Freeway	0.1700	9.1300	0.1600
34	Freeway	0.1700	9.1300	0.1600
35	Freeway	0.1700	9.1300	0.1600
35	Freeway	0.1700	9.1300	0.1600
36	Freeway	0.1700	9.1900	0.1600
36	Freeway	0.1700	9.1900	0.1600
37	Freeway	0.1700	9.2400	0.1600
37	Freeway	0.1700	9.2400	0.1600
38	Freeway	0.1700	9.2900	0.1600
38	Freeway	0.1700	9.2900	0.1600
39	Freeway	0.1700	9.3400	0.1700
39	Freeway	0.1700	9.3400	0.1700
40	Freeway	0.1700	9.3900	0.1700
40	Freeway	0.1700	9.3900	0.1700
41	Freeway	0.1700	9.4500	0.1700
41	Freeway	0.1700	9.4500	0.1700
42	Freeway	0.1700	9.5000	0.1700
42	Freeway	0.1700	9.5000	0.1700
43	Freeway	0.1700	9.5500	0.1700
43	Freeway	0.1700	9.5500	0.1700
44	Freeway	0.1600	9.6000	0.1700
44	Freeway	0.1600	9.6000	0.1700

45	Freeway	0.1600	9.6700	0.1700
45	Freeway	0.1600	9.6700	0.1700
46	Freeway	0.1600	9.7300	0.1800
46	Freeway	0.1600	9.7300	0.1800
47	Freeway	0.1600	9.7800	0.1800
47	Freeway	0.1600	9.7800	0.1800
48	Freeway	0.1600	9.8400	0.1800
48	Freeway	0.1600	9.8400	0.1800
49	Freeway	0.1600	9.9000	0.1800
49	Freeway	0.1600	9.9000	0.1800
50	Freeway	0.1600	9.9600	0.1800
50	Freeway	0.1600	9.9600	0.1800
51	Freeway	0.1600	10.0300	0.1900
51	Freeway	0.1600	10.0300	0.1900
52	Freeway	0.1600	10.0900	0.1900
52	Freeway	0.1600	10.0900	0.1900
53	Freeway	0.1600	10.1500	0.1900
53	Freeway	0.1600	10.1500	0.1900
54	Freeway	0.1600	10.2300	0.1900
54	Freeway	0.1600	10.2300	0.1900
55	Freeway	0.1600	10.3000	0.2000
55	Freeway	0.1600	10.3000	0.2000
56	Freeway	0.1600	10.3700	0.2000
56	Freeway	0.1600	10.3700	0.2000
57	Freeway	0.1600	10.4400	0.2000
57	Freeway	0.1600	10.4400	0.2000
58	Freeway	0.1600	10.5200	0.2100
58	Freeway	0.1600	10.5200	0.2100
59	Freeway	0.1600	10.6000	0.2100
59	Freeway	0.1600	10.6000	0.2100
60	Freeway	0.1600	10.6700	0.2200
60	Freeway	0.1600	10.6700	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
60.7	Freeway	0.1600	10.7200	0.2200
2.5	Arterial	1.2900	20.0400	0.3100
2.5	Arterial	1.2900	20.0400	0.3100
3	Arterial	1.0400	18.0300	0.3000
3	Arterial	1.0400	18.0300	0.3000
4	Arterial	0.7300	15.5100	0.2800

4	Arterial	0.7300	15.5100	0.2800
5	Arterial	0.5400	14.0000	0.2700
5	Arterial	0.5400	14.0000	0.2700
6	Arterial	0.4600	12.9700	0.2600
6	Arterial	0.4600	12.9700	0.2600
7	Arterial	0.4100	12.2400	0.2500
7	Arterial	0.4100	12.2400	0.2500
8	Arterial	0.3700	11.6900	0.2400
8	Arterial	0.3700	11.6900	0.2400
9	Arterial	0.3400	11.2700	0.2300
9	Arterial	0.3400	11.2700	0.2300
10	Arterial	0.3100	10.9200	0.2300
10	Arterial	0.3100	10.9200	0.2300
11	Arterial	0.3000	10.6500	0.2200
11	Arterial	0.3000	10.6500	0.2200
12	Arterial	0.2800	10.4100	0.2100
12	Arterial	0.2800	10.4100	0.2100
13	Arterial	0.2700	10.2200	0.2000
13	Arterial	0.2700	10.2200	0.2000
14	Arterial	0.2600	10.0500	0.2000
14	Arterial	0.2600	10.0500	0.2000
15	Arterial	0.2500	9.9000	0.1900
15	Arterial	0.2500	9.9000	0.1900
16	Arterial	0.2400	9.7700	0.1900
16	Arterial	0.2400	9.7700	0.1900
17	Arterial	0.2300	9.6500	0.1900
17	Arterial	0.2300	9.6500	0.1900
18	Arterial	0.2300	9.5500	0.1800
18	Arterial	0.2300	9.5500	0.1800
19	Arterial	0.2200	9.4600	0.1800
19	Arterial	0.2200	9.4600	0.1800
20	Arterial	0.2100	9.3700	0.1800
20	Arterial	0.2100	9.3700	0.1800
21	Arterial	0.2100	9.3000	0.1700
21	Arterial	0.2100	9.3000	0.1700
22	Arterial	0.2100	9.2400	0.1700
22	Arterial	0.2100	9.2400	0.1700
23	Arterial	0.2000	9.1800	0.1700
23	Arterial	0.2000	9.1800	0.1700
24	Arterial	0.2000	9.1200	0.1700
24	Arterial	0.2000	9.1200	0.1700
25	Arterial	0.1900	9.0700	0.1700
25	Arterial	0.1900	9.0700	0.1700
26	Arterial	0.1900	9.0500	0.1700
26	Arterial	0.1900	9.0500	0.1700
27	Arterial	0.1900	9.0200	0.1600
27	Arterial	0.1900	9.0200	0.1600

28	Arterial	0.1800	9.0000	0.1600
28	Arterial	0.1800	9.0000	0.1600
29	Arterial	0.1800	8.9700	0.1600
29	Arterial	0.1800	8.9700	0.1600
30	Arterial	0.1800	8.9500	0.1600
30	Arterial	0.1800	8.9500	0.1600
31	Arterial	0.1800	8.9600	0.1600
31	Arterial	0.1800	8.9600	0.1600
32	Arterial	0.1800	8.9600	0.1600
32	Arterial	0.1800	8.9600	0.1600
33	Arterial	0.1700	8.9700	0.1600
33	Arterial	0.1700	8.9700	0.1600
34	Arterial	0.1700	8.9700	0.1600
34	Arterial	0.1700	8.9700	0.1600
35	Arterial	0.1700	8.9700	0.1600
35	Arterial	0.1700	8.9700	0.1600
36	Arterial	0.1700	9.0300	0.1600
36	Arterial	0.1700	9.0300	0.1600
37	Arterial	0.1700	9.0800	0.1600
37	Arterial	0.1700	9.0800	0.1600
38	Arterial	0.1700	9.1300	0.1600
38	Arterial	0.1700	9.1300	0.1600
39	Arterial	0.1700	9.1800	0.1600
39	Arterial	0.1700	9.1800	0.1600
40	Arterial	0.1700	9.2200	0.1600
40	Arterial	0.1700	9.2200	0.1600
41	Arterial	0.1700	9.2800	0.1600
41	Arterial	0.1700	9.2800	0.1600
42	Arterial	0.1600	9.3400	0.1700
42	Arterial	0.1600	9.3400	0.1700
43	Arterial	0.1600	9.3900	0.1700
43	Arterial	0.1600	9.3900	0.1700
44	Arterial	0.1600	9.4400	0.1700
44	Arterial	0.1600	9.4400	0.1700
45	Arterial	0.1600	9.4900	0.1700
45	Arterial	0.1600	9.4900	0.1700
46	Arterial	0.1600	9.5500	0.1700
46	Arterial	0.1600	9.5500	0.1700
47	Arterial	0.1600	9.6000	0.1700
47	Arterial	0.1600	9.6000	0.1700
48	Arterial	0.1600	9.6600	0.1700
48	Arterial	0.1600	9.6600	0.1700
49	Arterial	0.1600	9.7100	0.1800
49	Arterial	0.1600	9.7100	0.1800
50	Arterial	0.1600	9.7600	0.1800
50	Arterial	0.1600	9.7600	0.1800
51	Arterial	0.1600	9.8200	0.1800

51	Arterial	0.1600	9.8200	0.1800
52	Arterial	0.1600	9.8800	0.1800
52	Arterial	0.1600	9.8800	0.1800
53	Arterial	0.1600	9.9400	0.1800
53	Arterial	0.1600	9.9400	0.1800
54	Arterial	0.1600	9.9900	0.1900
54	Arterial	0.1600	9.9900	0.1900
55	Arterial	0.1600	10.0500	0.1900
55	Arterial	0.1600	10.0500	0.1900
56	Arterial	0.1600	10.1100	0.1900
56	Arterial	0.1600	10.1100	0.1900
57	Arterial	0.1600	10.1800	0.1900
57	Arterial	0.1600	10.1800	0.1900
58	Arterial	0.1600	10.2500	0.2000
58	Arterial	0.1600	10.2500	0.2000
59	Arterial	0.1600	10.3100	0.2000
59	Arterial	0.1600	10.3100	0.2000
60	Arterial	0.1600	10.3700	0.2000
60	Arterial	0.1600	10.3700	0.2000
61	Arterial	0.1600	10.4400	0.2100
61	Arterial	0.1600	10.4400	0.2100
62	Arterial	0.1600	10.5100	0.2100
62	Arterial	0.1600	10.5100	0.2100
63	Arterial	0.1600	10.5800	0.2100
63	Arterial	0.1600	10.5800	0.2100
64	Arterial	0.1600	10.6500	0.2200
64	Arterial	0.1600	10.6500	0.2200
65	Arterial	0.1600	10.7100	0.2200
65	Arterial	0.1600	10.7100	0.2200

This Page Intentionally Left Blank

MOBILE6.2
Output Files

- Particulate Matter 10 (PM_{10})

This Page Intentionally Left Blank

2008 PM_{10} Output File – Freeway

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway 2.71 mph (= minimum allowed freeway speed)

* File 1, Run 1, Scenario 129.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2008
Month:  July
Gasoline Fuel Sulfur Content:   30. Ppm
Diesel Fuel Sulfur Content:   15. Ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3513    0.3732    0.1467           0.0366    0.0005    0.0014    0.0862    0.0040
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0040    0.0039    0.0039    0.0039    0.0425    ------    ------    ------    0.0205    0.0051
        ECARBON:    ------    ------    ------    ------    ------    0.1077    0.0277    0.1313    ------    0.0114
        OCARBON:    ------    ------    ------    ------    ------    0.0304    0.0399    0.0655    ------    0.0057
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0012    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0045    0.0045    0.0045    0.0045    0.0438    0.1382    0.0679    0.1976    0.0207
0.0228
         Brake:    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125
0.0125
          Tire:    0.0080    0.0080    0.0080    0.0080    0.0085    0.0080    0.0080    0.0247    0.0040    0.0094
       Total PM:    0.0250    0.0251    0.0251    0.0251    0.0648    0.1588    0.0884    0.2349    0.0372
0.0448
          SO2:    0.0067    0.0087    0.0115    0.0095    0.0164    0.0030    0.0052    0.0131    0.0033    0.0091
          NH3:    0.1015    0.1015    0.1015    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0925
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway speed 3 mph
* File 1, Run 1, Scenario 130.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

  Calendar Year:  2008
Month:  July
Gasoline Fuel Sulfur Content:   30. Ppm
```

Diesel Fuel Sulfur Content: 15. Ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.3513 0.3732 0.1467 0.0366 0.0005 0.0014 0.0862 0.0040 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0040 0.0039 0.0039 0.0039 0.0425 --- --- --- 0.0205 0.0051
ECARBON: --- --- --- --- --- 0.1077 0.0277 0.1313 --- 0.0114
OCARBON: --- --- --- --- --- 0.0304 0.0399 0.0655 --- 0.0057
SO4: 0.0005 0.0006 0.0006 0.0006 0.0012 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0045 0.0045 0.0045 0.0045 0.0438 0.1382 0.0679 0.1976 0.0207 0.0228
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0247 0.0040 0.0094
Total PM: 0.0250 0.0251 0.0251 0.0251 0.0648 0.1588 0.0884 0.2349 0.0372 0.0448
SO2: 0.0067 0.0087 0.0115 0.0095 0.0164 0.0030 0.0052 0.0131 0.0033 0.0091
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0925
---

* #
* MA Freeway speed 4 mph
* File 1, Run 1, Scenario 131.
* #

Calendar Year: 2008
Month: July
Gasoline Fuel Sulfur Content: 30. Ppm
Diesel Fuel Sulfur Content: 15. Ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.3513 0.3732 0.1467 0.0366 0.0005 0.0014 0.0862 0.0040 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0040 0.0039 0.0039 0.0039 0.0425 ------ ------ ------ 0.0205 0.0051
ECARBON: ------ ------ ------ ------ ------ 0.1077 0.0277 0.1313 ------ 0.0114
OCARBON: ------ ------ ------ ------ ------ 0.0304 0.0399 0.0655 ------ 0.0057
SO4: 0.0005 0.0006 0.0006 0.0006 0.0012 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0045 0.0045 0.0045 0.0045 0.0438 0.1382 0.0679 0.1976 0.0207 0.0228
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0247 0.0040 0.0094
Total PM: 0.0250 0.0251 0.0251 0.0251 0.0648 0.1588 0.0884 0.2349 0.0372 0.0448
SO2: 0.0067 0.0087 0.0115 0.0095 0.0164 0.0030 0.0052 0.0131 0.0033 0.0091
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0925

THROUGH

* #
* MA Freeway speed 65 mph
* File 1, Run 1, Scenario 192.
* #

Calendar Year: 2008
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.3513 0.3732 0.1467 0.0366 0.0005 0.0014 0.0862 0.0040 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0041 0.0040 0.0040 0.0040 0.0423 ------ ------ ------ 0.0205 0.0052
ECARBON: ------ ------ ------ ------ ------ 0.1077 0.0277 0.1313 ------ 0.0114
OCARBON: ------ ------ ------ ------ ------ 0.0304 0.0399 0.0655 ------ 0.0057
SO4: 0.0002 0.0004 0.0004 0.0004 0.0017 0.0002 0.0003 0.0009 0.0001 0.0004
Total Exhaust PM: 0.0043 0.0045 0.0045 0.0045 0.0441 0.1382 0.0679 0.1976 0.0206 0.0228

Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0247 0.0040 0.0094
Total PM: 0.0249 0.0250 0.0250 0.0250 0.0651 0.1588 0.0884 0.2349 0.0371 0.0447
SO2: 0.0068 0.0088 0.0115 0.0096 0.0163 0.0030 0.0052 0.0131 0.0033 0.0091
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0925

2008 PM_{10} Output File – Arterial

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial 2.5 mph (= minimum allowed arterial speed)
* File 1, Run 1, Scenario 193.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2008
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3513    0.3732    0.1467           0.0366    0.0005    0.0014    0.0862    0.0040
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0040    0.0039    0.0039    0.0039    0.0425    ------    ------    ------    0.0205    0.0051
        ECARBON:    ------    ------    ------    ------    ------    0.1077    0.0277    0.1313    ------    0.0114
        OCARBON:    ------    ------    ------    ------    ------    0.0304    0.0399    0.0655    ------    0.0057
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0012    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0045    0.0045    0.0045    0.0045    0.0437    0.1382    0.0679    0.1976    0.0207
0.0228
         Brake:    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125
0.0125
          Tire:    0.0080    0.0080    0.0080    0.0080    0.0085    0.0080    0.0080    0.0247    0.0040    0.0094
       Total PM:    0.0250    0.0251    0.0251    0.0251    0.0648    0.1588    0.0884    0.2349    0.0372
0.0448
          SO2:    0.0067    0.0087    0.0115    0.0095    0.0164    0.0030    0.0052    0.0131    0.0033    0.0090
          NH3:    0.1015    0.1015    0.1015    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0925
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 3 mph
* File 1, Run 1, Scenario 194.
* # # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2008
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
```

Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.3513 0.3732 0.1467 0.0366 0.0005 0.0014 0.0862 0.0040 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0040 0.0039 0.0039 0.0039 0.0425 --- --- --- 0.0205 0.0051
ECARBON: --- --- --- --- --- 0.1077 0.0277 0.1313 --- 0.0114
OCARBON: --- --- --- --- --- 0.0304 0.0399 0.0655 --- 0.0057
SO4: 0.0005 0.0006 0.0006 0.0006 0.0012 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0045 0.0045 0.0045 0.0045 0.0437 0.1382 0.0679 0.1976 0.0207 0.0228
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0247 0.0040 0.0094
Total PM: 0.0250 0.0251 0.0251 0.0251 0.0648 0.1588 0.0884 0.2349 0.0372 0.0448
SO2: 0.0067 0.0087 0.0115 0.0095 0.0164 0.0030 0.0052 0.0131 0.0033 0.0090
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0925
---

* #
* MA Arterial speed 4 mph
* File 1, Run 1, Scenario 195.
* #

Calendar Year: 2008
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.3513 0.3732 0.1467 0.0366 0.0005 0.0014 0.0862 0.0040 1.0000

Composite Emission Factors (g/mi):

Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0040 0.0039 0.0039 0.0039 0.0425 ------ ------ ------ 0.0205 0.0051
ECARBON: ------ ------ ------ ------ ------ 0.1077 0.0277 0.1313 ------ 0.0114
OCARBON: ------ ------ ------ ------ ------ 0.0304 0.0399 0.0655 ------ 0.0057
SO4: 0.0005 0.0006 0.0006 0.0006 0.0012 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0045 0.0045 0.0045 0.0045 0.0437 0.1382 0.0679 0.1976 0.0207
0.0228
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0247 0.0040 0.0094
Total PM: 0.0250 0.0251 0.0251 0.0251 0.0648 0.1588 0.0884 0.2349 0.0372
0.0448
SO2: 0.0067 0.0087 0.0115 0.0095 0.0164 0.0030 0.0052 0.0131 0.0033 0.0090
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113
0.0925

THROUGH

* #
* MA Arterial speed 65 mph
* File 1, Run 1, Scenario 256.
* #

Calendar Year: 2008
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All
Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.3513 0.3732 0.1467 0.0366 0.0005 0.0014 0.0862 0.0040
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0041 0.0040 0.0040 0.0040 0.0423 ------ ------ ------ 0.0205 0.0052
ECARBON: ------ ------ ------ ------ ------ 0.1077 0.0277 0.1313 ------ 0.0114
OCARBON: ------ ------ ------ ------ ------ 0.0304 0.0399 0.0655 ------ 0.0057
SO4: 0.0002 0.0004 0.0004 0.0004 0.0017 0.0002 0.0003 0.0009 0.0001 0.0004
Total Exhaust PM: 0.0043 0.0045 0.0045 0.0045 0.0441 0.1382 0.0679 0.1976 0.0206
0.0228
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
0.0125

Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0247 0.0040 0.0094
Total PM: 0.0249 0.0250 0.0250 0.0250 0.0651 0.1588 0.0884 0.2349 0.0371
0.0447
SO2: 0.0068 0.0088 0.0115 0.0096 0.0163 0.0030 0.0052 0.0131 0.0033 0.0091
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113
0.0925

2016 PM_{10} Output File - Freeway
* #
* MA Freeway 2.71 mph (= minimum allowed freeway speed)

* File 1, Run 1, Scenario 129.
* #

Calendar Year: 2016
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)							
	---	---	---	---	---	---	---	---	---	---
VMT Distribution:	0.2778	0.4263	0.1677		0.0370	0.0001	0.0015	0.0858	0.0037	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	---	---	---	0.0000	0.0000
GASPM:	0.0038	0.0036	0.0036	0.0036	0.0137	---	---	---	0.0205	0.0038
ECARBON:	---	---	---	---	---	0.0748	0.0058	0.0285	---	0.0025
OCARBON:	---	---	---	---	---	0.0211	0.0083	0.0145	---	0.0013
SO4:	0.0005	0.0006	0.0006	0.0006	0.0014	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0151	0.0960	0.0143	0.0439	0.0207	0.0081
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0085	0.0080	0.0080	0.0248	0.0040	0.0094
Total PM:	0.0248	0.0248	0.0248	0.0248	0.0362	0.1166	0.0349	0.0813	0.0372	0.0301
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1006	0.1014	0.1017	0.1015	0.0451	0.0068	0.0068	0.0270	0.0113	0.0923

---

* #
* MA Freeway speed 3 mph
* File 1, Run 1, Scenario 130.
* #

Calendar Year: 2016
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm

Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

```
     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677           0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0038    0.0036    0.0036    0.0036    0.0137    ------    ------    ------    0.0205    0.0038
        ECARBON:    ------    ------    ------    ------    ------    0.0748    0.0058    0.0285    ------    0.0025
        OCARBON:    ------    ------    ------    ------    ------    0.0211    0.0083    0.0145    ------    0.0013
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0014    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0042    0.0042    0.0042    0.0042    0.0151    0.0960    0.0143    0.0439    0.0207
0.0081
         Brake:    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125
0.0125
          Tire:    0.0080    0.0080    0.0080    0.0080    0.0085    0.0080    0.0080    0.0248    0.0040    0.0094
       Total PM:    0.0248    0.0248    0.0248    0.0248    0.0362    0.1166    0.0349    0.0813    0.0372
0.0301
           SO2:    0.0066    0.0087    0.0115    0.0095    0.0163    0.0029    0.0052    0.0130    0.0033    0.0092
           NH3:    0.1006    0.1014    0.1017    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0923
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway speed 4 mph
* File 1, Run 1, Scenario 131.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2016
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677           0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
```

Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0038 0.0036 0.0036 0.0036 0.0137 ------ ------ ------ 0.0205 0.0038
ECARBON: ------ ------ ------ ------ ------ 0.0748 0.0058 0.0285 ------ 0.0025
OCARBON: ------ ------ ------ ------ ------ 0.0211 0.0083 0.0145 ------ 0.0013
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0151 0.0960 0.0143 0.0439 0.0207
0.0081
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0248 0.0040 0.0094
Total PM: 0.0248 0.0248 0.0248 0.0248 0.0362 0.1166 0.0349 0.0813 0.0372
0.0301
SO2: 0.0066 0.0087 0.0115 0.0095 0.0163 0.0029 0.0052 0.0130 0.0033 0.0092
NH3: 0.1006 0.1014 0.1017 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113
0.0923

THROUGH

* #
* MA Freeway speed 65 mph
* File 1, Run 1, Scenario 192.
* #

Calendar Year: 2016
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV
MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2778 0.4263 0.1677 0.0370 0.0001 0.0015 0.0858
0.0037 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000
0.0000
GASPM: 0.0040 0.0038 0.0038 0.0038 0.0131 ------ ------ ------ 0.0205
0.0039
ECARBON: ------ ------ ------ ------ ------ 0.0748 0.0058 0.0285 ------ 0.0025
OCARBON: ------ ------ ------ ------ ------ 0.0211 0.0083 0.0145 ------ 0.0013
SO4: 0.0002 0.0004 0.0004 0.0004 0.0020 0.0002 0.0003 0.0009 0.0001
0.0005
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0152 0.0960 0.0143 0.0439
0.0206 0.0081

Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125

Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0248 0.0040 0.0094

Total PM: 0.0247 0.0248 0.0248 0.0248 0.0362 0.1166 0.0349 0.0813 0.0371 0.0301

SO2: 0.0067 0.0088 0.0115 0.0096 0.0161 0.0029 0.0052 0.0130 0.0033 0.0093

NH3: 0.1006 0.1014 0.1017 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0923

2016 PM_{10} Output File – Arterial

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial 2.5 mph (= minimum allowed arterial speed)
* File 1, Run 1, Scenario 193.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2016
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677            0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0037    0.0036    0.0036    0.0036    0.0138    ------    ------    ------    0.0205    0.0038
        ECARBON:    ------    ------    ------    ------    ------    0.0748    0.0058    0.0285    ------    0.0025
        OCARBON:    ------    ------    ------    ------    ------    0.0211    0.0083    0.0145    ------    0.0013
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0013    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0042    0.0042    0.0042    0.0042    0.0151    0.0960    0.0143    0.0439    0.0207
0.0081
         Brake:    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125
0.0125
          Tire:    0.0080    0.0080    0.0080    0.0080    0.0085    0.0080    0.0080    0.0248    0.0040    0.0094
       Total PM:    0.0248    0.0248    0.0248    0.0248    0.0362    0.1166    0.0349    0.0813    0.0372
0.0301
          SO2:    0.0066    0.0087    0.0115    0.0095    0.0163    0.0029    0.0052    0.0130    0.0033    0.0092
          NH3:    0.1006    0.1014    0.1017    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0923
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 3 mph
* File 1, Run 1, Scenario 194.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2016
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
```

Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

```
     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677           0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0037    0.0036    0.0036    0.0036    0.0138    ------    ------    ------    0.0205    0.0038
        ECARBON:    ------    ------    ------    ------    ------    0.0748    0.0058    0.0285    ------    0.0025
        OCARBON:    ------    ------    ------    ------    ------    0.0211    0.0083    0.0145    ------    0.0013
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0013    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0042    0.0042    0.0042    0.0042    0.0151    0.0960    0.0143    0.0439    0.0207
0.0081
         Brake:    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125    0.0125
0.0125
          Tire:    0.0080    0.0080    0.0080    0.0080    0.0085    0.0080    0.0080    0.0248    0.0040    0.0094
       Total PM:    0.0248    0.0248    0.0248    0.0248    0.0362    0.1166    0.0349    0.0813    0.0372
0.0301
           SO2:    0.0066    0.0087    0.0115    0.0095    0.0163    0.0029    0.0052    0.0130    0.0033    0.0092
           NH3:    0.1006    0.1014    0.1017    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0923
 ---------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 4 mph
* File 1, Run 1, Scenario 195.
* # # # # # # # # # # # # # # # # # # # # # # # # #
```

Calendar Year: 2016
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

```
     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677           0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
```

Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0138 ------ ------ ------ 0.0205 0.0038
ECARBON: ------ ------ ------ ------ ------ 0.0748 0.0058 0.0285 ------ 0.0025
OCARBON: ------ ------ ------ ------ ------ 0.0211 0.0083 0.0145 ------ 0.0013
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0151 0.0960 0.0143 0.0439 0.0207
0.0081
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0248 0.0040 0.0094
Total PM: 0.0248 0.0248 0.0248 0.0248 0.0362 0.1166 0.0349 0.0813 0.0372
0.0301
SO2: 0.0066 0.0087 0.0115 0.0095 0.0163 0.0029 0.0052 0.0130 0.0033 0.0092
NH3: 0.1006 0.1014 0.1017 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113
0.0923

THROUGH

* #
* MA Arterial speed 65 mph
* File 1, Run 1, Scenario 256.
* #

Calendar Year: 2016
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All
Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2778 0.4263 0.1677 0.0370 0.0001 0.0015 0.0858 0.0037
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0040 0.0038 0.0038 0.0038 0.0131 ------ ------ ------ 0.0205 0.0039
ECARBON: ------ ------ ------ ------ ------ 0.0748 0.0058 0.0285 ------ 0.0025
OCARBON: ------ ------ ------ ------ ------ 0.0211 0.0083 0.0145 ------ 0.0013
SO4: 0.0002 0.0004 0.0004 0.0004 0.0020 0.0002 0.0003 0.0009 0.0001 0.0005
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0152 0.0960 0.0143 0.0439 0.0206
0.0081
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
0.0125

Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0248 0.0040 0.0094
Total PM: 0.0247 0.0248 0.0248 0.0248 0.0362 0.1166 0.0349 0.0813 0.0371 0.0301
SO2: 0.0067 0.0088 0.0115 0.0096 0.0161 0.0029 0.0052 0.0130 0.0033 0.0093
NH3: 0.1006 0.1014 0.1017 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0923

MA30_SUM.PM

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                  *
* Input file: MA30_SUM.INP (file 1, run 1).                   *
*****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway 2.71 mph (= minimum allowed freeway speed)
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2030
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff:  2.50 Microns
Reformulated Gas:  Yes

Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All Veh
GVWR:             <6000     >6000     (All)
------   ------   ------   ------   ------   ------   ------   ------   ------   ------
VMT Distribution:    0.2607    0.4379    0.1723            0.0375    0.0000    0.0015    0.0864    0.0036
1.0000
-----------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
GASPM:    0.0034    0.0033    0.0033    0.0033    0.0080    ------    ------    ------    0.0142    0.0033
ECARBON:    ------    ------    ------    ------    ------    0.0000    0.0034    0.0083    ------    0.0007
OCARBON:    ------    ------    ------    ------    ------    0.0000    0.0049    0.0043    ------    0.0004
SO4:    0.0005    0.0006    0.0006    0.0006    0.0014    0.0000    0.0003    0.0009    0.0002    0.0006
Total Exhaust PM:    0.0039    0.0039    0.0039    0.0039    0.0094    0.0000    0.0086    0.0135    0.0144
0.0050
Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0000    0.0053    0.0053    0.0053    0.0053
Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0000    0.0020    0.0062    0.0010    0.0024
Total PM:    0.0112    0.0112    0.0113    0.0112    0.0169    0.0000    0.0159    0.0250    0.0207    0.0127
SO2:    0.0064    0.0087    0.0115    0.0095    0.0163    0.0000    0.0052    0.0130    0.0033    0.0092
NH3:    0.0994    0.1012    0.1017    0.1013    0.0451    0.0000    0.0068    0.0270    0.0113    0.0918
-----------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway speed 3 mph
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2030
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
```

Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0034 0.0033 0.0033 0.0033 0.0080 --- --- --- 0.0142 0.0033
ECARBON: --- --- --- --- --- 0.0000 0.0034 0.0083 --- 0.0007
OCARBON: --- --- --- --- --- 0.0000 0.0049 0.0043 --- 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0094 0.0000 0.0086 0.0135 0.0144
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0113 0.0112 0.0169 0.0000 0.0159 0.0250 0.0207 0.0127
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Freeway speed 4 mph
* File 1, Run 1, Scenario 3.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0034 0.0033 0.0033 0.0033 0.0080 --- --- --- 0.0142 0.0033
ECARBON: --- --- --- --- --- 0.0000 0.0034 0.0083 --- 0.0007
OCARBON: --- --- --- --- --- 0.0000 0.0049 0.0043 --- 0.0004

SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0094 0.0000 0.0086 0.0135 0.0144
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0113 0.0112 0.0169 0.0000 0.0159 0.0250 0.0207 0.0127
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

*********THROUGH***********

* #
* MA Freeway speed 65 mph
* File 1, Run 1, Scenario 64.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0037 0.0035 0.0035 0.0035 0.0074 --- --- --- 0.0142 0.0034
ECARBON: --- --- --- --- --- 0.0000 0.0034 0.0083 --- 0.0007
OCARBON: --- --- --- --- --- 0.0000 0.0049 0.0043 --- 0.0004
SO4: 0.0002 0.0004 0.0004 0.0004 0.0021 0.0000 0.0003 0.0009 0.0001 0.0005
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0095 0.0000 0.0086 0.0135 0.0143
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0112 0.0112 0.0170 0.0000 0.0159 0.0250 0.0206 0.0127
SO2: 0.0065 0.0087 0.0115 0.0095 0.0161 0.0000 0.0052 0.0130 0.0033 0.0093
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Arterial 2.5 mph (= minimum allowed arterial speed)

* File 1, Run 1, Scenario 65.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0081	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0000	0.0034	0.0083	------	0.0007
OCARBON:	------	------	------	------	------	0.0000	0.0049	0.0043	------	0.0004
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0000	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0000	0.0086	0.0135	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0000	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0021	0.0000	0.0020	0.0062	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0113	0.0169	0.0000	0.0159	0.0250	0.0207	0.0127
SO2:	0.0064	0.0087	0.0115	0.0095	0.0163	0.0000	0.0052	0.0130	0.0033	0.0092
NH3:	0.0994	0.1012	0.1017	0.1013	0.0451	0.0000	0.0068	0.0270	0.0113	0.0918

---

* #
* MA Arterial speed 3 mph
* File 1, Run 1, Scenario 66.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0034 0.0033 0.0033 0.0033 0.0081 ------ ------ ------ 0.0142 0.0033
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0034 0.0083 ------ 0.0007
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0049 0.0043 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0094 0.0000 0.0086 0.0135 0.0144
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0113 0.0113 0.0169 0.0000 0.0159 0.0250 0.0207 0.0127
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Arterial speed 4 mph
* File 1, Run 1, Scenario 67.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0034 0.0033 0.0033 0.0033 0.0081 ------ ------ ------ 0.0142 0.0033
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0034 0.0083 ------ 0.0007
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0049 0.0043 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0094 0.0000 0.0086 0.0135 0.0144
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0113 0.0113 0.0169 0.0000 0.0159 0.0250 0.0207 0.0127
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

*********THROUGH**********

* #
* MA Arterial speed 65 mph
* File 1, Run 1, Scenario 128.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0074	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0000	0.0034	0.0083	------	0.0007
OCARBON:	------	------	------	------	------	0.0000	0.0049	0.0043	------	0.0004
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0000	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0095	0.0000	0.0086	0.0135	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0000	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0021	0.0000	0.0020	0.0062	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0170	0.0000	0.0159	0.0250	0.0206	0.0127
SO2:	0.0065	0.0087	0.0115	0.0095	0.0161	0.0000	0.0052	0.0130	0.0033	0.0093
NH3:	0.0994	0.1012	0.1017	0.1013	0.0451	0.0000	0.0068	0.0270	0.0113	0.0918

---

* #
* MA Freeway 2.71 mph (= minimum allowed freeway speed)
* File 1, Run 1, Scenario 129.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 ------ ------ ------ 0.0205 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207
0.0054
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0313 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Freeway speed 3 mph
* File 1, Run 1, Scenario 130.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 ------ ------ ------ 0.0205 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207
0.0054

Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0313 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Freeway speed 4 mph
* File 1, Run 1, Scenario 131.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 --- --- --- 0.0205 0.0036
ECARBON: --- --- --- --- --- 0.0000 0.0037 0.0090 --- 0.0008
OCARBON: --- --- --- --- --- 0.0000 0.0053 0.0046 --- 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207
0.0054
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0313 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

*********THROUGH***********

* #
* MA Freeway speed 65 mph
* File 1, Run 1, Scenario 192.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0040	0.0038	0.0038	0.0038	0.0081	------	------	------	0.0205	0.0037
ECARBON:	------	------	------	------	------	0.0000	0.0037	0.0090	------	0.0008
OCARBON:	------	------	------	------	------	0.0000	0.0053	0.0046	------	0.0004
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0000	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0102	0.0000	0.0093	0.0146	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0000	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0085	0.0000	0.0080	0.0248	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0000	0.0299	0.0520	0.0371	0.0274
SO2:	0.0065	0.0087	0.0115	0.0095	0.0161	0.0000	0.0052	0.0130	0.0033	0.0093
NH3:	0.0994	0.1012	0.1017	0.1013	0.0451	0.0000	0.0068	0.0270	0.0113	0.0918

* #
* MA Arterial 2.5 mph (= minimum allowed arterial speed)
* File 1, Run 1, Scenario 193.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000

GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 ------ ------ ------ 0.0205 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207 0.0054
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0312 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
----

* #
* MA Arterial speed 3 mph
* File 1, Run 1, Scenario 194.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 ------ ------ ------ 0.0205 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207 0.0054
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0312 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 4 mph
* File 1, Run 1, Scenario 195.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2030
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas:  Yes

Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All Veh
GVWR:             <6000     >6000     (All)
------   ------   ------   ------   ------   ------   ------   ------   ------   ------
VMT Distribution:    0.2607    0.4379    0.1723           0.0375    0.0000    0.0015    0.0864    0.0036
1.0000
-----------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
GASPM:    0.0037    0.0036    0.0036    0.0036    0.0088    ------    ------    ------    0.0205    0.0036
ECARBON:    ------    ------    ------    ------    ------    0.0000    0.0037    0.0090    ------    0.0008
OCARBON:    ------    ------    ------    ------    ------    0.0000    0.0053    0.0046    ------    0.0004
SO4:    0.0005    0.0006    0.0006    0.0006    0.0013    0.0000    0.0003    0.0009    0.0002    0.0006
Total Exhaust PM:    0.0042    0.0042    0.0042    0.0042    0.0102    0.0000    0.0093    0.0146    0.0207
0.0054
Brake:    0.0125    0.0125    0.0125    0.0125    0.0125    0.0000    0.0125    0.0125    0.0125    0.0125
Tire:    0.0080    0.0080    0.0080    0.0080    0.0085    0.0000    0.0080    0.0248    0.0040    0.0095
Total PM:    0.0247    0.0247    0.0247    0.0247    0.0312    0.0000    0.0299    0.0520    0.0372    0.0274
SO2:    0.0064    0.0087    0.0115    0.0095    0.0163    0.0000    0.0052    0.0130    0.0033    0.0092
NH3:    0.0994    0.1012    0.1017    0.1013    0.0451    0.0000    0.0068    0.0270    0.0113    0.0918
-----------------------------------------------------------------------------------------------------------------

**********THROUGH*********

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 65 mph
* File 1, Run 1, Scenario 256.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2030
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas:  Yes

Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All Veh
```

GVWR: <6000 >6000 (All)

------ ------ ------ ------ ------ ------ ------ ------ ------ ------

VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036 1.0000

Composite Emission Factors (g/mi):

Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000

GASPM: 0.0040 0.0038 0.0038 0.0038 0.0081 ------ ------ ------ 0.0205 0.0037

ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008

OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004

SO4: 0.0002 0.0004 0.0004 0.0004 0.0021 0.0000 0.0003 0.0009 0.0001 0.0005

Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0206 0.0054

Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125

Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095

Total PM: 0.0247 0.0247 0.0247 0.0247 0.0313 0.0000 0.0299 0.0520 0.0371 0.0274

SO2: 0.0065 0.0087 0.0115 0.0095 0.0161 0.0000 0.0052 0.0130 0.0033 0.0093

NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

MOBILE6.2
Output Files

- Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank

2008 $PM_{2.5}$ Output File - Freeway

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                  *
* Input file: MA08_SUM.INP (file 1, run 1).                        *
*****************************************************************************
* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway 2.71 mph (= minimum allowed freeway speed)

* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2008
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff:  2.50 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3513    0.3732    0.1467            0.0366    0.0005    0.0014    0.0862    0.0040
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0037    0.0036    0.0036    0.0036    0.0381    ------    ------    ------    0.0142    0.0046
        ECARBON:    ------    ------    ------    ------    ------    0.0991    0.0255    0.1208    ------    0.0105
        OCARBON:    ------    ------    ------    ------    ------    0.0279    0.0367    0.0602    ------    0.0053
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0012    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0042    0.0042    0.0042    0.0042    0.0393    0.1272    0.0625    0.1819    0.0144
0.0210
         Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
0.0053
          Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0020    0.0020    0.0062    0.0010    0.0024
       Total PM:    0.0115    0.0116    0.0115    0.0116    0.0468    0.1345    0.0698    0.1934    0.0207
0.0287
           SO2:    0.0067    0.0087    0.0115    0.0095    0.0164    0.0030    0.0052    0.0131    0.0033    0.0091
           NH3:    0.1015    0.1015    0.1015    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0925
 ---------------------------------------------------------------------------------------------------------------
```

```
 * # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway speed 3 mph
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2008
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
 Particle Size Cutoff:  2.50 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3513    0.3732    0.1467           0.0366    0.0005    0.0014    0.0862    0.0040
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
          GASPM:    0.0037    0.0036    0.0036    0.0036    0.0381    ------    ------    ------    0.0142    0.0046
         ECARBON:    ------    ------    ------    ------    ------    0.0991    0.0255    0.1208    ------    0.0105
         OCARBON:    ------    ------    ------    ------    ------    0.0279    0.0367    0.0602    ------    0.0053
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0012    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0042    0.0042    0.0042    0.0042    0.0393    0.1272    0.0625    0.1819    0.0144
0.0210
          Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
0.0053
          Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0020    0.0020    0.0062    0.0010    0.0024
        Total PM:    0.0115    0.0116    0.0115    0.0116    0.0468    0.1345    0.0698    0.1934    0.0207
0.0287
          SO2:    0.0067    0.0087    0.0115    0.0095    0.0164    0.0030    0.0052    0.0131    0.0033    0.0091
          NH3:    0.1015    0.1015    0.1015    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0925
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway speed 4 mph
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2008
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff:  2.50 Microns
Reformulated Gas:  Yes
```

```
     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3513    0.3732    0.1467           0.0366    0.0005    0.0014    0.0862    0.0040
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
          GASPM:    0.0037    0.0036    0.0036    0.0036    0.0381    ------    ------    ------    0.0142    0.0046
         ECARBON:    ------    ------    ------    ------    ------    0.0991    0.0255    0.1208    ------    0.0105
         OCARBON:    ------    ------    ------    ------    ------    0.0279    0.0367    0.0602    ------    0.0053
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0012    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0042    0.0042    0.0042    0.0042    0.0393    0.1272    0.0625    0.1819    0.0144
0.0210
          Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
0.0053
          Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0020    0.0020    0.0062    0.0010    0.0024
        Total PM:    0.0115    0.0116    0.0115    0.0116    0.0468    0.1345    0.0698    0.1934    0.0207
0.0287
          SO2:    0.0067    0.0087    0.0115    0.0095    0.0164    0.0030    0.0052    0.0131    0.0033    0.0091
          NH3:    0.1015    0.1015    0.1015    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0925
 ---------------------------------------------------------------------------------------------------------------

                                                  *THROUGH*

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway speed 65 mph
* File 1, Run 1, Scenario 64.
* # # # # # # # # # # # # # # # # # # # # # # # # #

 Calendar Year:  2008
 Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff:  2.50 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3513    0.3732    0.1467           0.0366    0.0005    0.0014    0.0862    0.0040
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
```

Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0038 0.0037 0.0037 0.0037 0.0379 ------ ------ ------ 0.0142 0.0047
ECARBON: ------ ------ ------ ------ ------ 0.0991 0.0255 0.1208 ------ 0.0105
OCARBON: ------ ------ ------ ------ ------ 0.0279 0.0367 0.0602 ------ 0.0053
SO4: 0.0002 0.0004 0.0004 0.0004 0.0017 0.0002 0.0003 0.0009 0.0001 0.0004
Total Exhaust PM: 0.0040 0.0041 0.0041 0.0041 0.0396 0.1272 0.0625 0.1819 0.0143 0.0209
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0020 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0113 0.0115 0.0115 0.0115 0.0471 0.1345 0.0698 0.1934 0.0206 0.0286
SO2: 0.0068 0.0088 0.0115 0.0096 0.0163 0.0030 0.0052 0.0131 0.0033 0.0091
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0925

2008 $PM_{2.5}$ Output File - Arterial

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial 2.5 mph (= minimum allowed arterial speed)
* File 1, Run 1, Scenario 65.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2008
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff:  2.50 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3513    0.3732    0.1467           0.0366    0.0005    0.0014    0.0862    0.0040
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0037    0.0036    0.0036    0.0036    0.0381    ------    ------    ------    0.0142    0.0046
        ECARBON:    ------    ------    ------    ------    ------    0.0991    0.0255    0.1208    ------    0.0105
        OCARBON:    ------    ------    ------    ------    ------    0.0279    0.0367    0.0602    ------    0.0053
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0012    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0042    0.0042    0.0042    0.0042    0.0393    0.1272    0.0625    0.1819    0.0144
0.0210
         Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
0.0053
          Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0020    0.0020    0.0062    0.0010    0.0024
       Total PM:    0.0115    0.0116    0.0115    0.0116    0.0468    0.1345    0.0698    0.1934    0.0207
0.0287
          SO2:    0.0067    0.0087    0.0115    0.0095    0.0164    0.0030    0.0052    0.0131    0.0033    0.0090
          NH3:    0.1015    0.1015    0.1015    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0925
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 3 mph
* File 1, Run 1, Scenario 66.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2008
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. Ppm
```

Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.3513 0.3732 0.1467 0.0366 0.0005 0.0014 0.0862 0.0040 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0381 --- --- --- 0.0142 0.0046
ECARBON: --- --- --- --- --- 0.0991 0.0255 0.1208 --- 0.0105
OCARBON: --- --- --- --- --- 0.0279 0.0367 0.0602 --- 0.0053
SO4: 0.0005 0.0006 0.0006 0.0006 0.0012 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0393 0.1272 0.0625 0.1819 0.0144 0.0210
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0020 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0115 0.0116 0.0115 0.0116 0.0468 0.1345 0.0698 0.1934 0.0207 0.0287
SO2: 0.0067 0.0087 0.0115 0.0095 0.0164 0.0030 0.0052 0.0131 0.0033 0.0090
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0925
---

* #
* MA Arterial speed 4 mph
* File 1, Run 1, Scenario 67.
* #

Calendar Year: 2008
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.3513 0.3732 0.1467 0.0366 0.0005 0.0014 0.0862 0.0040 1.0000

Composite Emission Factors (g/mi):

Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0381 ------ ------ ------ 0.0142 0.0046
ECARBON: ------ ------ ------ ------ ------ 0.0991 0.0255 0.1208 ------ 0.0105
OCARBON: ------ ------ ------ ------ ------ 0.0279 0.0367 0.0602 ------ 0.0053
SO4: 0.0005 0.0006 0.0006 0.0006 0.0012 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0393 0.1272 0.0625 0.1819 0.0144
0.0210
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053
0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0020 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0115 0.0116 0.0115 0.0116 0.0468 0.1345 0.0698 0.1934 0.0207
0.0287
SO2: 0.0067 0.0087 0.0115 0.0095 0.0164 0.0030 0.0052 0.0131 0.0033 0.0090
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113
0.0925

THROUGH

* #
* MA Arterial speed 65 mph
* File 1, Run 1, Scenario 256.
* #

Calendar Year: 2008
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All
Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.3513 0.3732 0.1467 0.0366 0.0005 0.0014 0.0862 0.0040
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0041 0.0040 0.0040 0.0040 0.0423 ------ ------ ------ 0.0205 0.0052
ECARBON: ------ ------ ------ ------ ------ 0.1077 0.0277 0.1313 ------ 0.0114
OCARBON: ------ ------ ------ ------ ------ 0.0304 0.0399 0.0655 ------ 0.0057
SO4: 0.0002 0.0004 0.0004 0.0004 0.0017 0.0002 0.0003 0.0009 0.0001 0.0004
Total Exhaust PM: 0.0043 0.0045 0.0045 0.0045 0.0441 0.1382 0.0679 0.1976 0.0206
0.0228
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125 0.0125
0.0125

Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0080 0.0080 0.0247 0.0040 0.0094
Total PM: 0.0249 0.0250 0.0250 0.0250 0.0651 0.1588 0.0884 0.2349 0.0371
0.0447
SO2: 0.0068 0.0088 0.0115 0.0096 0.0163 0.0030 0.0052 0.0131 0.0033 0.0091
NH3: 0.1015 0.1015 0.1015 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113
0.0925

2016 $PM_{2.5}$ Output File – Freeway

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                  *
* Input file: MA16_SUM.INP (file 1, run 1).                        *
*****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway 2.71 mph (= minimum allowed freeway speed)

* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                    Calendar Year:  2016
                           Month:  July
          Gasoline Fuel Sulfur Content:   30. ppm
           Diesel Fuel Sulfur Content:   15. ppm
               Particle Size Cutoff:  2.50 Microns
                  Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV      MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677            0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0035    0.0034    0.0034    0.0034    0.0124    ------    ------    ------    0.0142    0.0035
        ECARBON:    ------    ------    ------    ------    ------    0.0688    0.0053    0.0262    ------    0.0023
        OCARBON:    ------    ------    ------    ------    ------    0.0194    0.0076    0.0134    ------    0.0012
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0014    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0039    0.0039    0.0039    0.0039    0.0138    0.0884    0.0132    0.0405    0.0144
0.0075
         Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
0.0053
          Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0020    0.0020    0.0062    0.0010    0.0024
       Total PM:    0.0113    0.0113    0.0113    0.0113    0.0213    0.0957    0.0205    0.0520    0.0207
0.0152
           SO2:    0.0066    0.0087    0.0115    0.0095    0.0163    0.0029    0.0052    0.0130    0.0033    0.0092
           NH3:    0.1006    0.1014    0.1017    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0923
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway speed 3 mph
* File 1, Run 1, Scenario 2.
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #

                    Calendar Year:  2016
                         Month:  July
          Gasoline Fuel Sulfur Content:   30. ppm
           Diesel Fuel Sulfur Content:   15. ppm
               Particle Size Cutoff:  2.50 Microns
                  Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677           0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0035    0.0034    0.0034    0.0034    0.0124    ------    ------    ------    0.0142    0.0035
        ECARBON:    ------    ------    ------    ------    ------    0.0688    0.0053    0.0262    ------    0.0023
        OCARBON:    ------    ------    ------    ------    ------    0.0194    0.0076    0.0134    ------    0.0012
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0014    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0039    0.0039    0.0039    0.0039    0.0138    0.0884    0.0132    0.0405    0.0144
0.0075
         Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
0.0053
          Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0020    0.0020    0.0062    0.0010    0.0024
       Total PM:    0.0113    0.0113    0.0113    0.0113    0.0213    0.0957    0.0205    0.0520    0.0207
0.0152
          SO2:    0.0066    0.0087    0.0115    0.0095    0.0163    0.0029    0.0052    0.0130    0.0033    0.0092
          NH3:    0.1006    0.1014    0.1017    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0923
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway speed 4 mph
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #

                    Calendar Year:  2016
                         Month:  July
          Gasoline Fuel Sulfur Content:   30. ppm
           Diesel Fuel Sulfur Content:   15. ppm
               Particle Size Cutoff:  2.50 Microns
                  Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
```

GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2778 0.4263 0.1677 0.0370 0.0001 0.0015 0.0858 0.0037 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0035 0.0034 0.0034 0.0034 0.0124 ------ ------ ------ 0.0142 0.0035
ECARBON: ------ ------ ------ ------ ------ 0.0688 0.0053 0.0262 ------ 0.0023
OCARBON: ------ ------ ------ ------ ------ 0.0194 0.0076 0.0134 ------ 0.0012
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0138 0.0884 0.0132 0.0405 0.0144 0.0075
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0020 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0113 0.0113 0.0113 0.0113 0.0213 0.0957 0.0205 0.0520 0.0207 0.0152
SO2: 0.0066 0.0087 0.0115 0.0095 0.0163 0.0029 0.0052 0.0130 0.0033 0.0092
NH3: 0.1006 0.1014 0.1017 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0923

THROUGH

* #
* MA Freeway speed 65 mph
* File 1, Run 1, Scenario 64.
* #

Calendar Year: 2016
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2778 0.4263 0.1677 0.0370 0.0001 0.0015 0.0858 0.0037 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0035 0.0035 0.0035 0.0119 ------ ------ ------ 0.0142 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0688 0.0053 0.0262 ------ 0.0023

OCARBON: ------ ------ ------ ------ ------ 0.0194 0.0076 0.0134 ------ 0.0012
SO4: 0.0002 0.0004 0.0004 0.0004 0.0020 0.0002 0.0003 0.0009 0.0001 0.0005
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0140 0.0884 0.0132 0.0405 0.0143 0.0075
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0020 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0113 0.0113 0.0113 0.0214 0.0957 0.0205 0.0520 0.0206 0.0152
SO2: 0.0067 0.0088 0.0115 0.0096 0.0161 0.0029 0.0052 0.0130 0.0033 0.0093
NH3: 0.1006 0.1014 0.1017 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0923

2016 $PM_{2.5}$ Output File – Arterial

```
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial 2.5 mph (= minimum allowed arterial speed)
* File 1, Run 1, Scenario 65.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #
Calendar Year:  2016
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff:  2.50 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                 ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677            0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0034    0.0033    0.0033    0.0033    0.0125    ------    ------    ------    0.0142    0.0035
        ECARBON:    ------    ------    ------    ------    ------    0.0688    0.0053    0.0262    ------    0.0023
        OCARBON:    ------    ------    ------    ------    ------    0.0194    0.0076    0.0134    ------    0.0012
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0013    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0039    0.0039    0.0039    0.0039    0.0138    0.0884    0.0132    0.0405    0.0144
0.0075
         Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
0.0053
          Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0020    0.0020    0.0062    0.0010    0.0024
       Total PM:    0.0113    0.0113    0.0113    0.0113    0.0213    0.0957    0.0205    0.0520    0.0207
0.0152
           SO2:    0.0066    0.0087    0.0115    0.0095    0.0163    0.0029    0.0052    0.0130    0.0033    0.0092
           NH3:    0.1006    0.1014    0.1017    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0923
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 3 mph
* File 1, Run 1, Scenario 66.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2016
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff:  2.50 Microns
```

Reformulated Gas: Yes

```
     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                 ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677            0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
         GASPM:    0.0034    0.0033    0.0033    0.0033    0.0125    ------    ------    ------    0.0142    0.0035
        ECARBON:    ------    ------    ------    ------    ------    0.0688    0.0053    0.0262    ------    0.0023
        OCARBON:    ------    ------    ------    ------    ------    0.0194    0.0076    0.0134    ------    0.0012
           SO4:    0.0005    0.0006    0.0006    0.0006    0.0013    0.0002    0.0003    0.0009    0.0002    0.0006
  Total Exhaust PM:    0.0039    0.0039    0.0039    0.0039    0.0138    0.0884    0.0132    0.0405    0.0144
0.0075
         Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053    0.0053
0.0053
          Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0020    0.0020    0.0062    0.0010    0.0024
       Total PM:    0.0113    0.0113    0.0113    0.0113    0.0213    0.0957    0.0205    0.0520    0.0207
0.0152
          SO2:    0.0066    0.0087    0.0115    0.0095    0.0163    0.0029    0.0052    0.0130    0.0033    0.0092
          NH3:    0.1006    0.1014    0.1017    0.1015    0.0451    0.0068    0.0068    0.0270    0.0113
0.0923
 ---------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 4 mph
* File 1, Run 1, Scenario 67.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2016
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff:  2.50 Microns
Reformulated Gas:  Yes

     Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All
Veh
          GVWR:            <6000     >6000     (All)
                 ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2778    0.4263    0.1677            0.0370    0.0001    0.0015    0.0858    0.0037
1.0000
 ---------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
          Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
```

GASPM: 0.0034 0.0033 0.0033 0.0033 0.0125 ------ ------ ------ 0.0142 0.0035
ECARBON: ------ ------ ------ ------ ------ 0.0688 0.0053 0.0262 ------ 0.0023
OCARBON: ------ ------ ------ ------ ------ 0.0194 0.0076 0.0134 ------ 0.0012
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0002 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0138 0.0884 0.0132 0.0405 0.0144
0.0075
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053
0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0020 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0113 0.0113 0.0113 0.0113 0.0213 0.0957 0.0205 0.0520 0.0207
0.0152
SO2: 0.0066 0.0087 0.0115 0.0095 0.0163 0.0029 0.0052 0.0130 0.0033 0.0092
NH3: 0.1006 0.1014 0.1017 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113
0.0923

THROUGH

* #
* MA Arterial speed 65 mph
* File 1, Run 1, Scenario 128.
* #

Calendar Year: 2016
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All
Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2778 0.4263 0.1677 0.0370 0.0001 0.0015 0.0858 0.0037
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0035 0.0035 0.0035 0.0119 ------ ------ ------ 0.0142 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0688 0.0053 0.0262 ------ 0.0023
OCARBON: ------ ------ ------ ------ ------ 0.0194 0.0076 0.0134 ------ 0.0012
SO4: 0.0002 0.0004 0.0004 0.0004 0.0020 0.0002 0.0003 0.0009 0.0001 0.0005
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0140 0.0884 0.0132 0.0405 0.0143
0.0075
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053 0.0053
0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0020 0.0020 0.0062 0.0010 0.0024

Total PM: 0.0112 0.0113 0.0113 0.0113 0.0214 0.0957 0.0205 0.0520 0.0206 0.0152

SO2: 0.0067 0.0088 0.0115 0.0096 0.0161 0.0029 0.0052 0.0130 0.0033 0.0093

NH3: 0.1006 0.1014 0.1017 0.1015 0.0451 0.0068 0.0068 0.0270 0.0113 0.0923

MA30_SUM.PM

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                  *
* Input file: MA30_SUM.INP (file 1, run 1).                   *
*****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway 2.71 mph (= minimum allowed freeway speed)
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2030
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff:  2.50 Microns
Reformulated Gas:  Yes

Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All Veh
GVWR:             <6000     >6000     (All)
------   ------   ------   ------   ------   ------   ------   ------   ------   ------
VMT Distribution:    0.2607    0.4379    0.1723            0.0375    0.0000    0.0015    0.0864    0.0036
1.0000
-----------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
GASPM:    0.0034    0.0033    0.0033    0.0033    0.0080    ------    ------    ------    0.0142    0.0033
ECARBON:    ------    ------    ------    ------    ------    0.0000    0.0034    0.0083    ------    0.0007
OCARBON:    ------    ------    ------    ------    ------    0.0000    0.0049    0.0043    ------    0.0004
SO4:    0.0005    0.0006    0.0006    0.0006    0.0014    0.0000    0.0003    0.0009    0.0002    0.0006
Total Exhaust PM:    0.0039    0.0039    0.0039    0.0039    0.0094    0.0000    0.0086    0.0135    0.0144
0.0050
Brake:    0.0053    0.0053    0.0053    0.0053    0.0053    0.0000    0.0053    0.0053    0.0053    0.0053
Tire:    0.0020    0.0020    0.0020    0.0020    0.0021    0.0000    0.0020    0.0062    0.0010    0.0024
Total PM:    0.0112    0.0112    0.0113    0.0112    0.0169    0.0000    0.0159    0.0250    0.0207    0.0127
SO2:    0.0064    0.0087    0.0115    0.0095    0.0163    0.0000    0.0052    0.0130    0.0033    0.0092
NH3:    0.0994    0.1012    0.1017    0.1013    0.0451    0.0000    0.0068    0.0270    0.0113    0.0918
-----------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Freeway speed 3 mph
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2030
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
```

Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0034 0.0033 0.0033 0.0033 0.0080 --- --- --- 0.0142 0.0033
ECARBON: --- --- --- --- --- 0.0000 0.0034 0.0083 --- 0.0007
OCARBON: --- --- --- --- --- 0.0000 0.0049 0.0043 --- 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0094 0.0000 0.0086 0.0135 0.0144
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0113 0.0112 0.0169 0.0000 0.0159 0.0250 0.0207 0.0127
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Freeway speed 4 mph
* File 1, Run 1, Scenario 3.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0034 0.0033 0.0033 0.0033 0.0080 --- --- --- 0.0142 0.0033
ECARBON: --- --- --- --- --- 0.0000 0.0034 0.0083 --- 0.0007
OCARBON: --- --- --- --- --- 0.0000 0.0049 0.0043 --- 0.0004

SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0094 0.0000 0.0086 0.0135 0.0144
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0113 0.0112 0.0169 0.0000 0.0159 0.0250 0.0207 0.0127
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

*********THROUGH***********

* #
* MA Freeway speed 65 mph
* File 1, Run 1, Scenario 64.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0037 0.0035 0.0035 0.0035 0.0074 --- --- --- 0.0142 0.0034
ECARBON: --- --- --- --- --- 0.0000 0.0034 0.0083 --- 0.0007
OCARBON: --- --- --- --- --- 0.0000 0.0049 0.0043 --- 0.0004
SO4: 0.0002 0.0004 0.0004 0.0004 0.0021 0.0000 0.0003 0.0009 0.0001 0.0005
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0095 0.0000 0.0086 0.0135 0.0143
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0112 0.0112 0.0170 0.0000 0.0159 0.0250 0.0206 0.0127
SO2: 0.0065 0.0087 0.0115 0.0095 0.0161 0.0000 0.0052 0.0130 0.0033 0.0093
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Arterial 2.5 mph (= minimum allowed arterial speed)

* File 1, Run 1, Scenario 65.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0034	0.0033	0.0033	0.0033	0.0081	------	------	------	0.0142	0.0033
ECARBON:	------	------	------	------	------	0.0000	0.0034	0.0083	------	0.0007
OCARBON:	------	------	------	------	------	0.0000	0.0049	0.0043	------	0.0004
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0000	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0094	0.0000	0.0086	0.0135	0.0144	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0000	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0021	0.0000	0.0020	0.0062	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0113	0.0113	0.0169	0.0000	0.0159	0.0250	0.0207	0.0127
SO2:	0.0064	0.0087	0.0115	0.0095	0.0163	0.0000	0.0052	0.0130	0.0033	0.0092
NH3:	0.0994	0.1012	0.1017	0.1013	0.0451	0.0000	0.0068	0.0270	0.0113	0.0918

---

* #
* MA Arterial speed 3 mph
* File 1, Run 1, Scenario 66.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0034 0.0033 0.0033 0.0033 0.0081 ------ ------ ------ 0.0142 0.0033
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0034 0.0083 ------ 0.0007
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0049 0.0043 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0094 0.0000 0.0086 0.0135 0.0144
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0113 0.0113 0.0169 0.0000 0.0159 0.0250 0.0207 0.0127
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Arterial speed 4 mph
* File 1, Run 1, Scenario 67.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0034 0.0033 0.0033 0.0033 0.0081 ------ ------ ------ 0.0142 0.0033
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0034 0.0083 ------ 0.0007
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0049 0.0043 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0039 0.0039 0.0039 0.0039 0.0094 0.0000 0.0086 0.0135 0.0144
0.0050
Brake: 0.0053 0.0053 0.0053 0.0053 0.0053 0.0000 0.0053 0.0053 0.0053 0.0053
Tire: 0.0020 0.0020 0.0020 0.0020 0.0021 0.0000 0.0020 0.0062 0.0010 0.0024
Total PM: 0.0112 0.0112 0.0113 0.0113 0.0169 0.0000 0.0159 0.0250 0.0207 0.0127
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

*********THROUGH**********

* #
* MA Arterial speed 65 mph
* File 1, Run 1, Scenario 128.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 2.50 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0037	0.0035	0.0035	0.0035	0.0074	------	------	------	0.0142	0.0034
ECARBON:	------	------	------	------	------	0.0000	0.0034	0.0083	------	0.0007
OCARBON:	------	------	------	------	------	0.0000	0.0049	0.0043	------	0.0004
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0000	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0095	0.0000	0.0086	0.0135	0.0143	0.0050
Brake:	0.0053	0.0053	0.0053	0.0053	0.0053	0.0000	0.0053	0.0053	0.0053	0.0053
Tire:	0.0020	0.0020	0.0020	0.0020	0.0021	0.0000	0.0020	0.0062	0.0010	0.0024
Total PM:	0.0112	0.0112	0.0112	0.0112	0.0170	0.0000	0.0159	0.0250	0.0206	0.0127
SO2:	0.0065	0.0087	0.0115	0.0095	0.0161	0.0000	0.0052	0.0130	0.0033	0.0093
NH3:	0.0994	0.1012	0.1017	0.1013	0.0451	0.0000	0.0068	0.0270	0.0113	0.0918

---

* #
* MA Freeway 2.71 mph (= minimum allowed freeway speed)
* File 1, Run 1, Scenario 129.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 ------ ------ ------ 0.0205 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207
0.0054
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0313 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Freeway speed 3 mph
* File 1, Run 1, Scenario 130.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 ------ ------ ------ 0.0205 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207
0.0054

Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0313 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
---

* #
* MA Freeway speed 4 mph
* File 1, Run 1, Scenario 131.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
--- --- --- --- --- --- --- --- --- ---
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036
1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 --- --- --- 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 --- --- --- 0.0205 0.0036
ECARBON: --- --- --- --- --- 0.0000 0.0037 0.0090 --- 0.0008
OCARBON: --- --- --- --- --- 0.0000 0.0053 0.0046 --- 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0014 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207
0.0054
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0313 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

*********THROUGH***********

* #
* MA Freeway speed 65 mph
* File 1, Run 1, Scenario 192.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0040	0.0038	0.0038	0.0038	0.0081	------	------	------	0.0205	0.0037
ECARBON:	------	------	------	------	------	0.0000	0.0037	0.0090	------	0.0008
OCARBON:	------	------	------	------	------	0.0000	0.0053	0.0046	------	0.0004
SO4:	0.0002	0.0004	0.0004	0.0004	0.0021	0.0000	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0102	0.0000	0.0093	0.0146	0.0206	0.0054
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0000	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0085	0.0000	0.0080	0.0248	0.0040	0.0095
Total PM:	0.0247	0.0247	0.0247	0.0247	0.0313	0.0000	0.0299	0.0520	0.0371	0.0274
SO2:	0.0065	0.0087	0.0115	0.0095	0.0161	0.0000	0.0052	0.0130	0.0033	0.0093
NH3:	0.0994	0.1012	0.1017	0.1013	0.0451	0.0000	0.0068	0.0270	0.0113	0.0918

* #
* MA Arterial 2.5 mph (= minimum allowed arterial speed)
* File 1, Run 1, Scenario 193.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2607	0.4379	0.1723		0.0375	0.0000	0.0015	0.0864	0.0036	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000

GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 ------ ------ ------ 0.0205 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207 0.0054
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0312 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918
----

* #
* MA Arterial speed 3 mph
* File 1, Run 1, Scenario 194.
* #

Calendar Year: 2030
Month: July
Gasoline Fuel Sulfur Content: 30. ppm
Diesel Fuel Sulfur Content: 15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas: Yes

Vehicle Type: LDGV LDGT12 LDGT34 LDGT HDGV LDDV LDDT HDDV MC All Veh
GVWR: <6000 >6000 (All)
------ ------ ------ ------ ------ ------ ------ ------ ------ ------
VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036 1.0000

Composite Emission Factors (g/mi):
Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000
GASPM: 0.0037 0.0036 0.0036 0.0036 0.0088 ------ ------ ------ 0.0205 0.0036
ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008
OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004
SO4: 0.0005 0.0006 0.0006 0.0006 0.0013 0.0000 0.0003 0.0009 0.0002 0.0006
Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0207 0.0054
Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125
Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095
Total PM: 0.0247 0.0247 0.0247 0.0247 0.0312 0.0000 0.0299 0.0520 0.0372 0.0274
SO2: 0.0064 0.0087 0.0115 0.0095 0.0163 0.0000 0.0052 0.0130 0.0033 0.0092
NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 4 mph
* File 1, Run 1, Scenario 195.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2030
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas:  Yes

Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All Veh
GVWR:             <6000     >6000     (All)
------   ------   ------   ------   ------   ------   ------   ------   ------   ------
VMT Distribution:    0.2607    0.4379    0.1723           0.0375    0.0000    0.0015    0.0864    0.0036
1.0000
-----------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
Lead:    0.0000    0.0000    0.0000    0.0000    0.0000    ------    ------    ------    0.0000    0.0000
GASPM:    0.0037    0.0036    0.0036    0.0036    0.0088    ------    ------    ------    0.0205    0.0036
ECARBON:    ------    ------    ------    ------    ------    0.0000    0.0037    0.0090    ------    0.0008
OCARBON:    ------    ------    ------    ------    ------    0.0000    0.0053    0.0046    ------    0.0004
SO4:    0.0005    0.0006    0.0006    0.0006    0.0013    0.0000    0.0003    0.0009    0.0002    0.0006
Total Exhaust PM:    0.0042    0.0042    0.0042    0.0042    0.0102    0.0000    0.0093    0.0146    0.0207
0.0054
Brake:    0.0125    0.0125    0.0125    0.0125    0.0125    0.0000    0.0125    0.0125    0.0125    0.0125
Tire:    0.0080    0.0080    0.0080    0.0080    0.0085    0.0000    0.0080    0.0248    0.0040    0.0095
Total PM:    0.0247    0.0247    0.0247    0.0247    0.0312    0.0000    0.0299    0.0520    0.0372    0.0274
SO2:    0.0064    0.0087    0.0115    0.0095    0.0163    0.0000    0.0052    0.0130    0.0033    0.0092
NH3:    0.0994    0.1012    0.1017    0.1013    0.0451    0.0000    0.0068    0.0270    0.0113    0.0918
-----------------------------------------------------------------------------------------------------------------

**********THROUGH*********

* # # # # # # # # # # # # # # # # # # # # # # # # #
* MA Arterial speed 65 mph
* File 1, Run 1, Scenario 256.
* # # # # # # # # # # # # # # # # # # # # # # # # #

Calendar Year:  2030
Month:  July
Gasoline Fuel Sulfur Content:   30. ppm
Diesel Fuel Sulfur Content:   15. ppm
Particle Size Cutoff: 10.00 Microns
Reformulated Gas:  Yes

Vehicle Type:     LDGV    LDGT12    LDGT34     LDGT     HDGV     LDDV     LDDT     HDDV       MC   All Veh
```

GVWR: <6000 >6000 (All)

------ ------ ------ ------ ------ ------ ------ ------ ------ ------

VMT Distribution: 0.2607 0.4379 0.1723 0.0375 0.0000 0.0015 0.0864 0.0036 1.0000

Composite Emission Factors (g/mi):

Lead: 0.0000 0.0000 0.0000 0.0000 0.0000 ------ ------ ------ 0.0000 0.0000

GASPM: 0.0040 0.0038 0.0038 0.0038 0.0081 ------ ------ ------ 0.0205 0.0037

ECARBON: ------ ------ ------ ------ ------ 0.0000 0.0037 0.0090 ------ 0.0008

OCARBON: ------ ------ ------ ------ ------ 0.0000 0.0053 0.0046 ------ 0.0004

SO4: 0.0002 0.0004 0.0004 0.0004 0.0021 0.0000 0.0003 0.0009 0.0001 0.0005

Total Exhaust PM: 0.0042 0.0042 0.0042 0.0042 0.0102 0.0000 0.0093 0.0146 0.0206 0.0054

Brake: 0.0125 0.0125 0.0125 0.0125 0.0125 0.0000 0.0125 0.0125 0.0125 0.0125

Tire: 0.0080 0.0080 0.0080 0.0080 0.0085 0.0000 0.0080 0.0248 0.0040 0.0095

Total PM: 0.0247 0.0247 0.0247 0.0247 0.0313 0.0000 0.0299 0.0520 0.0371 0.0274

SO2: 0.0065 0.0087 0.0115 0.0095 0.0161 0.0000 0.0052 0.0130 0.0033 0.0093

NH3: 0.0994 0.1012 0.1017 0.1013 0.0451 0.0000 0.0068 0.0270 0.0113 0.0918

Hot Spot: Microscale (Local) Analysis

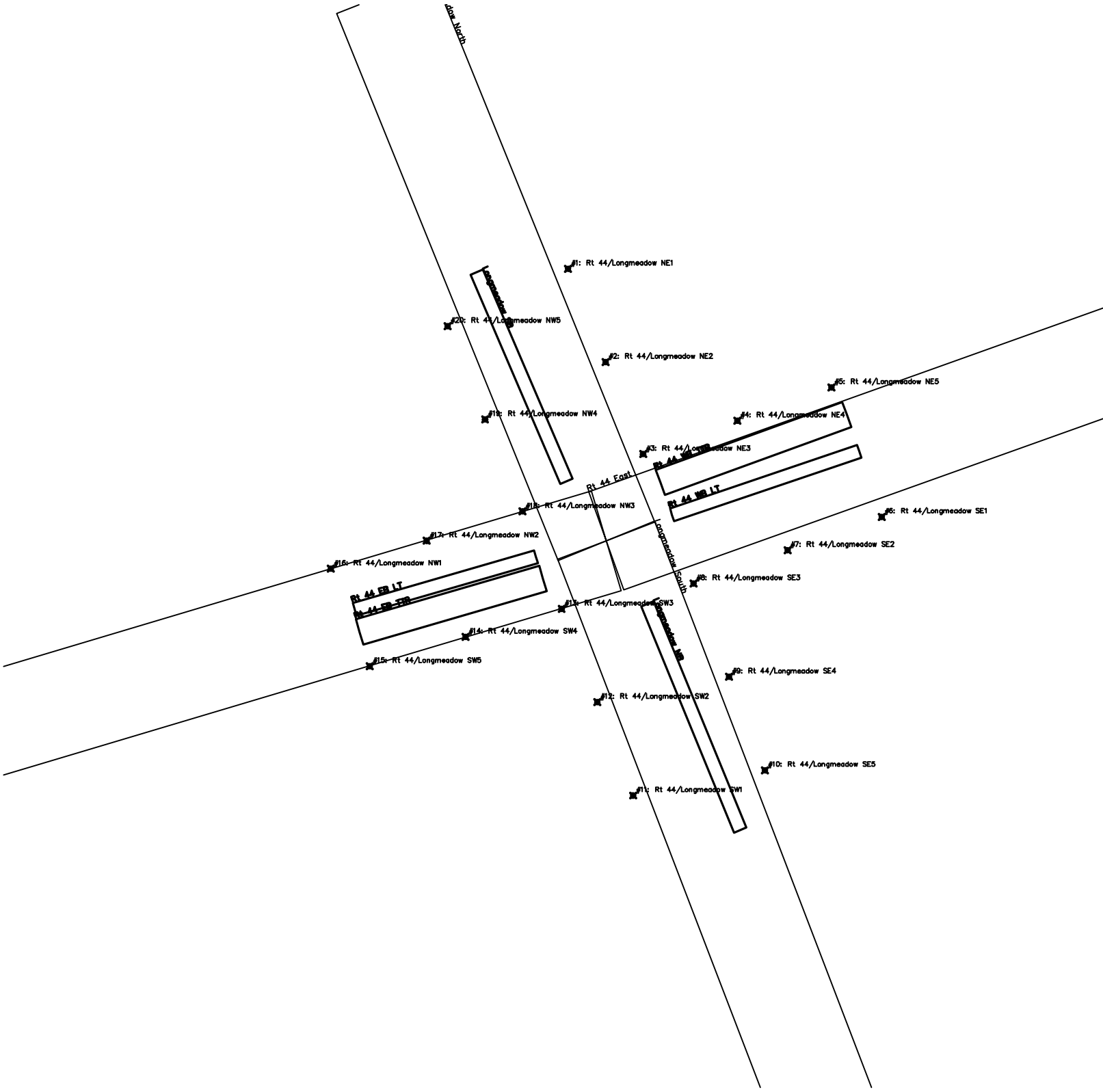
- Intersection Receptor Maps
- CAL3QHC Input Files
  - Carbon Monoxide (CO)
  - Particulate Matter 10 (PM_{10})
  - Particulate Matter 2.5 ($PM_{2.5}$)
- CAL3QHC Input Files
  - Carbon Monoxide (CO)
  - Particulate Matter 10 (PM_{10})
  - Particulate Matter 2.5 ($PM_{2.5}$)
- Microscale Results
  - Carbon Monoxide (CO)
  - Particulate Matter 10 (PM_{10})
  - Particulate Matter 2.5 ($PM_{2.5}$)

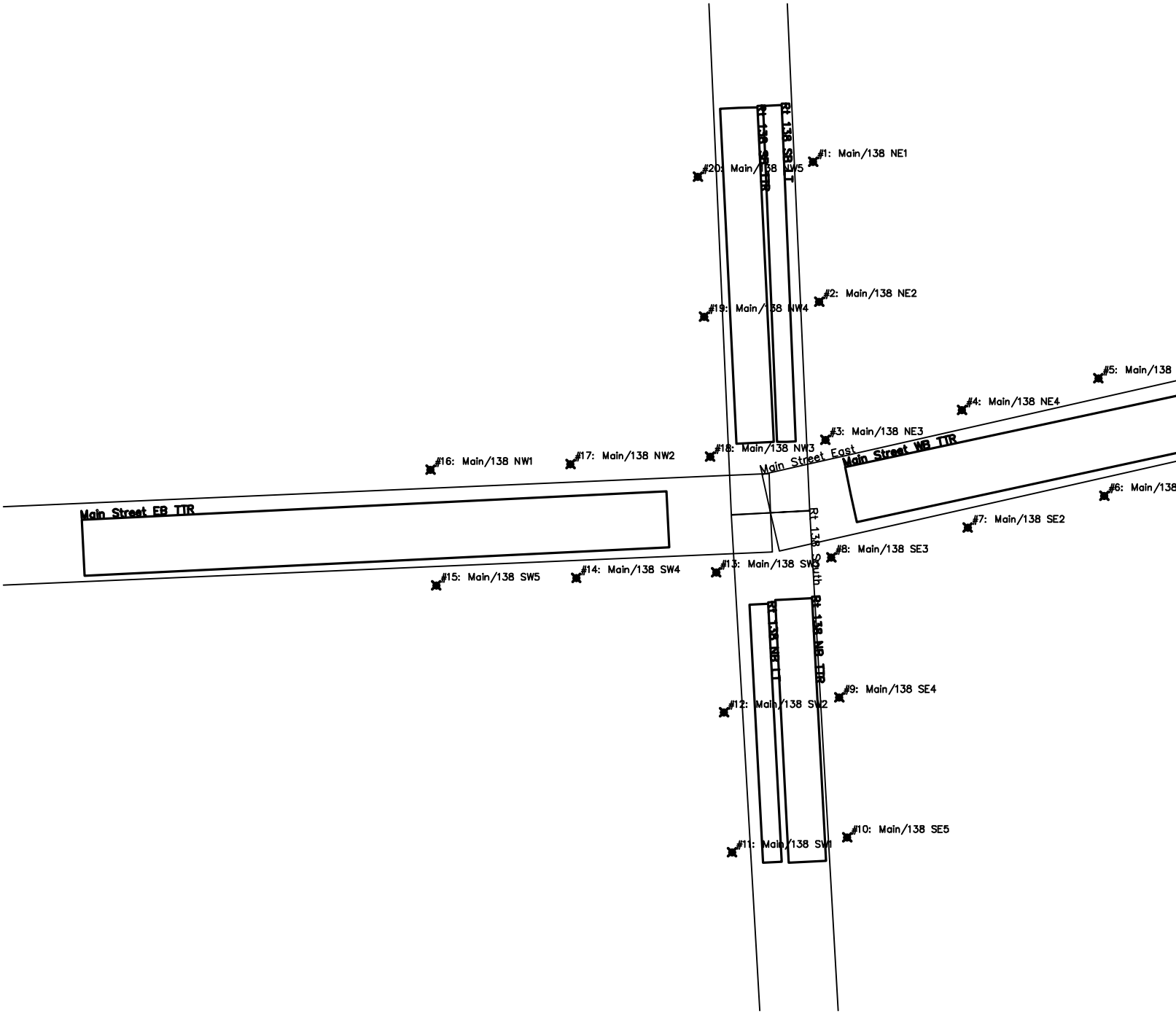
This Page Intentionally Left Blank

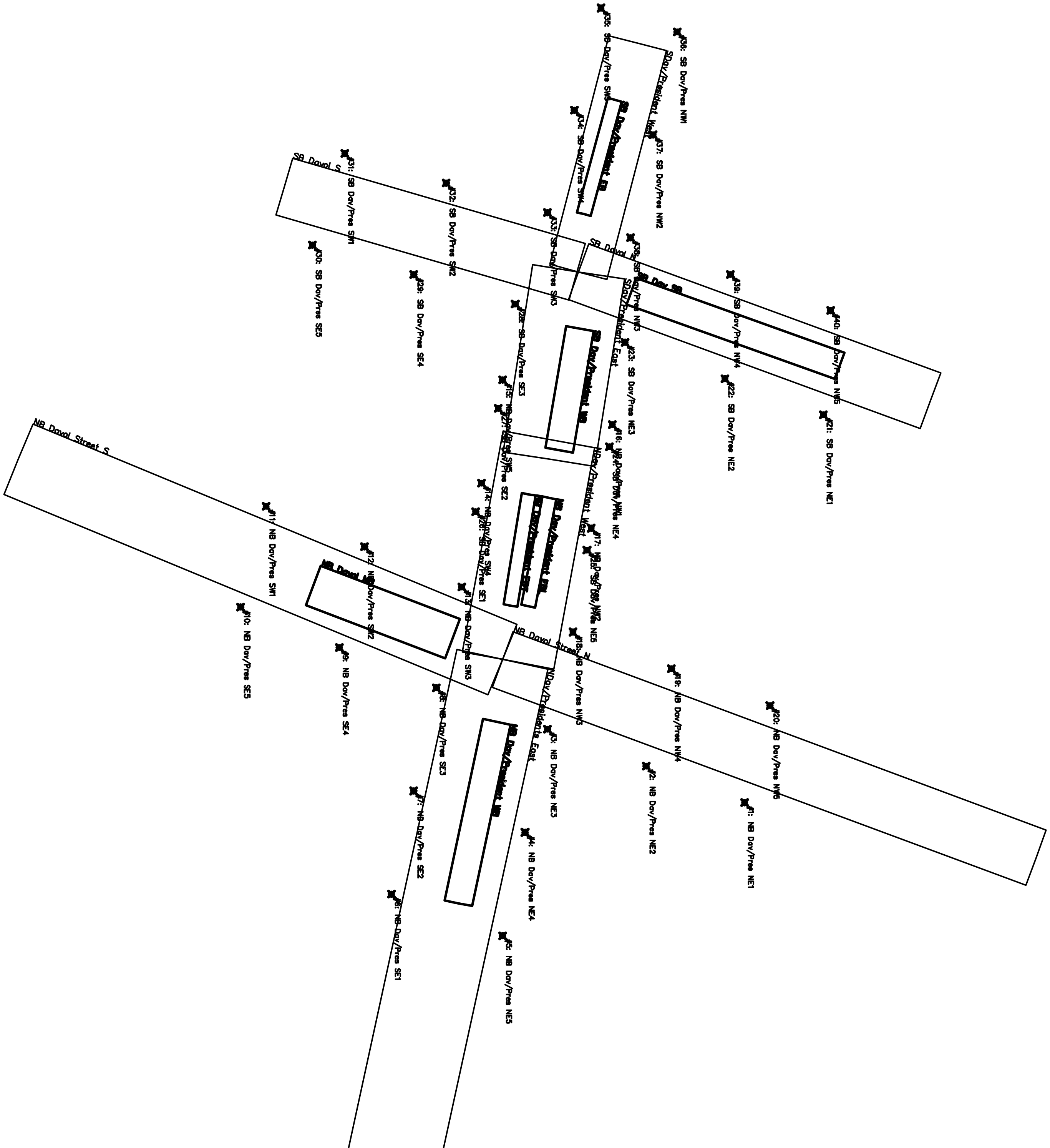
Hot Spot: Microscale (Local) Analysis

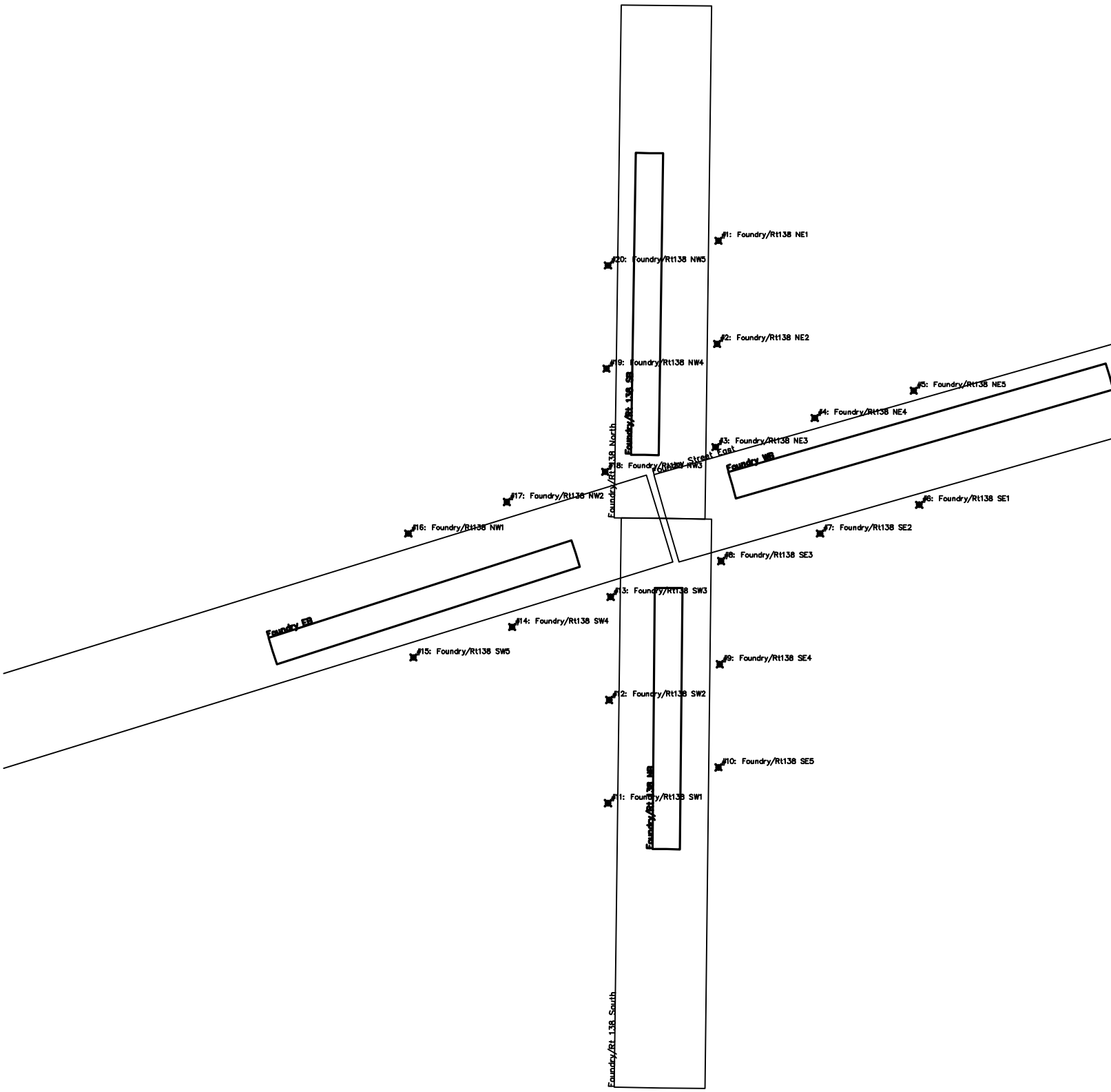
- Intersection Receptor Maps

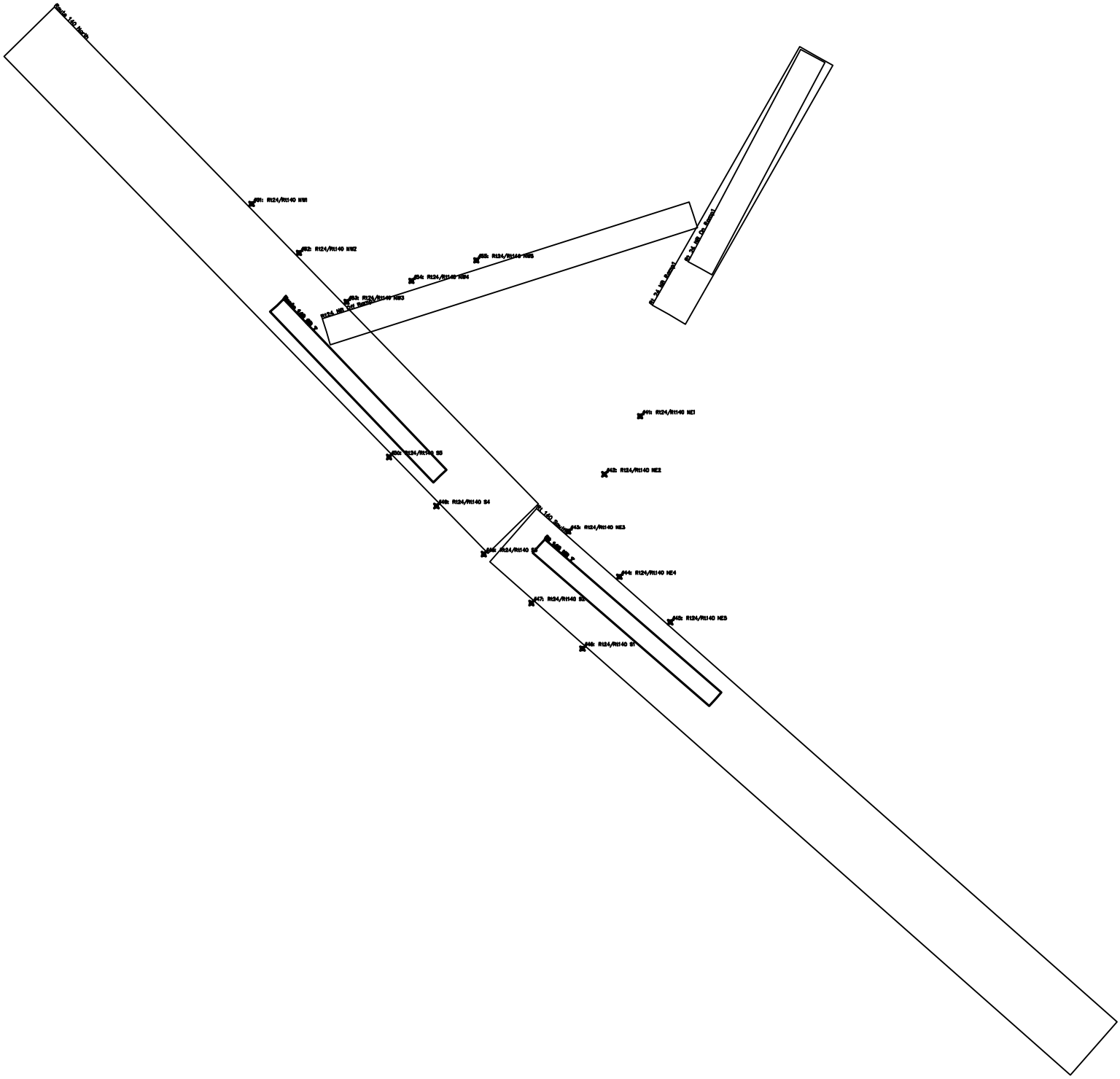
This Page Intentionally Left Blank

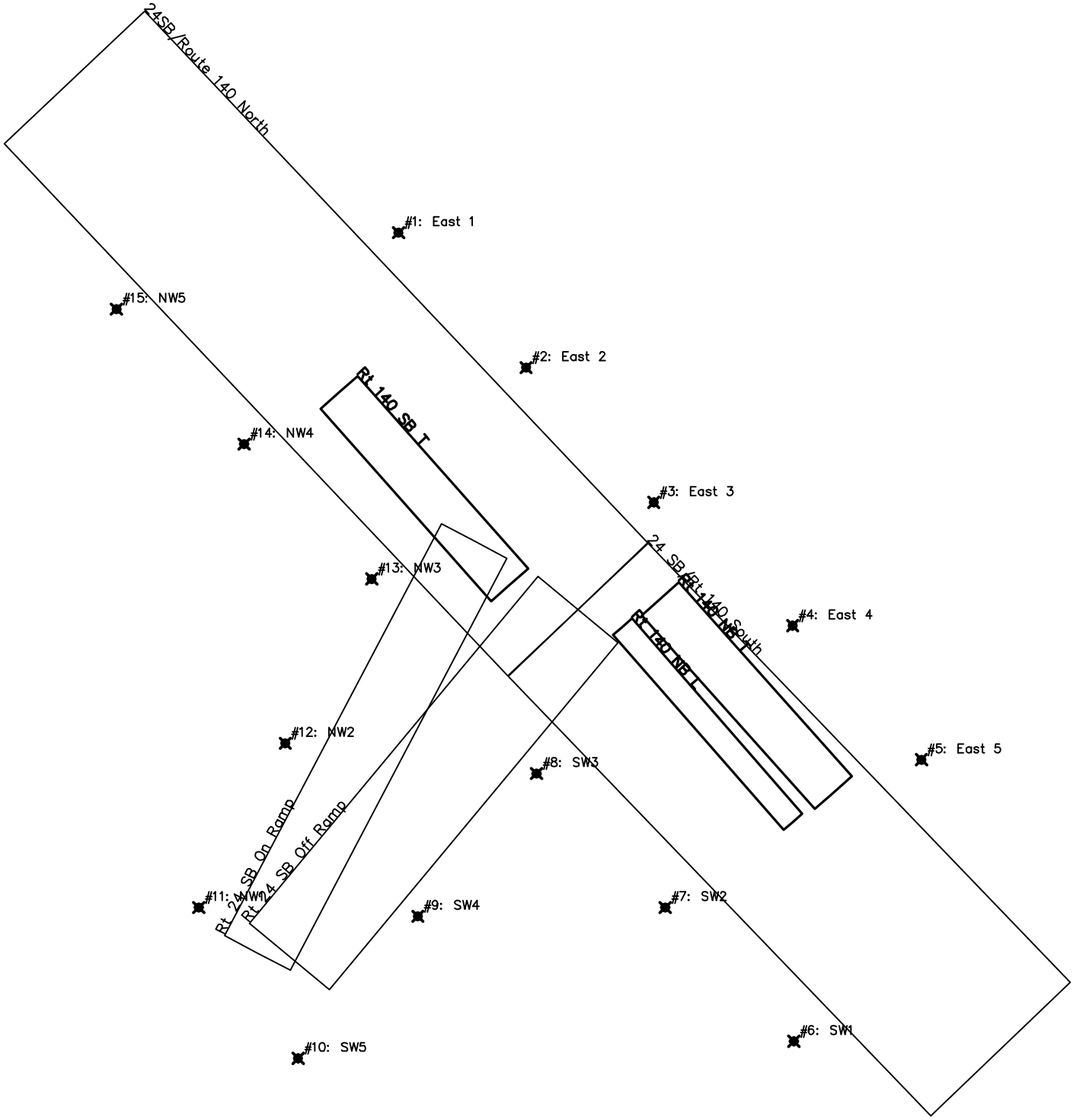

#1: Rt 44/Longmeadow NE1
#2: Rt 44/Longmeadow NE2
#3: Rt 44/Longmeadow NE3
#4: Rt 44/Longmeadow NE4
#5: Rt 44/Longmeadow NE5
#6: Rt 44/Longmeadow SE1
#7: Rt 44/Longmeadow SE2
#8: Rt 44/Longmeadow SE3
#9: Rt 44/Longmeadow SE4
#10: Rt 44/Longmeadow SE5
#11: Rt 44/Longmeadow SW1
#12: Rt 44/Longmeadow SW2
#13: Rt 44/Longmeadow SW3
#14: Rt 44/Longmeadow SW4
#15: Rt 44/Longmeadow SW5
#16: Rt 44/Longmeadow NW1
#17: Rt 44/Longmeadow NW2
#18: Rt 44/Longmeadow NW3
#19: Rt 44/Longmeadow NW4
#20: Rt 44/Longmeadow NW5
Rt 44 East
Longmeadow South
Rt 44 WB LT
Rt 44 EB LT
Rt 44 EB TRR

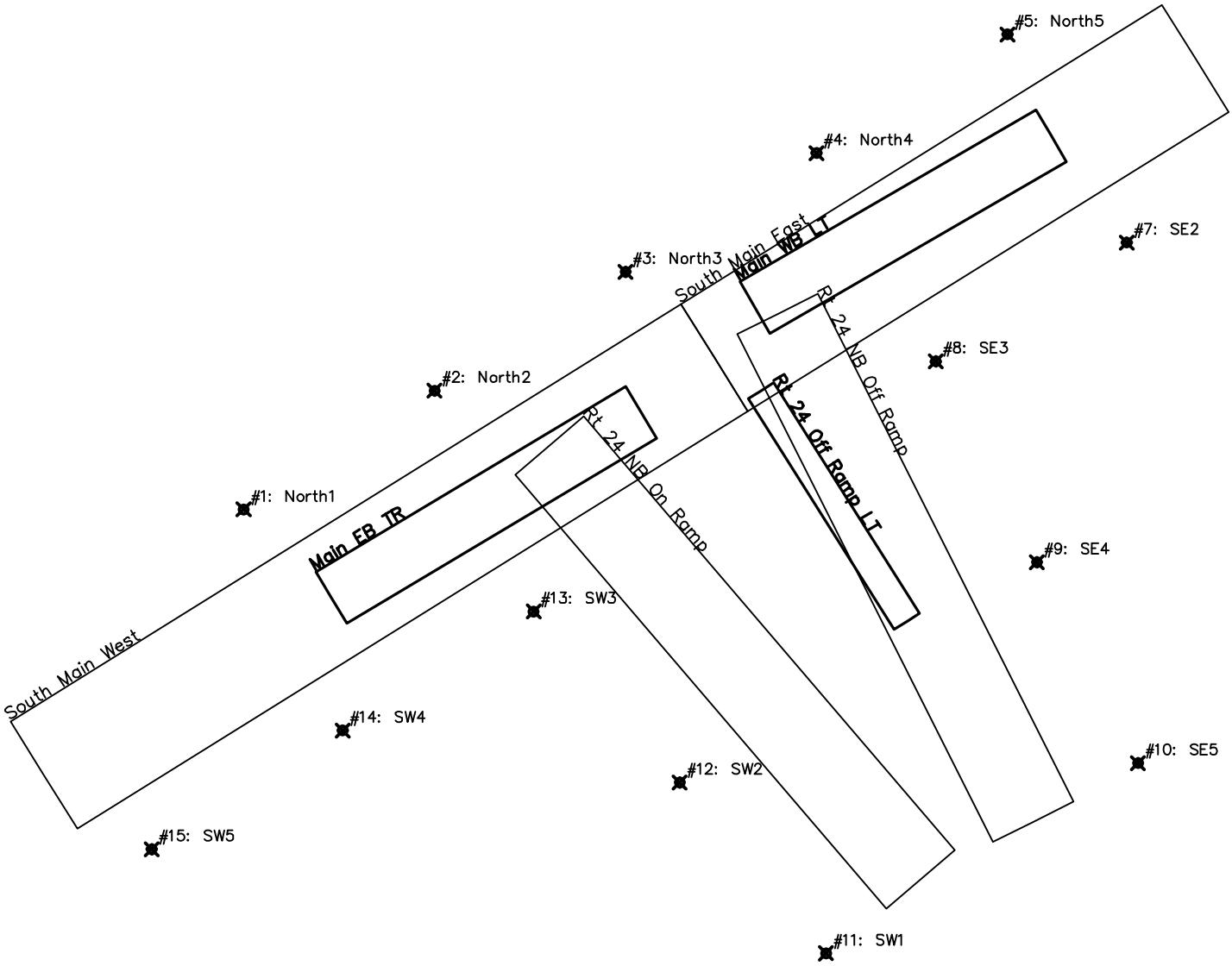

Rt 138 SB LT
Rt 138 SB TR
#1: Main/138 NE1
#20: Main/138 SW5
#2: Main/138 NE2
#19: Main/138 NW4
#5: Main/138
#4: Main/138 NE4
#3: Main/138 NE3
#18: Main/138 NW3
Main Street WB TTR
#16: Main/138 NW1
#17: Main/138 NW2
Main Street East
#6: Main/138
Main Street EB TTR
#7: Main/138 SE2
Rt 138 South
#8: Main/138 SE3
#15: Main/138 SW5
#14: Main/138 SW4
#13: Main/138 SW3
Rt 138 NB LT
Rt 138 NB TR
#9: Main/138 SE4
#12: Main/138 SW2
#10: Main/138 SE5
#11: Main/138 SW1

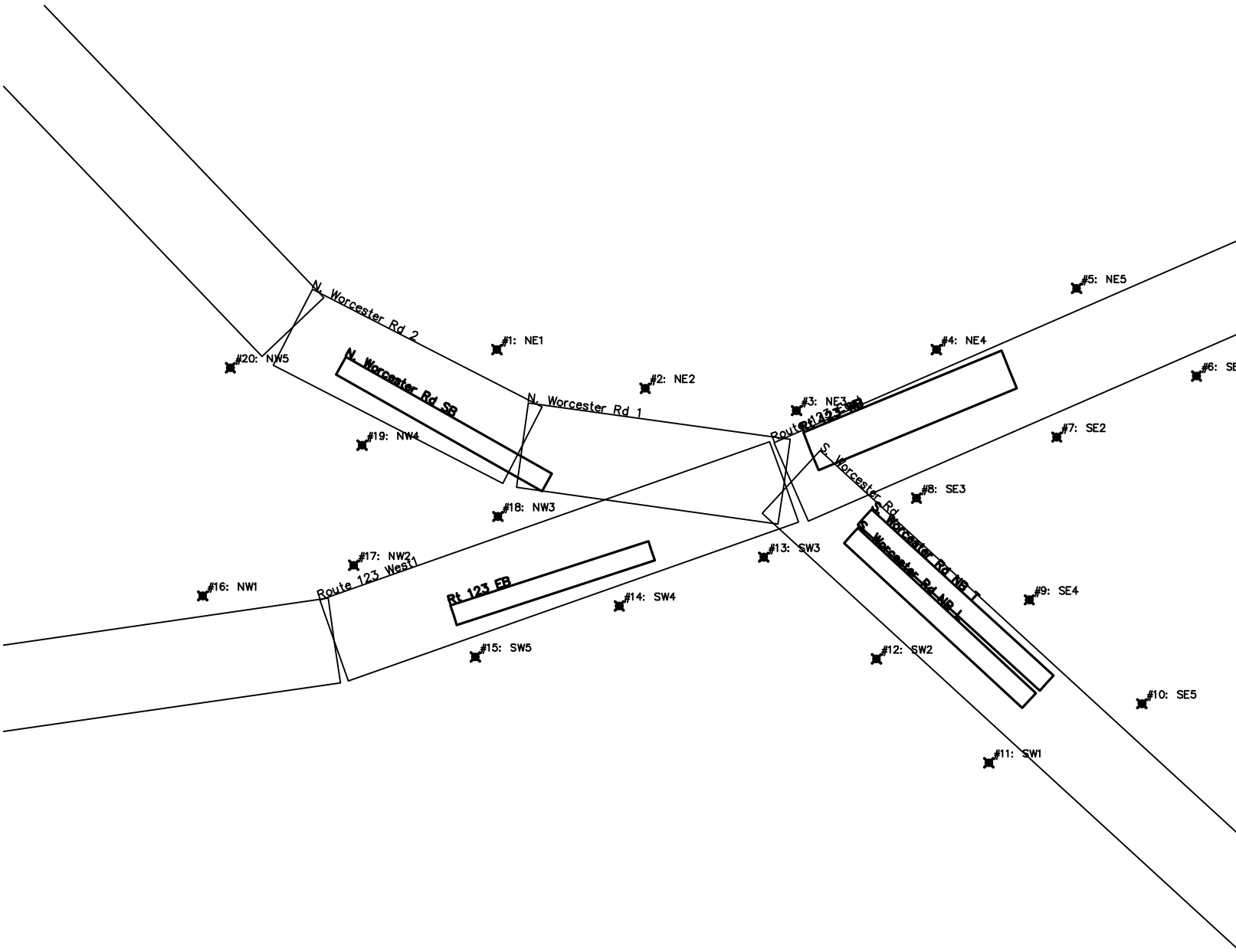

SB Davol S
SB Davol N
NB Davol Street S
NB Davol Street N
SDav/President West
SDav/President East
NDav/President West
NDav/President East
#36: SB Dav/Pres NW1
#37: SB Dav/Pres NW2
#39: SB Dav/Pres NW4
#40: SB Dav/Pres NW5
#31: SB Dav/Pres SW1
#32: SB Dav/Pres SW2
#33: SB Dav/Pres SW3
#34: SB Dav/Pres SW4
#30: SB Dav/Pres SE5
#29: SB Dav/Pres SE4
#23: SB Dav/Pres NE3
#22: SB Dav/Pres NE2
#21: SB Dav/Pres NE1
#11: NB Dav/Pres SW1
#10: NB Dav/Pres SE5
#9: NB Dav/Pres SE4
#19: NB Dav/Pres NW4
#20: NB Dav/Pres NW5
#2: NB Dav/Pres NE2
#1: NB Dav/Pres NE1
#3: NB Dav/Pres NE3
#4: NB Dav/Pres NE4
#5: NB Dav/Pres NE5
#6: NB Dav/Pres SE1
#7: NB Dav/Pres SE2
#8: NB Dav/Pres SE3

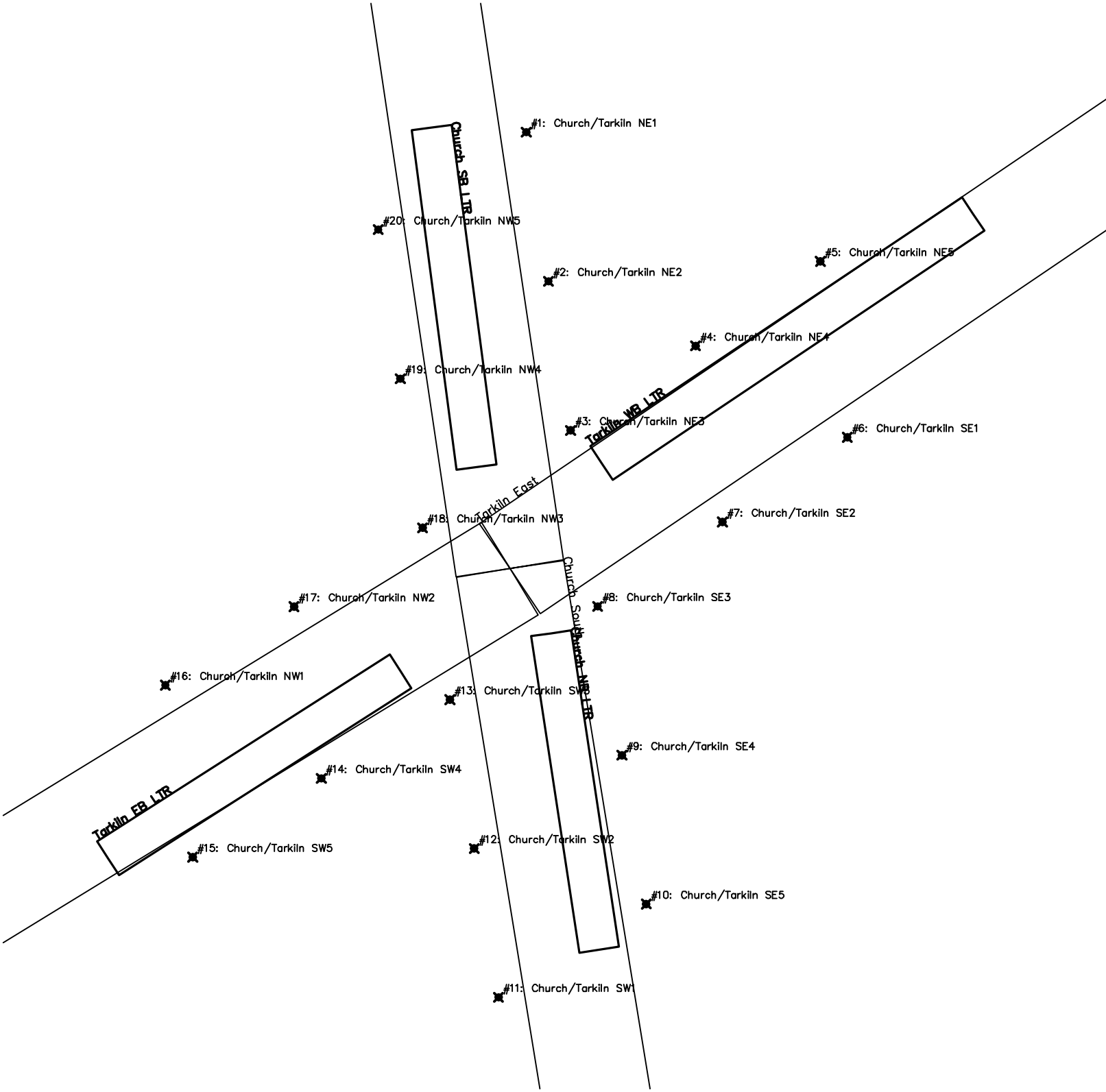

#1: Foundry/Rt138 NE1
#20: Foundry/Rt138 NW5
#2: Foundry/Rt138 NE2
#19: Foundry/Rt138 NW4
#5: Foundry/Rt138 NE5
#4: Foundry/Rt138 NE4
#3: Foundry/Rt138 NE3
Foundry/Rt 138 SB
Foundry/Rt 138 North
Foundry NB
#18: Foundry/Rt138 NW3
#17: Foundry/Rt138 NW2
#6: Foundry/Rt138 SE1
#16: Foundry/Rt138 NW1
#7: Foundry/Rt138 SE2
#8: Foundry/Rt138 SE3
#13: Foundry/Rt138 SW3
Foundry SB
#14: Foundry/Rt138 SW4
#15: Foundry/Rt138 SW5
#9: Foundry/Rt138 SE4
#12: Foundry/Rt138 SW2
#10: Foundry/Rt138 SE5
#11: Foundry/Rt138 SW1
Foundry/Rt 138 NB
Foundry/Rt 138 South

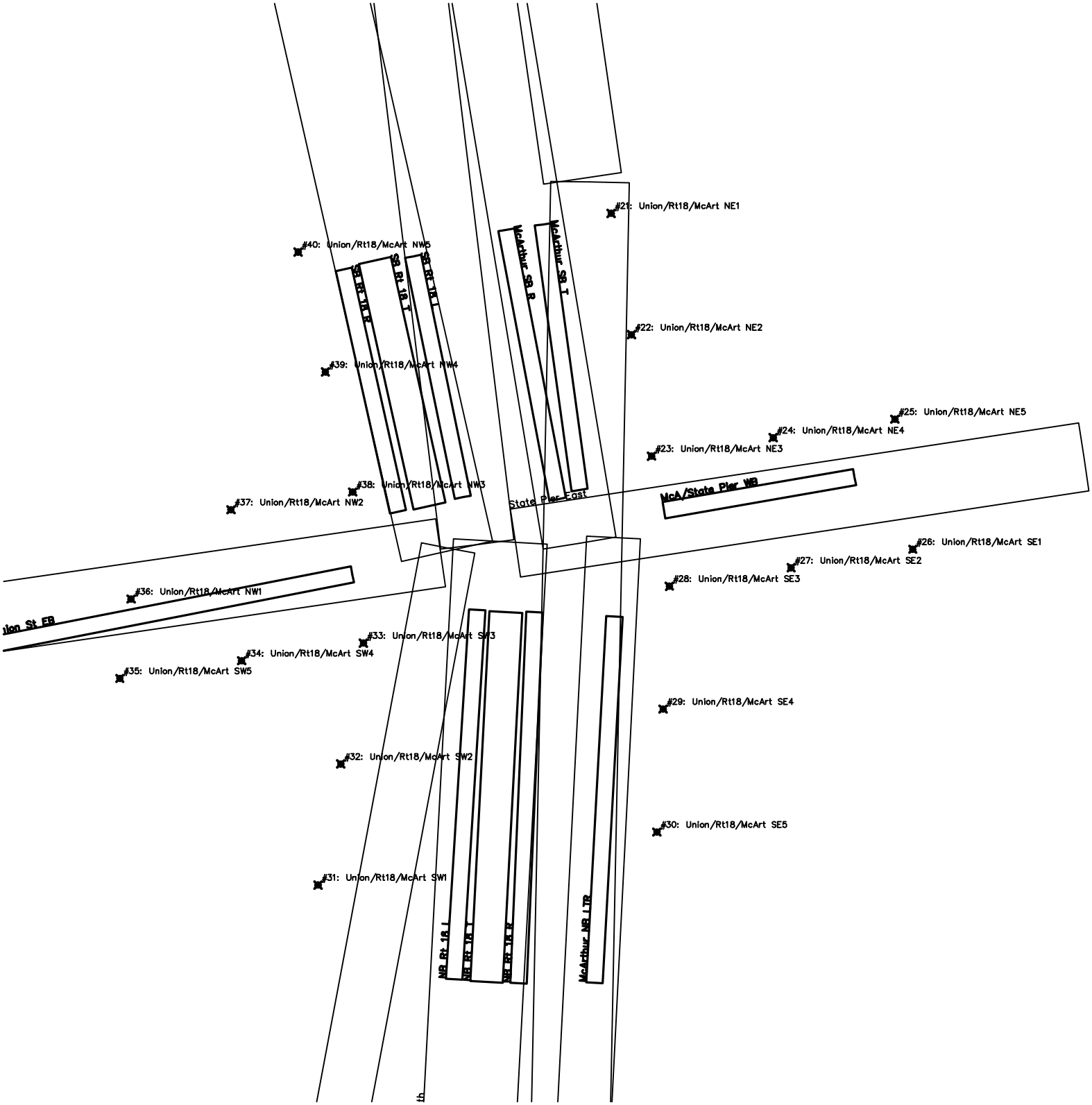

Route 140 North
#51: R124/R140 NW1
#52: R124/R140 NW2
#53: R124/R140 NW3
#54: R124/R140 NW4
#55: R124/R140 NW5
R124 NB Off Ramp1
R1 24 NB Ramp1
R1 24 NB On Ramp1
#41: R124/R140 NE1
#42: R124/R140 NE2
#43: R124/R140 NE3
#44: R124/R140 NE4
#45: R124/R140 NE5
#46: R124/R140 S1
#47: R124/R140 S2
#48: R124/R140 S3
#49: R124/R140 S4
#50: R124/R140 S5
R1 140 South

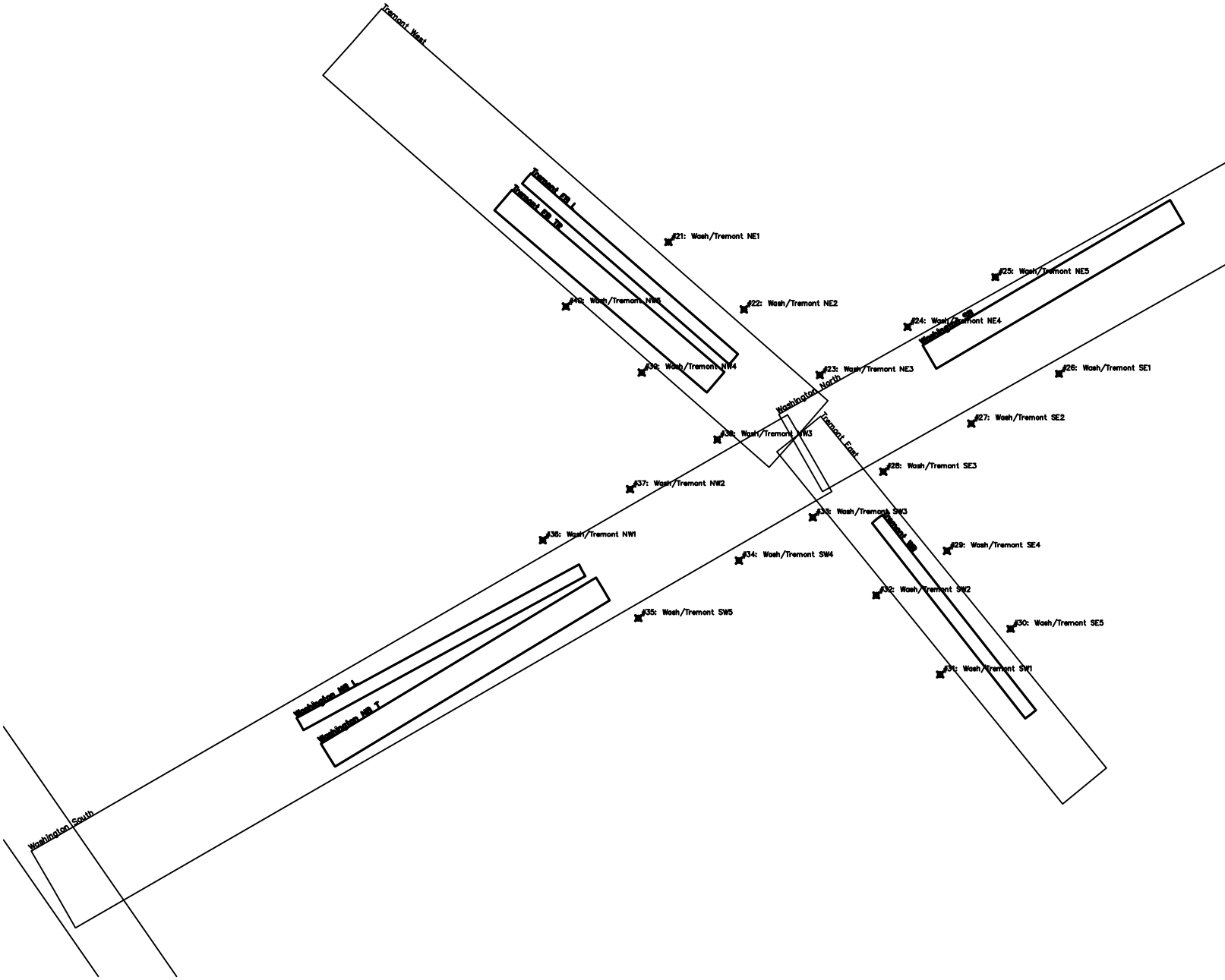

24SB /Route 140 North
#1: East 1
#15: NW5
#2: East 2
Rt 140 SB T
#14: NW4
#3: East 3
24 SB /Rt 140 South
#13: NW3
Rt 140 NB T
#4: East 4
Rt 140 NB T
#12: NW2
#5: East 5
#8: SW3
Rt 24 SB On Ramp
Rt 24 SB Off Ramp
#11: NW1
#9: SW4
#7: SW2
#6: SW1
#10: SW5


#5: North5
#4: North4
#7: SE2
#3: North3
South Main East
Main WB LT
Rt 24 NB Off Ramp
#8: SE3
#2: North2
Rt 24 NB On Ramp
RL 24 Off Ramp LT
#1: North1
Main EB TR
#9: SE4
#13: SW3
South Main West
#14: SW4
#10: SE5
#12: SW2
#15: SW5
#11: SW1


N. Worcester Rd 2
N. Worcester Rd SB
N. Worcester Rd 1
Route 123 East
S. Worcester Rd
S. Worcester Rd NB 1
S. Worcester Rd NB 2
Route 123 West
Rt 123 EB
#1: NE1
#2: NE2
#3: NE3
#4: NE4
#5: NE5
#6: SE
#7: SE2
#8: SE3
#9: SE4
#10: SE5
#11: SW1
#12: SW2
#13: SW3
#14: SW4
#15: SW5
#16: NW1
#17: NW2
#18: NW3
#19: NW4
#20: NW5


#1: Church/Tarkiln NE1
Church SB LTR
#20: Church/Tarkiln NW5
#5: Church/Tarkiln NE5
#2: Church/Tarkiln NE2
#4: Church/Tarkiln NE4
#19: Church/Tarkiln NW4
Tarkiln WB LTR
#3: Church/Tarkiln NE3
#6: Church/Tarkiln SE1
Tarkiln East
#18: Church/Tarkiln NW3
#7: Church/Tarkiln SE2
Church South
#17: Church/Tarkiln NW2
#8: Church/Tarkiln SE3
Church NB LTR
#16: Church/Tarkiln NW1
#13: Church/Tarkiln SW3
#9: Church/Tarkiln SE4
#14: Church/Tarkiln SW4
Tarkiln EB LTR
#15: Church/Tarkiln SW5
#12: Church/Tarkiln SW2
#10: Church/Tarkiln SE5
#11: Church/Tarkiln SW1


#21: Union/Rt18/McArt NE1
#40: Union/Rt18/McArt NW5
SB RT 18 R
SB RL 18 T
SB RT 18 L
McArthur SB R
McArthur SB T
#22: Union/Rt18/McArt NE2
#39: Union/Rt18/McArt NW4
#25: Union/Rt18/McArt NE5
#24: Union/Rt18/McArt NE4
#23: Union/Rt18/McArt NE3
#38: Union/Rt18/McArt NW3
#37: Union/Rt18/McArt NW2
State Pier East
McA/State Pier WB
#26: Union/Rt18/McArt SE1
#27: Union/Rt18/McArt SE2
#28: Union/Rt18/McArt SE3
#36: Union/Rt18/McArt NW1
ion St EB
#33: Union/Rt18/McArt SW3
#34: Union/Rt18/McArt SW4
#35: Union/Rt18/McArt SW5
#29: Union/Rt18/McArt SE4
#32: Union/Rt18/McArt SW2
#30: Union/Rt18/McArt SE5
#31: Union/Rt18/McArt SW1
NB Rt 18 L
NB RT 18 T
NB RT 18 R
McArthur NB L TR


Tremont West
Tremont EB L
Tremont EB TR
#21: Wash/Tremont NE1
#22: Wash/Tremont NE2
#23: Wash/Tremont NE3
#24: Wash/Tremont NE4
#25: Wash/Tremont NE5
#26: Wash/Tremont SE1
#27: Wash/Tremont SE2
#28: Wash/Tremont SE3
#29: Wash/Tremont SE4
#30: Wash/Tremont SE5
#31: Wash/Tremont SW1
#32: Wash/Tremont SW2
#33: Wash/Tremont SW3
#34: Wash/Tremont SW4
#35: Wash/Tremont SW5
#36: Wash/Tremont NW1
#37: Wash/Tremont NW2
#38: Wash/Tremont NW3
#39: Wash/Tremont NW4
#40: Wash/Tremont NW5
Washington North
Tremont East
Washington WB L
Washington WB T
Washington South

This Page Intentionally Left Blank.

Hot Spot: Microscale (Local) Analysis

- CAL3QHC Input Files
  - Carbon Monoxide (CO)
  - Particulate Matter 10 (PM_{10})
  - Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank

Technical Report
Air Quality
Draft

Hot Spot: Microscale (Local) Analysis

Cal3QHC - Input Files

- Carbon Monoxide (CO)

This Page Intentionally Left Blank

East Taunton 2008 Existing - CO

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'Existing Condition'   7   1   0   'C'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   205   72.225   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   790   72.225   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1000   72.225   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2350   12.67   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3335   12.67   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1580   12.54   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   525   12.54   1   30
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2016 No Build - CO

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2016 No Build'   7   1   0   'C'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   49.725   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   965   49.725   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1085   49.725   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2385   9.32   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3775   9.32   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   9.19   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   620   9.19   1   30
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2030 No-Build - CO

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2030 No Build'   7   1   0   'C'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   50.1   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   965   50.1   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1085   50.1   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2385   9.22   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3775   9.22   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   9.07   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   620   9.07   1   30
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2016 Build Mitigated (Diesel) – CO

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2016 Build with Mitigation'   11   1   0   'C'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   49.725   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   49.725   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   49.725   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   12.69   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   9.32   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   9.32   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   9.19   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   9.19   1   30
 1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   8.87   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   8.87   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   8.87   1   48
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2016 Build Mitigated (Electric) – CO

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2016 Build with Mitigation'   11   1   0   'C'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   49.725   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   49.725   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   49.725   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   0   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   9.32   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   9.32   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   9.19   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   9.19   1   30
 1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   0   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   0   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   0   1   48
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2030 Build Mitigated (Diesel) – CO

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2030 Build with Mitigation'   11   1   0   'C'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   50.1   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   50.1   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   50.1   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   12.69   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   9.22   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   9.22   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   9.07   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   9.07   1   30
1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   8.87   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   8.87   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   8.87   1   48
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2030 Build Mitigated (Electric) – CO

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2030 Build with Mitigation'   11   1   0   'C'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   50.1   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   50.1   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   50.1   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   0   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   9.22   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   9.22   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   9.07   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   9.07   1   30
1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   0   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   0   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   0   1   48
1   0   4   1000   0   'Y'   10   0   36
```

This Page Intentionally Left Blank

Technical Report
Air Quality
Draft

Hot Spot: Microscale (Local) Analysis

Cal3QHC - Input Files

- Particulate Matter 10 (PM_{10})

This Page Intentionally Left Blank

East Taunton 2008 Existing – PM_{10}

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'Existing Condition'   7   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   205   0.113   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   790   0.113   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1000   0.113   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2350   0.0453   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3335   0.0453   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1580   0.0453   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   525   0.0453   1   30
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2016 No-Build – PM_{10}

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2016 No Build'   7   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.075   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   965   0.075   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1085   0.075   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2385   0.0301   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3775   0.0301   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0301   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   620   0.0301   1   30
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2030 No-Build – PM_{10}

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2030 No Build'   7   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.0685   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   965   0.0685   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1085   0.0685   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2385   0.0274   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3775   0.0274   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0274   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   620   0.0274   1   30
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2016 Build Mitigated (Diesel) – PM_{10}

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2016 Build with Mitigation'   11   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.075   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   0.075   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   0.075   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   1.53   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   0.0301   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   0.0301   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0301   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   0.0301   1   30
 1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   1.03   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   1.03   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   1.03   1   48
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2016 Build Mitigated (Electric) – PM_{10}

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2016 Build with Mitigation'   11   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.075   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   0.075   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   0.075   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   0   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   0.0301   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   0.0301   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0301   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   0.0301   1   30
 1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   0   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   0   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   0   1   48
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2030 Build Mitigated (Diesel) – PM_{10}

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2030 Build with Mitigation'   11   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.0685   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   0.0685   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   0.0685   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   0.83   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   0.0274   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   0.0274   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0274   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   0.0274   1   30
1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   0.267   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   0.267   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   0.267   1   48
1   0   4   1000   5   'Y'   10   0   36
```

East Taunton 2030 Build Mitigated (Electric) – PM_{10}

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2030 Build with Mitigation'   11   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.0685   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   0.0685   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   0.0685   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   0   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   0.0274   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   0.0274   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0274   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   0.0274   1   30
1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   0   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   0   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   0   1   48
1   0   4   1000   0   'Y'   10   0   36
```

This Page Intentionally Left Blank

Hot Spot: Microscale (Local) Analysis

Cal3QHC - Input Files

- Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank

East Taunton 2008 Existing – $PM_{2.5}$

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'Existing Condition'   7   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   205   0.0725   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   790   0.0725   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1000   0.0725   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2350   0.029   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3335   0.029   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1580   0.029   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   525   0.029   1   30
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2016 No-Build – $PM_{2.5}$

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2016 No Build'   7   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.038   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   965   0.038   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1085   0.038   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2385   0.0152   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3775   0.0152   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0152   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   620   0.0152   1   30
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2030 No-Build – $PM_{2.5}$

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2030 No Build'   7   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.0318   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   965   0.0318   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1085   0.0318   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2385   0.0127   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3775   0.0127   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0127   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   620   0.0127   1   30
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2016 Build Mitigated (Diesel) – $PM_{2.5}$

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2016 Build with Mitigation'   11   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.038   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   0.038   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   0.038   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   1.53   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   0.0152   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   0.0152   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0152   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   0.0152   1   30
 1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   1.00   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   1.00   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   1.00   1   48
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2016 Build Mitigated (Electric) – $PM_{2.5}$

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2016 Build with Mitigation'   11   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.038   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   0.038   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   0.038   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   0   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   0.0152   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   0.0152   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0152   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   0.0152   1   30
 1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   0   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   0   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   0   1   48
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2030 Build Mitigated (Diesel) – $PM_{2.5}$

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2030 Build with Mitigation'   11   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.0318   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   0.0318   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   0.0318   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   0.83   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   0.0127   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   0.0127   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0127   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   0.0127   1   30
1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   0.259   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   0.259   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   0.259   1   48
1   0   4   1000   0   'Y'   10   0   36
```

East Taunton 2030 Build Mitigated (Electric) – $PM_{2.5}$

```
'South Coast Rail (Taunton)'   60   175   0   0   15   0.3048   1   0
'East 1'   11858.27   -3406.06   6
'East 2'   11909.82   -3460.54   6
'East 3'   11961.38   -3515.01   6
'East 4'   12017.46   -3564.81   6
'East 5'   12069.51   -3618.96   6
'SW1'   12017.96   -3732.72   6
'SW2'   11965.99   -3678.65   6
'SW3'   11914.01   -3624.58   6
'SW4'   11866.05   -3682.24   6
'SW5'   11817.72   -3739.59   6
'NW1'   11777.59   -3678.67   6
'NW2'   11812.52   -3612.3   6
'NW3'   11847.45   -3545.93   6
'NW4'   11795.9   -3491.46   6
'NW5'   11744.34   -3436.98   6
'2030 Build with Mitigation'   11   1   0   'P'
 2
'Rt 140 NB L'   'AG'   11948.78   -3565.21   12017.56   -3644.08   1   10   1
90   40   3   285   0.0318   1600   1   3
 2
'Rt 140 NB T'   'AG'   11964   -3553.94   12033.91   -3632.25   1   20   2
90   0   3   976   0.0318   1600   1   3
 2
'Rt 140 SB T'   'AG'   11903.11   -3548.31   11834.33   -3470.57   1   20   2
90   50   3   1129   0.0318   1600   1   3
 2
'Train Queue'   'AG'   9191.51   -7114.1   9538.83   -7502.06   1   20   2
120   70   3   5   0   1600   1   3
 1
'24SB/Route 140 North'   'AG'   11930.76   -3558.31   11727.31   -3343.33   2467   0.0127   1   78
 1
'24 SB/Rt 140 South'   'AG'   11930.76   -3558.31   12101.47   -3735.9   3830   0.0127   1   78
 1
'Rt 24 SB Off Ramp'   'AG'   11930.76   -3558.31   11814.19   -3698.46   1440   0.0127   1   42
 1
'Rt 24 SB On Ramp'   'AG'   11888.83   -3530.64   11801.27   -3697.02   647   0.0127   1   30
1
'Train Line 1'   'AG'   -3325.63   6855.07   10135.78   -8168.58   5   0   1   48
 1
'Train Line 2'   'AG'   10124.73   -8177.77   12559.4   -12250.66   5   0   1   48
 1
'Train Line 3'   'AG'   -3319.6   6871.82   -6541.35   11486.7   5   0   1   48
1   0   4   1000   0   'Y'   10   0   36
```

This Page Intentionally Left Blank

Technical Report
Air Quality
Draft

Hot Spot: Microscale (Local) Analysis

Cal3QHC - Output Files

- Carbon Monoxide (CO)
- Particulate Matter 10 (PM_{10})
- Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank

Technical Report
Air Quality
Draft

Hot Spot: Microscale (Local) Analysis

Cal3QHC - Output Files

- Carbon Monoxide (CO)

This Page Intentionally Left Blank

East Taunton 2008 Existing - CO

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: South Coast Rail (Taunton) RUN: Existing Condition

DATE : 9/15/ 9
TIME : 15:43: 0

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION * LINK COORDINATES (FT) * LENGTH BRG TYPE VPH EF H W V/C QUEUE
* X1 Y1 X2 Y2 * (FT) (DEG) (G/MI) (FT) (FT) (VEH)
---*---*---

1. Rt 140 NB L * 11948.8 -3565.2 11978.3 -3599.0 * 45. 139. AG 86. 100.0 1.0 10.0 0.26 2.3
2. Rt 140 NB T * 11964.0 -3553.9 11964.0 -3554.0 * 0. 138. AG 0. 100.0 1.0 20.0 0.26 0.0
3. Rt 140 SB T * 11903.1 -3548.3 11806.7 -3439.4 * 145. 318. AG 215. 100.0 1.0 20.0 0.80 7.4
4. 24SB/Route 140 North* 11930.8 -3558.3 11727.3 -3343.3 * 296. 317. AG 2350. 12.7 1.0 78.0
5. 24 SB/Rt 140 South * 11930.8 -3558.3 12101.5 -3735.9 * 246. 136. AG 3335. 12.7 1.0 78.0
6. Rt 24 SB Off Ramp * 11930.8 -3558.3 11814.2 -3698.5 * 182. 220. AG 1580. 12.5 1.0 42.0
7. Rt 24 SB On Ramp * 11888.8 -3530.6 11801.3 -3697.0 * 188. 208. AG 525. 12.5 1.0 30.0

JOB: South Coast Rail (Taunton) RUN: Existing Condition

DATE : 9/15/ 9
TIME : 15:43: 0

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Rt 140 NB L	*	90	40	3.0	205	1600	72.22	1	3
2. Rt 140 NB T	*	90	0	3.0	790	1600	72.22	1	3
3. Rt 140 SB T	*	90	50	3.0	1000	1600	72.22	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. East 1	*	11858.3	-3406.1	6.0	*
2. East 2	*	11909.8	-3460.5	6.0	*
3. East 3	*	11961.4	-3515.0	6.0	*
4. East 4	*	12017.5	-3564.8	6.0	*
5. East 5	*	12069.5	-3619.0	6.0	*
6. SW1	*	12018.0	-3732.7	6.0	*
7. SW2	*	11966.0	-3678.7	6.0	*
8. SW3	*	11914.0	-3624.6	6.0	*
9. SW4	*	11866.0	-3682.2	6.0	*
10. SW5	*	11817.7	-3739.6	6.0	*
11. NW1	*	11777.6	-3678.7	6.0	*
12. NW2	*	11812.5	-3612.3	6.0	*
13. NW3	*	11847.5	-3545.9	6.0	*
14. NW4	*	11795.9	-3491.5	6.0	*
15. NW5	*	11744.3	-3437.0	6.0	*

JOB: South Coast Rail (Taunton) RUN: Existing Condition

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.5	1.4	1.0	0.4	0.5	1.2	0.9	0.6
10.	0.0	0.0	0.0	0.0	0.0	1.1	1.0	1.5	1.3	1.1	0.4	0.6	1.2	1.0	0.7
20.	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.3	1.3	1.1	0.4	0.6	1.1	1.0	0.7
30.	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	1.0	1.1	0.6	0.7	1.1	1.0	0.7
40.	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.1	0.9	0.8	0.8	0.7	1.1	1.1	0.7
50.	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.1	0.6	0.6	1.1	0.9	1.1	1.1	0.7
60.	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.0	0.6	0.4	1.1	1.0	1.2	1.1	0.7
70.	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.0	0.6	0.4	1.2	1.1	1.3	1.1	0.7
80.	0.0	0.0	0.0	0.0	0.0	0.8	1.0	1.0	0.6	0.3	1.1	1.2	1.4	1.2	0.9
90.	0.0	0.0	0.0	0.0	0.0	0.7	1.1	1.1	0.5	0.2	1.1	1.2	1.6	1.3	1.0
100.	0.0	0.0	0.0	0.0	0.0	0.5	1.0	1.1	0.4	0.1	0.9	1.2	1.7	1.4	1.3
110.	0.0	0.0	0.0	0.0	0.0	0.4	0.9	1.1	0.2	0.0	0.5	1.1	1.8	1.7	1.5
120.	0.1	0.1	0.1	0.0	0.0	0.2	0.7	0.9	0.1	0.0	0.3	0.9	1.7	1.5	1.5
130.	0.3	0.4	0.3	0.1	0.1	0.1	0.4	0.6	0.0	0.0	0.2	0.7	1.4	1.3	1.3
140.	0.8	0.8	0.7	0.4	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.6	1.0	0.8	0.8
150.	1.3	1.2	1.1	0.8	0.5	0.0	0.0	0.1	0.0	0.0	0.0	0.6	0.6	0.5	0.4
160.	1.5	1.3	1.2	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.1
170.	1.6	1.4	1.3	1.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.2	0.1
180.	1.5	1.4	1.4	1.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.1	0.0
190.	1.3	1.4	1.2	1.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0
200.	1.0	1.3	1.3	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0
210.	1.0	1.2	1.4	0.9	0.9	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0
220.	1.0	1.1	1.5	1.1	1.0	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.9	1.0	1.4	1.3	1.0	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
240.	0.8	1.0	1.1	1.3	0.9	0.0	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0
250.	0.8	1.0	1.1	1.5	1.0	0.0	0.1	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0
260.	0.8	1.1	1.2	1.5	1.2	0.0	0.1	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0
270.	0.8	1.1	1.1	1.5	1.3	0.0	0.2	0.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0
280.	0.8	1.1	1.2	1.3	1.3	0.1	0.3	0.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0
290.	0.7	1.0	1.2	1.3	1.4	0.1	0.4	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.6	0.8	1.1	1.1	1.3	0.2	0.4	0.7	0.7	0.0	0.0	0.0	0.1	0.0	0.0
310.	*	0.4	0.5	0.8	0.7	0.9	0.7	0.8	1.0	0.7	0.0	0.0	0.0	0.2	0.1	0.1
320.	*	0.2	0.3	0.3	0.3	0.3	1.0	1.1	1.4	0.8	0.0	0.0	0.0	0.6	0.4	0.2
330.	*	0.1	0.1	0.1	0.1	0.1	1.3	1.4	1.7	0.8	0.1	0.0	0.1	1.0	0.6	0.3
340.	*	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.8	1.1	0.3	0.1	0.3	1.2	0.8	0.5
350.	*	0.0	0.0	0.0	0.0	0.0	1.2	1.4	1.7	1.3	0.6	0.2	0.5	1.3	0.8	0.6
360.	*	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.5	1.4	1.0	0.4	0.5	1.2	0.9	0.6
------	*	----------														
MAX	*	1.6	1.4	1.5	1.5	1.4	1.4	1.4	1.8	1.4	1.1	1.2	1.2	1.8	1.7	1.5
DEGR.	*	170	170	220	250	290	340	330	340	0	10	70	80	110	110	120

THE HIGHEST CONCENTRATION OF 1.80 PPM OCCURRED AT RECEPTOR REC8 .

East Taunton 2016 No Build - CO

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: South Coast Rail (Taunton) RUN: 2016 No Build

DATE : 9/15/ 9
TIME : 11:33:25

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION * LINK COORDINATES (FT) * LENGTH BRG TYPE VPH EF H W V/C QUEUE
* X1 Y1 X2 Y2 * (FT) (DEG) (G/MI) (FT) (FT) (VEH)
---*---*---

1. Rt 140 NB L * 11948.8 -3565.2 11989.8 -3612.2 * 62. 139. AG 59. 100.0 1.0 10.0 0.36 3.2
2. Rt 140 NB T * 11964.0 -3553.9 11964.1 -3554.1 * 0. 138. AG 0. 100.0 1.0 20.0 0.32 0.0
3. Rt 140 SB T * 11903.1 -3548.3 11787.0 -3417.0 * 175. 318. AG 148. 100.0 1.0 20.0 0.87 8.9
4. 24SB/Route 140 North* 11930.8 -3558.3 11727.3 -3343.3 * 296. 317. AG 2385. 9.3 1.0 78.0
5. 24 SB/Rt 140 South * 11930.8 -3558.3 12101.5 -3735.9 * 246. 136. AG 3775. 9.3 1.0 78.0
6. Rt 24 SB Off Ramp * 11930.8 -3558.3 11814.2 -3698.5 * 182. 220. AG 1440. 9.2 1.0 42.0
7. Rt 24 SB On Ramp * 11888.8 -3530.6 11801.3 -3697.0 * 188. 208. AG 620. 9.2 1.0 30.0

JOB: South Coast Rail (Taunton) RUN: 2016 No Build

DATE : 9/15/ 9
TIME : 11:33:25

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Rt 140 NB L	*	90	40	3.0	285	1600	49.72	1	3
2. Rt 140 NB T	*	90	0	3.0	965	1600	49.72	1	3
3. Rt 140 SB T	*	90	50	3.0	1085	1600	49.72	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. East 1	*	11858.3	-3406.1	6.0	*
2. East 2	*	11909.8	-3460.5	6.0	*
3. East 3	*	11961.4	-3515.0	6.0	*
4. East 4	*	12017.5	-3564.8	6.0	*
5. East 5	*	12069.5	-3619.0	6.0	*
6. SW1	*	12018.0	-3732.7	6.0	*
7. SW2	*	11966.0	-3678.7	6.0	*
8. SW3	*	11914.0	-3624.6	6.0	*
9. SW4	*	11866.0	-3682.2	6.0	*
10. SW5	*	11817.7	-3739.6	6.0	*
11. NW1	*	11777.6	-3678.7	6.0	*
12. NW2	*	11812.5	-3612.3	6.0	*
13. NW3	*	11847.5	-3545.9	6.0	*
14. NW4	*	11795.9	-3491.5	6.0	*
15. NW5	*	11744.3	-3437.0	6.0	*

JOB: South Coast Rail (Taunton) RUN: 2016 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	1.0	0.6	0.3	0.4	0.9	0.8	0.5
10.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.8	1.0	1.1	0.7	0.3	0.4	0.9	0.8	0.5
20.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	1.0	0.9	0.3	0.4	0.8	0.8	0.5
30.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	0.8	0.8	0.4	0.5	0.8	0.8	0.5
40.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.7	0.6	0.6	0.5	0.8	0.8	0.5
50.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.5	0.4	0.8	0.8	0.9	0.9	0.6
60.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.5	0.3	0.9	0.8	0.9	0.8	0.6
70.	*	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.8	0.5	0.3	0.9	0.8	0.9	0.8	0.7
80.	*	0.0	0.0	0.0	0.0	0.0	0.7	0.9	0.9	0.5	0.3	0.9	1.0	0.9	0.9	0.8
90.	*	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.4	0.2	0.8	1.0	1.1	0.9	0.9
100.	*	0.0	0.0	0.0	0.0	0.0	0.4	0.9	0.9	0.3	0.1	0.6	0.9	1.2	1.0	0.9
110.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.9	0.2	0.0	0.4	0.8	1.3	1.1	1.1
120.	*	0.1	0.1	0.1	0.0	0.0	0.2	0.5	0.8	0.1	0.0	0.2	0.6	1.2	1.3	1.1
130.	*	0.3	0.2	0.3	0.1	0.0	0.1	0.3	0.5	0.0	0.0	0.2	0.5	1.0	1.0	1.0
140.	*	0.7	0.6	0.6	0.3	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.4	0.7	0.6	0.6
150.	*	1.1	0.9	0.9	0.6	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.5	0.5	0.3	0.3
160.	*	1.1	1.1	1.0	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	0.1
170.	*	1.1	0.9	1.1	0.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.0
180.	*	1.0	1.0	1.1	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.1	0.0
190.	*	1.0	1.1	1.0	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0
200.	*	0.7	1.0	0.9	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0
210.	*	0.7	0.9	1.0	0.8	0.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
220.	*	0.7	0.8	1.0	0.9	0.8	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.8	0.8	1.1	1.0	0.8	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.7	0.7	0.9	1.1	0.8	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.7	0.7	0.9	1.2	0.9	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.7	0.8	0.8	1.2	1.0	0.0	0.1	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.7	0.8	0.8	1.1	1.0	0.0	0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.6	0.8	0.9	1.0	1.1	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.5	0.7	0.9	0.9	1.2	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.4	0.7	0.8	0.8	1.0	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
310.	*	0.3	0.4	0.6	0.6	0.7	0.3	0.5	0.6	0.5	0.0	0.0	0.0	0.2	0.1	0.0
320.	*	0.1	0.2	0.2	0.2	0.3	0.7	0.8	0.9	0.5	0.0	0.0	0.0	0.5	0.3	0.1
330.	*	0.0	0.1	0.1	0.1	0.1	1.2	1.1	1.2	0.6	0.0	0.0	0.1	0.8	0.4	0.2
340.	*	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.3	0.8	0.3	0.1	0.2	1.0	0.7	0.3
350.	*	0.0	0.0	0.0	0.0	0.0	1.0	1.1	1.3	0.9	0.5	0.1	0.4	1.0	0.7	0.4
360.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	1.0	0.6	0.3	0.4	0.9	0.8	0.5
------*																
MAX	*	1.1	1.1	1.1	1.2	1.2	1.2	1.1	1.3	1.1	0.9	0.9	1.0	1.3	1.3	1.1
DEGR.	*	150	160	170	250	290	330	330	340	10	20	60	80	110	120	110

THE HIGHEST CONCENTRATION OF 1.30 PPM OCCURRED AT RECEPTOR REC13.

East Taunton 2030 No-Build – CO

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: South Coast Rail (Taunton) RUN: 2030 No Build

DATE : 6/29/ 9
TIME : 16:37:48

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION * LINK COORDINATES (FT) * LENGTH BRG TYPE VPH EF H W V/C QUEUE
* X1 Y1 X2 Y2 * (FT) (DEG) (G/MI) (FT) (FT) (VEH)
---*---*---

1. Rt 140 NB L * 11948.8 -3565.2 11989.8 -3612.2 * 62. 139. AG 60. 100.0 1.0 10.0 0.36 3.2
2. Rt 140 NB T * 11964.0 -3553.9 11964.1 -3554.1 * 0. 138. AG 0. 100.0 1.0 20.0 0.32 0.0
3. Rt 140 SB T * 11903.1 -3548.3 11787.0 -3417.0 * 175. 318. AG 149. 100.0 1.0 20.0 0.87 8.9
4. 24SB/Route 140 North* 11930.8 -3558.3 11727.3 -3343.3 * 296. 317. AG 2385. 9.2 1.0 78.0
5. 24 SB/Rt 140 South * 11930.8 -3558.3 12101.5 -3735.9 * 246. 136. AG 3775. 9.2 1.0 78.0
6. Rt 24 SB Off Ramp * 11930.8 -3558.3 11814.2 -3698.5 * 182. 220. AG 1440. 9.1 1.0 42.0
7. Rt 24 SB On Ramp * 11888.8 -3530.6 11801.3 -3697.0 * 188. 208. AG 620. 9.1 1.0 30.0

JOB: South Coast Rail (Taunton) RUN: 2030 No Build

DATE : 6/29/ 9
TIME : 16:37:48

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Rt 140 NB L	90	40	3.0	285	1600	50.10	1	3
2. Rt 140 NB T	90	0	3.0	965	1600	50.10	1	3
3. Rt 140 SB T	90	50	3.0	1085	1600	50.10	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2030 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	0.9	0.6	0.3	0.4	0.9	0.8	0.5
10.	0.0	0.0	0.0	0.0	0.0	0.9	0.8	1.0	1.1	0.7	0.3	0.4	0.9	0.8	0.5
20.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	0.8	0.9	0.3	0.5	0.8	0.8	0.5
30.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	0.7	0.8	0.4	0.5	0.8	0.8	0.5
40.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.7	0.6	0.6	0.5	0.8	0.8	0.5
50.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.5	0.4	0.7	0.7	0.8	0.8	0.5
60.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.5	0.3	0.9	0.8	0.9	0.8	0.6
70.	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.9	0.5	0.3	0.9	0.8	0.9	0.8	0.7
80.	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.9	0.5	0.3	0.8	1.0	0.9	0.9	0.8
90.	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.4	0.2	0.8	1.0	1.1	0.9	0.9
100.	0.0	0.0	0.0	0.0	0.0	0.4	0.9	0.9	0.3	0.1	0.6	0.9	1.2	1.0	0.9
110.	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.9	0.2	0.0	0.4	0.8	1.3	1.1	1.0
120.	0.1	0.1	0.1	0.0	0.0	0.2	0.5	0.8	0.1	0.0	0.2	0.6	1.2	1.2	1.1
130.	0.3	0.2	0.3	0.1	0.0	0.1	0.3	0.5	0.0	0.0	0.2	0.5	1.0	1.0	1.0
140.	0.7	0.6	0.6	0.3	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.4	0.6	0.6	0.6
150.	1.1	0.9	0.9	0.6	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.5	0.5	0.3	0.3
160.	1.1	1.1	1.0	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.1
170.	1.0	0.9	1.1	0.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.0
180.	1.0	1.0	1.1	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.1	0.0
190.	1.0	1.1	1.0	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0
200.	0.7	1.0	0.9	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0
210.	0.7	0.9	1.0	0.8	0.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
220.	0.7	0.8	1.0	0.9	0.8	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.7	0.7	1.1	1.0	0.8	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	0.7	0.7	0.9	1.1	0.8	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
250.	0.7	0.7	0.9	1.1	0.9	0.0	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
260.	0.7	0.8	0.8	1.2	0.9	0.0	0.1	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
270.	0.7	0.8	0.8	1.1	1.0	0.0	0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
280.	0.6	0.8	0.9	1.0	1.1	0.1	0.2	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
290.	0.5	0.7	0.9	0.9	1.2	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0

300. *	0.4	0.7	0.8	0.8	1.0	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
310. *	0.3	0.4	0.6	0.6	0.7	0.3	0.5	0.6	0.5	0.0	0.0	0.0	0.2	0.1	0.0
320. *	0.1	0.2	0.2	0.2	0.3	0.7	0.8	0.9	0.5	0.0	0.0	0.0	0.5	0.3	0.1
330. *	0.0	0.1	0.1	0.1	0.1	1.0	1.0	1.2	0.6	0.0	0.0	0.1	0.8	0.4	0.2
340. *	0.0	0.0	0.0	0.0	0.0	1.0	1.1	1.3	0.8	0.3	0.1	0.2	1.0	0.7	0.3
350. *	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.3	0.9	0.5	0.1	0.4	1.0	0.7	0.4
360. *	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	0.9	0.6	0.3	0.4	0.9	0.8	0.5
------*															
MAX *	1.1	1.1	1.1	1.2	1.2	1.0	1.1	1.3	1.1	0.9	0.9	1.0	1.3	1.2	1.1
DEGR. *	150	160	170	260	290	330	340	340	10	20	60	80	110	120	120

THE HIGHEST CONCENTRATION OF 1.30 PPM OCCURRED AT RECEPTOR REC13.

East Taunton 2016 Build Mitigated (Diesel) – CO

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

   JOB: South Coast Rail (Taunton)                    RUN: 2016 Build with Mitigation

   DATE :  9/15/ 9
   TIME : 11:33:36

     The MODE flag has been set to C for calculating CO averages.

   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
    U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 PPM

   LINK VARIABLES
   --------------
    LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                         *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
   ------------------------*--------------------------------------*-------------------------------------------------------
   1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *     62.   139. AG     59. 100.0   1.0 10.0
0.36   3.2
   2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *      0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
   3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *    197.   318. AG    148. 100.0   1.0 20.0
0.91  10.0
   4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *      1.   138. AG     40. 100.0   1.0 20.0
0.00   0.0
   5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *    296.   317. AG   2467.   9.3   1.0
78.0
   6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *    246.   136. AG   3830.   9.3   1.0
78.0
   7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *    182.   220. AG   1440.   9.2   1.0
42.0
   8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *    188.   208. AG    647.   9.2   1.0
30.0
   9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *   *****   138. AG      5.   8.9   1.0 48.0
  10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *   4745.   149. AG      5.   8.9   1.0 48.0
  11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *   5628.   325. AG      5.   8.9   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

DATE : 9/15/ 9
TIME : 11:33:36

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Rt 140 NB L	90	40	3.0	285	1600	49.72	1	3
2. Rt 140 NB T	90	0	3.0	976	1600	49.72	1	3
3. Rt 140 SB T	90	50	3.0	1129	1600	49.72	1	3
4. Train Queue	120	70	3.0	5	1600	12.69	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0. *	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	1.0	0.6	0.3	0.4	0.9	0.9	0.5
10. *	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.0	1.1	0.8	0.3	0.5	0.9	0.9	0.5
20. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	1.0	0.9	0.3	0.5	0.9	0.9	0.5
30. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	0.8	0.8	0.4	0.5	0.8	0.8	0.6
40. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.7	0.6	0.7	0.5	0.9	0.9	0.7
50. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.6	0.4	0.8	0.8	0.9	0.9	0.8
60. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.5	0.3	0.9	0.8	0.9	0.8	0.7
70. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.5	0.3	0.9	0.8	1.0	0.8	0.8
80. *	0.0	0.0	0.0	0.0	0.0	0.7	0.9	0.9	0.5	0.3	0.9	1.0	1.0	0.9	0.9
90. *	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.4	0.2	0.8	1.0	1.2	0.9	0.9
100. *	0.0	0.0	0.0	0.0	0.0	0.4	0.9	1.0	0.3	0.1	0.6	1.0	1.2	1.0	1.0
110. *	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.9	0.2	0.0	0.4	0.9	1.5	1.1	1.1
120. *	0.1	0.1	0.1	0.0	0.0	0.2	0.6	0.8	0.1	0.0	0.2	0.7	1.3	1.4	1.1
130. *	0.3	0.4	0.3	0.1	0.0	0.1	0.3	0.5	0.0	0.0	0.2	0.6	1.1	1.0	1.0
140. *	0.7	0.6	0.6	0.3	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.5	0.7	0.6	0.6
150. *	1.1	1.0	0.9	0.6	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.5	0.5	0.3	0.3
160. *	1.1	1.1	1.0	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	0.1
170. *	1.1	1.0	1.1	0.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.0
180. *	1.0	1.0	1.1	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.1	0.0
190. *	1.0	1.2	1.0	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0
200. *	0.8	1.0	1.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0
210. *	0.7	0.9	1.0	0.8	0.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
220. *	0.8	0.9	1.1	0.9	0.8	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230. *	0.8	0.8	1.2	1.0	0.8	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240. *	0.7	0.7	0.9	1.1	0.8	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
250. *	0.7	0.7	0.9	1.2	0.9	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
260. *	0.8	0.8	0.9	1.2	1.0	0.0	0.1	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
270. *	0.7	0.8	0.8	1.1	1.0	0.0	0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
280. *	0.7	0.9	0.9	1.0	1.1	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
290. *	0.6	0.9	0.9	1.0	1.2	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.5	0.7	0.9	0.9	1.0	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.1	0.0	0.0
310.	*	0.3	0.4	0.6	0.6	0.7	0.3	0.6	0.6	0.5	0.0	0.0	0.0	0.2	0.1	0.0
320.	*	0.1	0.2	0.3	0.2	0.3	0.8	0.8	1.0	0.5	0.0	0.0	0.0	0.5	0.3	0.1
330.	*	0.0	0.1	0.1	0.1	0.1	1.2	1.1	1.2	0.6	0.0	0.0	0.1	0.8	0.6	0.3
340.	*	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.4	0.8	0.3	0.1	0.2	1.0	0.7	0.3
350.	*	0.0	0.0	0.0	0.0	0.0	1.0	1.1	1.3	0.9	0.6	0.1	0.4	1.0	0.8	0.4
360.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	1.0	0.6	0.3	0.4	0.9	0.9	0.5
------	*	----------														
MAX	*	1.1	1.2	1.2	1.2	1.2	1.2	1.1	1.4	1.1	0.9	0.9	1.0	1.5	1.4	1.1
DEGR.	*	150	190	230	250	290	330	330	340	10	20	60	80	110	120	110

THE HIGHEST CONCENTRATION OF 1.50 PPM OCCURRED AT RECEPTOR REC13.

East Taunton 2016 Build Mitigated (Electric) – CO

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

   JOB: South Coast Rail (Taunton)                    RUN: 2016 Build with Mitigation

   DATE :  9/15/ 9
   TIME : 11:33:46

     The MODE flag has been set to C for calculating CO averages.

   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
    U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 PPM

   LINK VARIABLES
   --------------
    LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                         *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
   ------------------------*--------------------------------------*-------------------------------------------------------
   1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *     62.   139. AG     59. 100.0   1.0 10.0
0.36   3.2
   2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *      0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
   3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *    197.   318. AG    148. 100.0   1.0 20.0
0.91  10.0
   4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *      1.   138. AG      0. 100.0   1.0 20.0 0.00
0.0
   5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *    296.   317. AG   2467.   9.3   1.0
78.0
   6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *    246.   136. AG   3830.   9.3   1.0
78.0
   7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *    182.   220. AG   1440.   9.2   1.0
42.0
   8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *    188.   208. AG    647.   9.2   1.0
30.0
   9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *   *****   138. AG      5.   0.0   1.0 48.0
  10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   0.0   1.0 48.0
  11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   0.0   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

DATE : 9/15/ 9
TIME : 11:33:46

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Rt 140 NB L	90	40	3.0	285	1600	49.72	1	3
2. Rt 140 NB T	90	0	3.0	976	1600	49.72	1	3
3. Rt 140 SB T	90	50	3.0	1129	1600	49.72	1	3
4. Train Queue	120	70	3.0	5	1600	0.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (PPM)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0. *	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	1.0	0.6	0.3	0.4	0.9	0.9	0.5
10. *	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.0	1.1	0.8	0.3	0.5	0.9	0.9	0.5
20. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	1.0	0.9	0.3	0.5	0.9	0.9	0.5
30. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	0.8	0.8	0.4	0.5	0.8	0.8	0.6
40. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.7	0.6	0.7	0.5	0.9	0.9	0.7
50. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.6	0.4	0.8	0.8	0.9	0.9	0.8
60. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.5	0.3	0.9	0.8	0.9	0.8	0.7
70. *	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.5	0.3	0.9	0.8	1.0	0.8	0.8
80. *	0.0	0.0	0.0	0.0	0.0	0.7	0.9	0.9	0.5	0.3	0.9	1.0	1.0	0.9	0.9
90. *	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.4	0.2	0.8	1.0	1.2	0.9	0.9
100. *	0.0	0.0	0.0	0.0	0.0	0.4	0.9	1.0	0.3	0.1	0.6	1.0	1.2	1.0	1.0
110. *	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.9	0.2	0.0	0.4	0.9	1.5	1.1	1.1
120. *	0.1	0.1	0.1	0.0	0.0	0.2	0.6	0.8	0.1	0.0	0.2	0.7	1.3	1.4	1.1
130. *	0.3	0.4	0.3	0.1	0.0	0.1	0.3	0.5	0.0	0.0	0.2	0.6	1.1	1.0	1.0
140. *	0.7	0.6	0.6	0.3	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.5	0.7	0.6	0.6
150. *	1.1	1.0	0.9	0.6	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.5	0.5	0.3	0.3
160. *	1.1	1.1	1.0	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	0.1
170. *	1.1	1.0	1.1	0.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.0
180. *	1.0	1.0	1.1	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.1	0.0
190. *	1.0	1.2	1.0	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0
200. *	0.8	1.0	1.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0
210. *	0.7	0.9	1.0	0.8	0.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
220. *	0.8	0.9	1.1	0.9	0.8	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230. *	0.8	0.8	1.2	1.0	0.8	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240. *	0.7	0.7	0.9	1.1	0.8	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
250. *	0.7	0.7	0.9	1.2	0.9	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0
260. *	0.8	0.8	0.9	1.2	1.0	0.0	0.1	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
270. *	0.7	0.8	0.8	1.1	1.0	0.0	0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
280. *	0.7	0.9	0.9	1.0	1.1	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
290. *	0.6	0.9	0.9	1.0	1.2	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.5	0.7	0.9	0.9	1.0	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.1	0.0	0.0
310.	*	0.3	0.4	0.6	0.6	0.7	0.3	0.6	0.6	0.5	0.0	0.0	0.0	0.2	0.1	0.0
320.	*	0.1	0.2	0.3	0.2	0.3	0.8	0.8	1.0	0.5	0.0	0.0	0.0	0.5	0.3	0.1
330.	*	0.0	0.1	0.1	0.1	0.1	1.2	1.1	1.2	0.6	0.0	0.0	0.1	0.8	0.6	0.3
340.	*	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.4	0.8	0.3	0.1	0.2	1.0	0.7	0.3
350.	*	0.0	0.0	0.0	0.0	0.0	1.0	1.1	1.3	0.9	0.6	0.1	0.4	1.0	0.8	0.4
360.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	1.0	0.6	0.3	0.4	0.9	0.9	0.5
------	*	----------														
MAX	*	1.1	1.2	1.2	1.2	1.2	1.2	1.1	1.4	1.1	0.9	0.9	1.0	1.5	1.4	1.1
DEGR.	*	150	190	230	250	290	330	330	340	10	20	60	80	110	120	110

THE HIGHEST CONCENTRATION OF 1.50 PPM OCCURRED AT RECEPTOR REC13.

East Taunton 2030 Build Mitigated (Diesel) – CO

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

   JOB: South Coast Rail (Taunton)                    RUN: 2030 Build with Mitigation

   DATE :  7/ 2/ 9
   TIME :  9: 2: 1

     The MODE flag has been set to C for calculating CO averages.

   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
    U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 PPM

   LINK VARIABLES
   --------------
     LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                          *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
   ------------------------*---------------------------------------*-------------------------------------------------------
   1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG     60. 100.0   1.0 10.0
0.36   3.2
   2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
   3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG    149. 100.0   1.0 20.0
0.91  10.0
   4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG     40. 100.0   1.0 20.0
0.00   0.0
   5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   9.2   1.0
78.0
   6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   9.2   1.0
78.0
   7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   9.1   1.0
42.0
   8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   9.1   1.0
30.0
   9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   8.9   1.0 48.0
  10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   8.9   1.0 48.0
  11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   8.9   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

DATE : 7/ 2/ 9
TIME : 9: 2: 1

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	*	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
1. Rt 140 NB L	*	90	40	3.0	285	1600	50.10	1	3
2. Rt 140 NB T	*	90	0	3.0	976	1600	50.10	1	3
3. Rt 140 SB T	*	90	50	3.0	1129	1600	50.10	1	3
4. Train Queue	*	120	70	3.0	5	1600	12.69	1	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. East 1	*	11858.3	-3406.1	6.0	*
2. East 2	*	11909.8	-3460.5	6.0	*
3. East 3	*	11961.4	-3515.0	6.0	*
4. East 4	*	12017.5	-3564.8	6.0	*
5. East 5	*	12069.5	-3619.0	6.0	*
6. SW1	*	12018.0	-3732.7	6.0	*
7. SW2	*	11966.0	-3678.7	6.0	*
8. SW3	*	11914.0	-3624.6	6.0	*
9. SW4	*	11866.0	-3682.2	6.0	*
10. SW5	*	11817.7	-3739.6	6.0	*
11. NW1	*	11777.6	-3678.7	6.0	*
12. NW2	*	11812.5	-3612.3	6.0	*
13. NW3	*	11847.5	-3545.9	6.0	*
14. NW4	*	11795.9	-3491.5	6.0	*
15. NW5	*	11744.3	-3437.0	6.0	*

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	0.9	0.6	0.3	0.4	0.9	0.9	0.5
10.	0.0	0.0	0.0	0.0	0.0	0.9	0.8	1.0	1.1	0.8	0.3	0.5	0.9	0.9	0.5
20.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	0.9	0.9	0.3	0.5	0.9	0.8	0.5
30.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	0.7	0.8	0.4	0.5	0.8	0.8	0.6
40.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.7	0.6	0.7	0.5	0.9	0.9	0.7
50.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.6	0.4	0.7	0.8	0.9	0.9	0.8
60.	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.5	0.3	0.9	0.8	0.9	0.8	0.7
70.	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.9	0.5	0.3	0.9	0.8	0.9	0.8	0.8
80.	0.0	0.0	0.0	0.0	0.0	0.7	0.9	0.9	0.5	0.3	0.8	1.0	0.9	0.9	0.9
90.	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.4	0.2	0.8	1.0	1.2	0.9	0.9
100.	0.0	0.0	0.0	0.0	0.0	0.4	0.9	0.9	0.3	0.1	0.6	1.0	1.2	1.0	1.0
110.	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.9	0.2	0.0	0.4	0.9	1.5	1.1	1.1
120.	0.1	0.1	0.1	0.0	0.0	0.2	0.5	0.8	0.1	0.0	0.2	0.7	1.3	1.3	1.1
130.	0.3	0.2	0.3	0.1	0.0	0.1	0.3	0.5	0.0	0.0	0.2	0.6	1.1	1.0	1.0
140.	0.7	0.6	0.6	0.3	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.5	0.7	0.6	0.6
150.	1.1	1.0	0.9	0.6	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.5	0.5	0.3	0.3
160.	1.1	1.1	1.0	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.1
170.	1.1	1.0	1.1	0.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.0
180.	1.0	1.0	1.1	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.1	0.0
190.	1.0	1.1	1.0	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0
200.	0.7	1.0	0.9	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0
210.	0.7	0.9	1.0	0.8	0.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
220.	0.8	0.9	1.1	0.9	0.8	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	0.8	0.8	1.2	1.0	0.8	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	0.7	0.7	0.9	1.1	0.8	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
250.	0.7	0.7	0.9	1.2	0.9	0.0	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
260.	0.8	0.8	0.8	1.2	1.0	0.0	0.1	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
270.	0.7	0.8	0.8	1.1	1.0	0.0	0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
280.	0.7	0.9	0.9	1.0	1.1	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
290.	0.6	0.9	0.9	1.0	1.2	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.5	0.7	0.9	0.9	1.0	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.1	0.0	0.0
310.	*	0.3	0.4	0.6	0.6	0.7	0.3	0.6	0.6	0.5	0.0	0.0	0.0	0.2	0.1	0.0
320.	*	0.1	0.2	0.2	0.2	0.3	0.8	0.8	0.9	0.5	0.0	0.0	0.0	0.5	0.3	0.1
330.	*	0.0	0.1	0.1	0.1	0.1	1.2	1.0	1.2	0.6	0.0	0.0	0.1	0.8	0.6	0.3
340.	*	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.4	0.8	0.3	0.1	0.2	1.0	0.7	0.3
350.	*	0.0	0.0	0.0	0.0	0.0	1.0	1.1	1.3	0.9	0.6	0.1	0.4	1.0	0.8	0.4
360.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	0.9	0.6	0.3	0.4	0.9	0.9	0.5
MAX	*	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.4	1.1	0.9	0.9	1.0	1.5	1.3	1.1
DEGR.	*	150	160	230	250	290	330	340	340	10	20	60	80	110	120	110

THE HIGHEST CONCENTRATION OF 1.50 PPM OCCURRED AT RECEPTOR REC13.

East Taunton 2030 Build Mitigated (Electric) – CO

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

   JOB: South Coast Rail (Taunton)                    RUN: 2030 Build with Mitigation

   DATE :  6/29/ 9
   TIME : 16:38: 2

     The MODE flag has been set to C for calculating CO averages.

   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
    U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 PPM

   LINK VARIABLES
   --------------
     LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                          *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
   ------------------------*---------------------------------------*-------------------------------------------------------
   1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG     60. 100.0   1.0 10.0
0.36   3.2
   2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
   3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG    149. 100.0   1.0 20.0
0.91  10.0
   4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG      0. 100.0   1.0 20.0 0.00
0.0
   5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   9.2   1.0
78.0
   6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   9.2   1.0
78.0
   7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   9.1   1.0
42.0
   8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   9.1   1.0
30.0
   9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   0.0   1.0 48.0
  10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   0.0   1.0 48.0
  11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   0.0   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

DATE : 6/29/ 9
TIME : 16:38: 2

ADDITIONAL QUEUE LINK PARAMETERS

LINK DESCRIPTION	* LENGTH (SEC)	CYCLE TIME (SEC)	RED LOST TIME (SEC)	CLEARANCE VOL (VPH)	APPROACH FLOW RATE (VPH)	SATURATION EM FAC (gm/hr)	IDLE TYPE	SIGNAL ARRIVAL RATE
1. Rt 140 NB L	90	40	3.0	285	1600	50.10	1	3
2. Rt 140 NB T	90	0	3.0	976	1600	50.10	1	3
3. Rt 140 SB T	90	50	3.0	1129	1600	50.10	1	3
4. Train Queue	120	70	3.0	5	1600	0.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	0.9	0.6	0.3	0.4	0.9	0.9	0.5
10.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.8	1.0	1.1	0.8	0.3	0.5	0.9	0.9	0.5
20.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	0.9	0.9	0.3	0.5	0.9	0.8	0.5
30.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	1.0	0.7	0.8	0.4	0.5	0.8	0.8	0.6
40.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.7	0.6	0.7	0.5	0.9	0.9	0.7
50.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.6	0.4	0.7	0.8	0.9	0.9	0.8
60.	*	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.9	0.5	0.3	0.9	0.8	0.9	0.8	0.7
70.	*	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.9	0.5	0.3	0.9	0.8	0.9	0.8	0.8
80.	*	0.0	0.0	0.0	0.0	0.0	0.7	0.9	0.9	0.5	0.3	0.8	1.0	0.9	0.9	0.9
90.	*	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.4	0.2	0.8	1.0	1.2	0.9	0.9
100.	*	0.0	0.0	0.0	0.0	0.0	0.4	0.9	0.9	0.3	0.1	0.6	1.0	1.2	1.0	1.0
110.	*	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.9	0.2	0.0	0.4	0.9	1.5	1.1	1.1
120.	*	0.1	0.1	0.1	0.0	0.0	0.2	0.5	0.8	0.1	0.0	0.2	0.7	1.3	1.3	1.1
130.	*	0.3	0.2	0.3	0.1	0.0	0.1	0.3	0.5	0.0	0.0	0.2	0.6	1.1	1.0	1.0
140.	*	0.7	0.6	0.6	0.3	0.2	0.0	0.1	0.2	0.0	0.0	0.0	0.5	0.7	0.6	0.6
150.	*	1.1	1.0	0.9	0.6	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.5	0.5	0.3	0.3
160.	*	1.1	1.1	1.0	0.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.1
170.	*	1.1	1.0	1.1	0.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.0
180.	*	1.0	1.0	1.1	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.1	0.0
190.	*	1.0	1.1	1.0	0.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0
200.	*	0.7	1.0	0.9	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0
210.	*	0.7	0.9	1.0	0.8	0.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
220.	*	0.8	0.9	1.1	0.9	0.8	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
230.	*	0.8	0.8	1.2	1.0	0.8	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0
240.	*	0.7	0.7	0.9	1.1	0.8	0.0	0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0
250.	*	0.7	0.7	0.9	1.2	0.9	0.0	0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
260.	*	0.8	0.8	0.8	1.2	1.0	0.0	0.1	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
270.	*	0.7	0.8	0.8	1.1	1.0	0.0	0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
280.	*	0.7	0.9	0.9	1.0	1.1	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
290.	*	0.6	0.9	0.9	1.0	1.2	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0

300.	*	0.5	0.7	0.9	0.9	1.0	0.1	0.3	0.5	0.5	0.0	0.0	0.0	0.1	0.0	0.0
310.	*	0.3	0.4	0.6	0.6	0.7	0.3	0.6	0.6	0.5	0.0	0.0	0.0	0.2	0.1	0.0
320.	*	0.1	0.2	0.2	0.2	0.3	0.8	0.8	0.9	0.5	0.0	0.0	0.0	0.5	0.3	0.1
330.	*	0.0	0.1	0.1	0.1	0.1	1.2	1.0	1.2	0.6	0.0	0.0	0.1	0.8	0.6	0.3
340.	*	0.0	0.0	0.0	0.0	0.0	1.1	1.1	1.4	0.8	0.3	0.1	0.2	1.0	0.7	0.3
350.	*	0.0	0.0	0.0	0.0	0.0	1.0	1.1	1.3	0.9	0.6	0.1	0.4	1.0	0.8	0.4
360.	*	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.2	0.9	0.6	0.3	0.4	0.9	0.9	0.5
MAX	*	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.4	1.1	0.9	0.9	1.0	1.5	1.3	1.1
DEGR.	*	150	160	230	250	290	330	340	340	10	20	60	80	110	120	110

THE HIGHEST CONCENTRATION OF 1.50 PPM OCCURRED AT RECEPTOR REC13.

Hot Spot: Microscale (Local) Analysis

Cal3QHC - Output Files

- Particulate Matter 10 (PM_{10})

This Page Intentionally Left Blank

East Taunton 2008 Existing – PM_{10}

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: South Coast Rail (Taunton) RUN: Existing Condition

DATE : 6/29/ 9
TIME : 16:39:21

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION * LINK COORDINATES (FT) * LENGTH BRG TYPE VPH EF H W V/C QUEUE
* X1 Y1 X2 Y2 * (FT) (DEG) (G/MI) (FT) (FT) (VEH)
---*---*---
1. Rt 140 NB L * 11948.8 -3565.2 11978.3 -3599.0 * 45. 139. AG 0. 100.0 1.0 10.0 0.26 2.3
2. Rt 140 NB T * 11964.0 -3553.9 11964.0 -3554.0 * 0. 138. AG 0. 100.0 1.0 20.0 0.26 0.0
3. Rt 140 SB T * 11903.1 -3548.3 11806.7 -3439.4 * 145. 318. AG 0. 100.0 1.0 20.0 0.80 7.4
4. 24SB/Route 140 North* 11930.8 -3558.3 11727.3 -3343.3 * 296. 317. AG 2350. 0.0 1.0 78.0
5. 24 SB/Rt 140 South * 11930.8 -3558.3 12101.5 -3735.9 * 246. 136. AG 3335. 0.0 1.0 78.0
6. Rt 24 SB Off Ramp * 11930.8 -3558.3 11814.2 -3698.5 * 182. 220. AG 1580. 0.0 1.0 42.0
7. Rt 24 SB On Ramp * 11888.8 -3530.6 11801.3 -3697.0 * 188. 208. AG 525. 0.0 1.0 30.0

JOB: South Coast Rail (Taunton) RUN: Existing Condition

DATE : 6/29/ 9
TIME : 16:39:21

1. Rt 140 NB L	*	90	40	3.0	205	1600	0.11	1	3
2. Rt 140 NB T	*	90	0	3.0	790	1600	0.11	1	3
3. Rt 140 SB T	*	90	50	3.0	1000	1600	0.11	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: Existing Condition

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0. *	0.	0.	0.	0.	0.	5.	5.	6.	5.	4.	1.	2.	4.	4.	3.
10. *	0.	0.	0.	0.	0.	4.	4.	6.	5.	4.	1.	2.	4.	4.	3.
20. *	0.	0.	0.	0.	0.	4.	4.	5.	5.	4.	2.	2.	4.	3.	3.
30. *	0.	0.	0.	0.	0.	4.	4.	5.	4.	4.	2.	2.	4.	3.	3.
40. *	0.	0.	0.	0.	0.	4.	4.	5.	3.	3.	3.	3.	4.	4.	3.
50. *	0.	0.	0.	0.	0.	4.	4.	4.	3.	2.	4.	3.	4.	4.	3.
60. *	0.	0.	0.	0.	0.	4.	4.	4.	2.	2.	5.	4.	4.	4.	3.
70. *	0.	0.	0.	0.	0.	4.	4.	4.	2.	2.	5.	4.	4.	4.	3.
80. *	0.	0.	0.	0.	0.	3.	4.	4.	2.	1.	5.	5.	5.	4.	3.
90. *	0.	0.	0.	0.	0.	3.	4.	4.	2.	1.	4.	5.	6.	4.	4.
100. *	0.	0.	0.	0.	0.	2.	4.	5.	2.	0.	4.	5.	6.	5.	4.
110. *	0.	0.	0.	0.	0.	2.	4.	4.	1.	0.	2.	4.	7.	6.	5.
120. *	0.	0.	0.	0.	0.	1.	3.	4.	0.	0.	2.	3.	7.	6.	6.
130. *	2.	2.	1.	1.	0.	0.	1.	2.	0.	0.	1.	3.	6.	5.	5.
140. *	3.	3.	3.	2.	1.	0.	0.	1.	0.	0.	0.	2.	4.	3.	3.
150. *	5.	5.	4.	3.	2.	0.	0.	0.	0.	0.	0.	2.	3.	2.	2.
160. *	5.	5.	5.	4.	3.	0.	0.	0.	0.	0.	0.	2.	2.	1.	1.
170. *	5.	5.	5.	4.	4.	0.	0.	0.	0.	0.	0.	2.	2.	1.	0.
180. *	5.	5.	5.	4.	4.	0.	0.	0.	0.	0.	0.	2.	2.	1.	0.
190. *	5.	5.	5.	4.	4.	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.
200. *	4.	5.	5.	4.	4.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
210. *	3.	4.	6.	4.	4.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220. *	4.	4.	6.	4.	4.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
230. *	3.	4.	6.	5.	4.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
240. *	3.	3.	5.	5.	4.	0.	0.	3.	1.	0.	0.	0.	0.	0.	0.
250. *	3.	3.	4.	6.	4.	0.	0.	3.	2.	0.	0.	0.	0.	0.	0.
260. *	3.	4.	4.	6.	5.	0.	1.	3.	2.	0.	0.	0.	0.	0.	0.
270. *	3.	4.	4.	6.	6.	0.	1.	3.	3.	0.	0.	0.	0.	0.	0.
280. *	3.	4.	4.	5.	6.	0.	1.	3.	3.	0.	0.	0.	0.	0.	0.
290. *	3.	4.	4.	5.	6.	1.	1.	3.	3.	0.	0.	0.	0.	0.	0.

```
300. *   2.   3.   4.   4.   5.   1.   2.   3.   3.   0.   0.   0.   0.   0.   0.
310. *   2.   2.   3.   3.   3.   2.   3.   4.   3.   0.   0.   0.   1.   1.   0.
320. *   1.   1.   1.   1.   2.   4.   4.   5.   3.   0.   0.   0.   2.   1.   1.
330. *   0.   0.   0.   0.   0.   5.   5.   6.   4.   0.   0.   0.   3.   2.   1.
340. *   0.   0.   0.   0.   0.   5.   6.   7.   4.   1.   0.   1.   4.   3.   2.
350. *   0.   0.   0.   0.   0.   5.   5.   7.   5.   2.   1.   2.   4.   4.   2.
360. *   0.   0.   0.   0.   0.   5.   5.   6.   5.   4.   1.   2.   4.   4.   3.
------*-------------------------------------------------------------------------------------
MAX  *   5.   5.   6.   6.   6.   5.   6.   7.   5.   4.   5.   5.   7.   6.   6.
DEGR. *  160  190  220  260  280  330  340  340    0   20   70   90  120  120  120
```

THE HIGHEST CONCENTRATION OF 7. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2016 No-Build – PM_{10}

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: South Coast Rail (Taunton) RUN: 2016 No Build

DATE : 6/29/ 9
TIME : 16:39: 3

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION * LINK COORDINATES (FT) * LENGTH BRG TYPE VPH EF H W V/C QUEUE
* X1 Y1 X2 Y2 * (FT) (DEG) (G/MI) (FT) (FT) (VEH)
---*---*---
1. Rt 140 NB L * 11948.8 -3565.2 11989.8 -3612.2 * 62. 139. AG 0. 100.0 1.0 10.0 0.36 3.2
2. Rt 140 NB T * 11964.0 -3553.9 11964.1 -3554.1 * 0. 138. AG 0. 100.0 1.0 20.0 0.32 0.0
3. Rt 140 SB T * 11903.1 -3548.3 11787.0 -3417.0 * 175. 318. AG 0. 100.0 1.0 20.0 0.87 8.9
4. 24SB/Route 140 North* 11930.8 -3558.3 11727.3 -3343.3 * 296. 317. AG 2385. 0.0 1.0 78.0
5. 24 SB/Rt 140 South * 11930.8 -3558.3 12101.5 -3735.9 * 246. 136. AG 3775. 0.0 1.0 78.0
6. Rt 24 SB Off Ramp * 11930.8 -3558.3 11814.2 -3698.5 * 182. 220. AG 1440. 0.0 1.0 42.0
7. Rt 24 SB On Ramp * 11888.8 -3530.6 11801.3 -3697.0 * 188. 208. AG 620. 0.0 1.0 30.0

JOB: South Coast Rail (Taunton) RUN: 2016 No Build

DATE : 6/29/ 9
TIME : 16:39: 3

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.08	1	3
2. Rt 140 NB T	*	90	0	3.0	965	1600	0.08	1	3
3. Rt 140 SB T	*	90	50	3.0	1085	1600	0.08	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2016 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0. *	0.	0.	0.	0.	0.	4.	4.	4.	4.	2.	1.	1.	3.	3.	2.
10. *	0.	0.	0.	0.	0.	3.	3.	4.	3.	3.	1.	1.	3.	3.	2.
20. *	0.	0.	0.	0.	0.	3.	3.	4.	3.	3.	1.	2.	2.	2.	2.
30. *	0.	0.	0.	0.	0.	3.	3.	4.	3.	3.	2.	2.	2.	2.	2.
40. *	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	2.	2.	3.	2.	2.
50. *	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	3.	2.	3.	2.	2.
60. *	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	3.	3.	3.	2.	2.
70. *	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	3.	3.	3.	2.	2.
80. *	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	3.	3.	2.
90. *	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	4.	4.	3.	3.
100. *	0.	0.	0.	0.	0.	2.	3.	4.	1.	0.	2.	3.	4.	3.	3.
110. *	0.	0.	0.	0.	0.	1.	3.	3.	1.	0.	2.	3.	5.	4.	4.
120. *	0.	0.	0.	0.	0.	1.	2.	3.	0.	0.	1.	2.	5.	4.	4.
130. *	1.	1.	1.	0.	0.	0.	1.	2.	0.	0.	1.	2.	4.	3.	3.
140. *	2.	2.	2.	1.	1.	0.	0.	1.	0.	0.	0.	2.	3.	2.	2.
150. *	4.	4.	3.	2.	1.	0.	0.	0.	0.	0.	0.	2.	2.	1.	1.
160. *	4.	4.	4.	3.	2.	0.	0.	0.	0.	0.	0.	2.	2.	1.	1.
170. *	4.	4.	4.	3.	3.	0.	0.	0.	0.	0.	0.	1.	2.	1.	0.
180. *	4.	4.	4.	3.	3.	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.
190. *	3.	4.	4.	3.	3.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
200. *	3.	3.	4.	3.	3.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
210. *	2.	3.	4.	3.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220. *	2.	3.	4.	3.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
230. *	2.	2.	4.	4.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240. *	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
250. *	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
260. *	2.	2.	3.	4.	4.	0.	0.	2.	2.	0.	0.	0.	0.	0.	0.
270. *	2.	3.	3.	4.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
280. *	2.	3.	3.	4.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
290. *	2.	3.	3.	3.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.

```
300. *   2.   2.   3.   3.   4.   1.   1.   2.   2.   0.   0.   0.   0.   0.   0.
310. *   1.   2.   2.   2.   2.   2.   2.   2.   2.   0.   0.   0.   1.   0.   0.
320. *   0.   1.   1.   1.   1.   3.   3.   3.   2.   0.   0.   0.   1.   1.   0.
330. *   0.   0.   0.   0.   0.   4.   4.   4.   2.   0.   0.   0.   2.   2.   1.
340. *   0.   0.   0.   0.   0.   4.   4.   4.   3.   1.   0.   1.   3.   2.   1.
350. *   0.   0.   0.   0.   0.   4.   4.   4.   3.   2.   0.   1.   3.   2.   2.
360. *   0.   0.   0.   0.   0.   4.   4.   4.   4.   2.   1.   1.   3.   3.   2.
------*-------------------------------------------------------------------------------------
MAX  *   4.   4.   4.   4.   4.   4.   4.   4.   4.   3.   3.   4.   5.   4.   4.
DEGR. *  160  170  220  250  280  340  340  350    0   20   70   90  110  120  120
```

THE HIGHEST CONCENTRATION OF 5. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2030 No-Build – PM_{10}

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: South Coast Rail (Taunton) RUN: 2030 No Build

DATE : 6/29/ 9
TIME : 16:39:11

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION * LINK COORDINATES (FT) * LENGTH BRG TYPE VPH EF H W V/C QUEUE
* X1 Y1 X2 Y2 * (FT) (DEG) (G/MI) (FT) (FT) (VEH)
---*---*---
1. Rt 140 NB L * 11948.8 -3565.2 11989.8 -3612.2 * 62. 139. AG 0. 100.0 1.0 10.0 0.36 3.2
2. Rt 140 NB T * 11964.0 -3553.9 11964.1 -3554.1 * 0. 138. AG 0. 100.0 1.0 20.0 0.32 0.0
3. Rt 140 SB T * 11903.1 -3548.3 11787.0 -3417.0 * 175. 318. AG 0. 100.0 1.0 20.0 0.87 8.9
4. 24SB/Route 140 North* 11930.8 -3558.3 11727.3 -3343.3 * 296. 317. AG 2385. 0.0 1.0 78.0
5. 24 SB/Rt 140 South * 11930.8 -3558.3 12101.5 -3735.9 * 246. 136. AG 3775. 0.0 1.0 78.0
6. Rt 24 SB Off Ramp * 11930.8 -3558.3 11814.2 -3698.5 * 182. 220. AG 1440. 0.0 1.0 42.0
7. Rt 24 SB On Ramp * 11888.8 -3530.6 11801.3 -3697.0 * 188. 208. AG 620. 0.0 1.0 30.0

JOB: South Coast Rail (Taunton) RUN: 2030 No Build

DATE : 6/29/ 9
TIME : 16:39:11

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.07	1	3
2. Rt 140 NB T	*	90	0	3.0	965	1600	0.07	1	3
3. Rt 140 SB T	*	90	50	3.0	1085	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2030 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0. *	0.	0.	0.	0.	0.	3.	3.	4.	3.	2.	1.	1.	3.	2.	2.
10. *	0.	0.	0.	0.	0.	3.	3.	4.	3.	2.	1.	1.	2.	2.	2.
20. *	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.	1.	1.	2.	2.	2.
30. *	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	1.	2.	2.	2.	2.
40. *	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	2.	2.	2.	2.	2.
50. *	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	2.	2.	2.	2.	2.
60. *	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	3.	2.	2.	2.	2.
70. *	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	3.	2.	2.
80. *	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	3.	2.	2.
90. *	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	4.	3.	2.
100. *	0.	0.	0.	0.	0.	2.	3.	3.	1.	0.	2.	3.	4.	3.	3.
110. *	0.	0.	0.	0.	0.	1.	2.	3.	1.	0.	2.	3.	4.	4.	3.
120. *	0.	0.	0.	0.	0.	1.	2.	3.	0.	0.	1.	2.	4.	4.	4.
130. *	1.	1.	1.	0.	0.	0.	1.	2.	0.	0.	0.	2.	4.	3.	3.
140. *	2.	2.	2.	1.	1.	0.	0.	1.	0.	0.	0.	1.	2.	2.	2.
150. *	3.	3.	3.	2.	1.	0.	0.	0.	0.	0.	0.	1.	2.	1.	1.
160. *	3.	3.	4.	3.	2.	0.	0.	0.	0.	0.	0.	2.	2.	1.	0.
170. *	4.	3.	4.	3.	2.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
180. *	3.	3.	3.	3.	3.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
190. *	3.	3.	3.	3.	3.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
200. *	2.	3.	3.	3.	3.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
210. *	2.	3.	4.	3.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220. *	2.	2.	4.	3.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
230. *	2.	2.	3.	3.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240. *	2.	2.	3.	3.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
250. *	2.	2.	2.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
260. *	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
270. *	2.	2.	2.	4.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
280. *	2.	2.	3.	3.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
290. *	2.	2.	3.	3.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.

```
300. *   2.   2.   2.   2.   4.   1.   1.   2.   2.   0.   0.   0.   0.   0.   0.
310. *   1.   1.   2.   2.   2.   1.   2.   2.   2.   0.   0.   0.   0.   0.   0.
320. *   0.   1.   1.   1.   1.   3.   3.   3.   2.   0.   0.   0.   1.   1.   0.
330. *   0.   0.   0.   0.   0.   4.   3.   4.   2.   0.   0.   0.   2.   2.   1.
340. *   0.   0.   0.   0.   0.   4.   4.   4.   3.   1.   0.   1.   3.   2.   1.
350. *   0.   0.   0.   0.   0.   3.   4.   4.   3.   2.   0.   1.   3.   2.   1.
360. *   0.   0.   0.   0.   0.   3.   3.   4.   3.   2.   1.   1.   3.   2.   2.
------*-------------------------------------------------------------------------------------
MAX  *   4.   3.   4.   4.   4.   4.   4.   4.   3.   3.   3.   3.   4.   4.   4.
DEGR. *  170  170  220  260  280  340  340  340    0   20   70   90  110  120  120
```

THE HIGHEST CONCENTRATION OF 4. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2016 Build Mitigated (Diesel)– PM_{10}

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

   JOB: South Coast Rail (Taunton)                    RUN: 2016 Build with Mitigation

   DATE :  6/29/ 9
   TIME : 16:38:27

     The MODE flag has been set to P for calculating PM averages.

   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
    U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 ug/m**3

   LINK VARIABLES
   --------------
    LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                         *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
   ------------------------*---------------------------------------*-------------------------------------------------------
   1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG      0. 100.0   1.0 10.0
0.36   3.2
   2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
   3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG      0. 100.0   1.0 20.0
0.91  10.0
   4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG      5. 100.0   1.0 20.0 0.00
0.0
   5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   0.0   1.0
78.0
   6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   0.0   1.0
78.0
   7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   0.0   1.0
42.0
   8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   0.0   1.0
30.0
   9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   1.0   1.0 48.0
  10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   1.0   1.0 48.0
  11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   1.0   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

DATE : 6/29/ 9
TIME : 16:38:27

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.08	1	3
2. Rt 140 NB T	*	90	0	3.0	976	1600	0.08	1	3
3. Rt 140 SB T	*	90	50	3.0	1129	1600	0.08	1	3
4. Train Queue	*	120	70	3.0	5	1600	1.53	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.	0.	0.	0.	0.	4.	4.	4.	4.	2.	1.	1.	3.	3.	2.
10.	*	0.	0.	0.	0.	0.	3.	3.	4.	4.	3.	1.	2.	3.	3.	2.
20.	*	0.	0.	0.	0.	0.	3.	3.	4.	3.	3.	1.	2.	3.	2.	2.
30.	*	0.	0.	0.	0.	0.	3.	3.	4.	3.	3.	2.	2.	2.	2.	2.
40.	*	0.	0.	0.	0.	0.	3.	3.	4.	2.	2.	2.	2.	3.	3.	2.
50.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	3.	2.	3.	3.	2.
60.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	3.	3.	3.	2.	2.
70.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	3.	3.	3.	2.	2.
80.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	4.	3.	3.
90.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	4.	4.	3.	3.
100.	*	0.	0.	0.	0.	0.	2.	3.	4.	1.	0.	2.	3.	4.	3.	3.
110.	*	0.	0.	0.	0.	0.	1.	3.	3.	1.	0.	2.	3.	5.	4.	4.
120.	*	0.	0.	0.	0.	0.	1.	2.	3.	0.	0.	1.	2.	5.	4.	4.
130.	*	1.	1.	1.	0.	0.	0.	1.	2.	0.	0.	1.	2.	4.	3.	4.
140.	*	2.	2.	2.	1.	1.	0.	0.	1.	0.	0.	0.	2.	3.	2.	2.
150.	*	4.	4.	3.	2.	1.	0.	0.	0.	0.	0.	0.	2.	2.	1.	1.
160.	*	4.	4.	4.	3.	2.	0.	0.	0.	0.	0.	0.	2.	2.	1.	1.
170.	*	4.	4.	4.	3.	3.	0.	0.	0.	0.	0.	0.	1.	2.	1.	0.
180.	*	4.	4.	4.	3.	3.	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.
190.	*	3.	4.	4.	3.	3.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
200.	*	3.	3.	4.	3.	3.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
210.	*	2.	3.	4.	3.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220.	*	2.	3.	4.	3.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
230.	*	2.	3.	4.	4.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240.	*	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
250.	*	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
260.	*	2.	3.	3.	4.	4.	0.	0.	2.	2.	0.	0.	0.	0.	0.	0.
270.	*	2.	3.	3.	4.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
280.	*	2.	3.	3.	4.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
290.	*	2.	3.	3.	3.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.

```
300. *   2.   2.   3.   3.   4.   1.   1.   2.   2.   0.   0.   0.   0.   0.   0.
310. *   1.   2.   2.   2.   2.   2.   2.   2.   2.   0.   0.   0.   1.   0.   0.
320. *   0.   1.   1.   1.   1.   3.   3.   3.   2.   0.   0.   0.   2.   1.   0.
330. *   0.   0.   0.   0.   0.   4.   4.   4.   2.   0.   0.   0.   2.   2.   1.
340. *   0.   0.   0.   0.   0.   4.   4.   5.   3.   1.   0.   1.   3.   2.   1.
350. *   0.   0.   0.   0.   0.   4.   4.   5.   3.   2.   1.   1.   3.   3.   2.
360. *   0.   0.   0.   0.   0.   4.   4.   4.   4.   2.   1.   1.   3.   3.   2.
------*-------------------------------------------------------------------------------------
MAX  *   4.   4.   4.   4.   4.   4.   4.   5.   4.   3.   3.   4.   5.   4.   4.
DEGR. *  160  170  220  250  280  340  340  340    0   20   70   90  120  120  120
```

THE HIGHEST CONCENTRATION OF 5. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2016 Build Mitigated (Electric) – PM_{10}

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

    JOB: South Coast Rail (Taunton)                    RUN: 2016 Build with Mitigation

    DATE :  6/29/ 9
    TIME : 16:38:33

      The MODE flag has been set to P for calculating PM averages.

    SITE & METEOROLOGICAL VARIABLES
    -------------------------------
    VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
     U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 ug/m**3

    LINK VARIABLES
    --------------
      LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                           *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
    ------------------------*---------------------------------------*-------------------------------------------------------
    1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG      0. 100.0   1.0 10.0
0.36   3.2
    2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
    3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG      0. 100.0   1.0 20.0
0.91  10.0
    4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG      0. 100.0   1.0 20.0 0.00
0.0
    5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   0.0   1.0
78.0
    6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   0.0   1.0
78.0
    7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   0.0   1.0
42.0
    8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   0.0   1.0
30.0
    9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   0.0   1.0 48.0
   10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   0.0   1.0 48.0
   11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   0.0   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

DATE : 6/29/ 9
TIME : 16:38:33

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.08	1	3
2. Rt 140 NB T	*	90	0	3.0	976	1600	0.08	1	3
3. Rt 140 SB T	*	90	50	3.0	1129	1600	0.08	1	3
4. Train Queue	*	120	70	3.0	5	1600	0.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.	0.	0.	0.	0.	4.	4.	4.	4.	2.	1.	1.	3.	3.	2.
10.	*	0.	0.	0.	0.	0.	3.	3.	4.	4.	3.	1.	2.	3.	3.	2.
20.	*	0.	0.	0.	0.	0.	3.	3.	4.	3.	3.	1.	2.	3.	2.	2.
30.	*	0.	0.	0.	0.	0.	3.	3.	4.	3.	3.	2.	2.	2.	2.	2.
40.	*	0.	0.	0.	0.	0.	3.	3.	4.	2.	2.	2.	2.	3.	3.	2.
50.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	3.	2.	3.	3.	2.
60.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	3.	3.	3.	2.	2.
70.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	3.	3.	3.	2.	2.
80.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	4.	3.	3.
90.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	4.	4.	3.	3.
100.	*	0.	0.	0.	0.	0.	2.	3.	4.	1.	0.	2.	3.	4.	3.	3.
110.	*	0.	0.	0.	0.	0.	1.	3.	3.	1.	0.	2.	3.	5.	4.	4.
120.	*	0.	0.	0.	0.	0.	1.	2.	3.	0.	0.	1.	2.	5.	4.	4.
130.	*	1.	1.	1.	0.	0.	0.	1.	2.	0.	0.	1.	2.	4.	3.	4.
140.	*	2.	2.	2.	1.	1.	0.	0.	1.	0.	0.	0.	2.	3.	2.	2.
150.	*	4.	4.	3.	2.	1.	0.	0.	0.	0.	0.	0.	2.	2.	1.	1.
160.	*	4.	4.	4.	3.	2.	0.	0.	0.	0.	0.	0.	2.	2.	1.	1.
170.	*	4.	4.	4.	3.	3.	0.	0.	0.	0.	0.	0.	1.	2.	1.	0.
180.	*	4.	4.	4.	3.	3.	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.
190.	*	3.	4.	4.	3.	3.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
200.	*	3.	3.	4.	3.	3.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
210.	*	2.	3.	4.	3.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220.	*	2.	3.	4.	3.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
230.	*	2.	3.	4.	4.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240.	*	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
250.	*	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
260.	*	2.	3.	3.	4.	4.	0.	0.	2.	2.	0.	0.	0.	0.	0.	0.
270.	*	2.	3.	3.	4.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
280.	*	2.	3.	3.	4.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
290.	*	2.	3.	3.	3.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.

```
300. *   2.   2.   3.   3.   4.   1.   1.   2.   2.   0.   0.   0.   0.   0.   0.
310. *   1.   2.   2.   2.   2.   2.   2.   2.   2.   0.   0.   0.   1.   0.   0.
320. *   0.   1.   1.   1.   1.   3.   3.   3.   2.   0.   0.   0.   2.   1.   0.
330. *   0.   0.   0.   0.   0.   4.   4.   4.   2.   0.   0.   0.   2.   2.   1.
340. *   0.   0.   0.   0.   0.   4.   4.   5.   3.   1.   0.   1.   3.   2.   1.
350. *   0.   0.   0.   0.   0.   4.   4.   5.   3.   2.   1.   1.   3.   3.   2.
360. *   0.   0.   0.   0.   0.   4.   4.   4.   4.   2.   1.   1.   3.   3.   2.
------*-------------------------------------------------------------------------------------
MAX  *   4.   4.   4.   4.   4.   4.   4.   5.   4.   3.   3.   4.   5.   4.   4.
DEGR. *  160  170  220  250  280  340  340  340    0   20   70   90  120  120  120
```

THE HIGHEST CONCENTRATION OF 5. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2030 Build Mitigated (Diesel) – PM_{10}

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

    JOB: South Coast Rail (Taunton)                    RUN: 2030 Build with Mitigation

    DATE :  6/29/ 9
    TIME : 16:38:47

      The MODE flag has been set to P for calculating PM averages.

    SITE & METEOROLOGICAL VARIABLES
    -------------------------------
    VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
     U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  5.0 ug/m**3

    LINK VARIABLES
    --------------
      LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                           *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
    ------------------------*---------------------------------------*-------------------------------------------------------
    1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG      0. 100.0   1.0 10.0
0.36   3.2
    2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
    3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG      0. 100.0   1.0 20.0
0.91  10.0
    4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG      3. 100.0   1.0 20.0 0.00
0.0
    5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   0.0   1.0
78.0
    6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   0.0   1.0
78.0
    7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   0.0   1.0
42.0
    8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   0.0   1.0
30.0
    9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   0.3   1.0 48.0
   10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   0.3   1.0 48.0
   11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   0.3   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

DATE : 6/29/ 9
TIME : 16:38:47

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.07	1	3
2. Rt 140 NB T	*	90	0	3.0	976	1600	0.07	1	3
3. Rt 140 SB T	*	90	50	3.0	1129	1600	0.07	1	3
4. Train Queue	*	120	70	3.0	5	1600	0.83	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0. *	5.	5.	5.	5.	5.	8.	8.	9.	8.	7.	6.	6.	8.	8.	7.
10. *	5.	5.	5.	5.	5.	8.	8.	9.	8.	8.	6.	6.	8.	7.	7.
20. *	5.	5.	5.	5.	5.	8.	8.	8.	8.	8.	6.	6.	7.	7.	7.
30. *	5.	5.	5.	5.	5.	8.	8.	8.	8.	7.	6.	6.	7.	7.	7.
40. *	5.	5.	5.	5.	5.	8.	8.	8.	7.	7.	7.	7.	7.	7.	7.
50. *	5.	5.	5.	5.	5.	8.	8.	8.	7.	7.	8.	7.	7.	7.	7.
60. *	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	8.	8.	7.	7.	7.
70. *	5.	5.	5.	5.	5.	8.	8.	8.	7.	6.	8.	8.	8.	7.	7.
80. *	5.	5.	5.	5.	5.	7.	8.	8.	7.	6.	8.	8.	8.	7.	7.
90. *	5.	5.	5.	5.	5.	7.	8.	8.	6.	6.	8.	8.	9.	8.	8.
100. *	5.	5.	5.	5.	5.	6.	8.	8.	6.	5.	7.	8.	9.	8.	8.
110. *	5.	5.	5.	5.	5.	6.	8.	8.	6.	5.	6.	8.	10.	9.	8.
120. *	5.	5.	5.	5.	5.	6.	7.	8.	5.	5.	6.	7.	10.	9.	9.
130. *	6.	6.	6.	5.	5.	5.	6.	7.	5.	5.	6.	7.	9.	8.	8.
140. *	7.	7.	7.	6.	6.	5.	5.	6.	5.	5.	5.	6.	8.	7.	7.
150. *	8.	8.	8.	7.	6.	5.	5.	5.	5.	5.	5.	6.	7.	6.	6.
160. *	9.	8.	9.	8.	7.	5.	5.	5.	5.	5.	5.	6.	6.	6.	5.
170. *	9.	8.	8.	8.	8.	5.	5.	5.	5.	5.	5.	6.	6.	6.	5.
180. *	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.	5.	6.	6.	5.	5.
190. *	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.	5.	6.	6.	5.	5.
200. *	8.	8.	8.	8.	8.	5.	5.	5.	5.	5.	5.	5.	6.	5.	5.
210. *	7.	8.	9.	8.	8.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
220. *	7.	8.	9.	8.	8.	5.	5.	6.	5.	5.	5.	5.	5.	5.	5.
230. *	7.	7.	8.	8.	8.	5.	5.	6.	6.	5.	5.	5.	5.	5.	5.
240. *	7.	7.	8.	8.	8.	5.	5.	7.	6.	5.	5.	5.	5.	5.	5.
250. *	7.	7.	8.	9.	8.	5.	5.	7.	6.	5.	5.	5.	5.	5.	5.
260. *	7.	7.	8.	9.	8.	5.	5.	7.	6.	5.	5.	5.	5.	5.	5.
270. *	7.	8.	8.	9.	9.	5.	6.	7.	6.	5.	5.	5.	5.	5.	5.
280. *	7.	8.	8.	8.	9.	5.	6.	7.	7.	5.	5.	5.	5.	5.	5.
290. *	7.	8.	8.	8.	9.	5.	6.	6.	7.	5.	5.	5.	5.	5.	5.

```
300. *   6.   7.   8.   8.   8.   6.   6.   7.   7.   5.   5.   5.   5.   5.   5.
310. *   6.   6.   7.   7.   7.   6.   7.   7.   7.   5.   5.   5.   6.   5.   5.
320. *   5.   6.   6.   6.   6.   8.   8.   8.   7.   5.   5.   5.   6.   6.   6.
330. *   5.   5.   5.   5.   5.   9.   8.   9.   7.   5.   5.   5.   7.   7.   6.
340. *   5.   5.   5.   5.   5.   9.   9.   9.   8.   6.   5.   6.   8.   7.   6.
350. *   5.   5.   5.   5.   5.   8.   9.   9.   8.   7.   5.   6.   8.   7.   6.
360. *   5.   5.   5.   5.   5.   8.   8.   9.   8.   7.   6.   6.   8.   8.   7.
------*-------------------------------------------------------------------------------------
MAX  *   9.   8.   9.   9.   9.   9.   9.   9.   8.   8.   8.   8.  10.   9.   9.
DEGR. *  160  160  220  250  280  340  340  340    0   20   70   90  110  120  120
```

THE HIGHEST CONCENTRATION OF 10. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2030 Build Mitigated (Electric) – PM_{10}

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

   JOB: South Coast Rail (Taunton)                    RUN: 2030 Build with Mitigation

   DATE :  6/29/ 9
   TIME : 16:38:41

     The MODE flag has been set to P for calculating PM averages.

   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
    U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 ug/m**3

   LINK VARIABLES
   --------------
     LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                          *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
   ------------------------*---------------------------------------*-------------------------------------------------------
   1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG      0. 100.0   1.0 10.0
0.36   3.2
   2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
   3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG      0. 100.0   1.0 20.0
0.91  10.0
   4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG      0. 100.0   1.0 20.0 0.00
0.0
   5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   0.0   1.0
78.0
   6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   0.0   1.0
78.0
   7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   0.0   1.0
42.0
   8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   0.0   1.0
30.0
   9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   0.0   1.0 48.0
  10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   0.0   1.0 48.0
  11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   0.0   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

DATE : 6/29/ 9
TIME : 16:38:41

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.07	1	3
2. Rt 140 NB T	*	90	0	3.0	976	1600	0.07	1	3
3. Rt 140 SB T	*	90	50	3.0	1129	1600	0.07	1	3
4. Train Queue	*	120	70	3.0	5	1600	0.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.	0.	0.	0.	0.	3.	3.	4.	3.	2.	1.	1.	3.	2.	2.
10.	*	0.	0.	0.	0.	0.	3.	3.	4.	3.	2.	1.	1.	3.	2.	2.
20.	*	0.	0.	0.	0.	0.	3.	3.	3.	3.	3.	1.	1.	2.	2.	2.
30.	*	0.	0.	0.	0.	0.	3.	3.	3.	3.	2.	1.	2.	2.	2.	2.
40.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	2.	2.	2.	2.	2.
50.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	3.	2.	2.	2.	2.
60.	*	0.	0.	0.	0.	0.	3.	3.	3.	2.	1.	3.	2.	2.	2.	2.
70.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	3.	2.	2.
80.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	3.	2.	2.
90.	*	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	4.	3.	3.
100.	*	0.	0.	0.	0.	0.	2.	3.	3.	1.	0.	2.	3.	4.	3.	3.
110.	*	0.	0.	0.	0.	0.	1.	2.	3.	1.	0.	2.	3.	4.	4.	3.
120.	*	0.	0.	0.	0.	0.	1.	2.	3.	0.	0.	1.	2.	4.	4.	4.
130.	*	1.	1.	1.	0.	0.	0.	1.	2.	0.	0.	0.	2.	4.	3.	3.
140.	*	2.	2.	2.	1.	1.	0.	0.	1.	0.	0.	0.	1.	2.	2.	2.
150.	*	3.	3.	3.	2.	1.	0.	0.	0.	0.	0.	0.	2.	2.	1.	1.
160.	*	4.	4.	4.	3.	2.	0.	0.	0.	0.	0.	0.	2.	2.	1.	0.
170.	*	4.	3.	4.	3.	2.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
180.	*	3.	3.	3.	3.	3.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
190.	*	3.	3.	3.	3.	3.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
200.	*	2.	3.	3.	3.	3.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
210.	*	2.	3.	4.	3.	3.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220.	*	2.	2.	4.	3.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
230.	*	2.	2.	3.	3.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240.	*	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
250.	*	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
260.	*	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
270.	*	2.	2.	2.	4.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
280.	*	2.	2.	3.	3.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
290.	*	2.	2.	3.	3.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.

300. *	2.	2.	2.	3.	4.	1.	1.	2.	2.	0.	0.	0.	0.	0.	0.
310. *	1.	2.	2.	2.	2.	1.	2.	2.	2.	0.	0.	0.	0.	0.	0.
320. *	0.	1.	1.	1.	1.	3.	3.	3.	2.	0.	0.	0.	1.	1.	0.
330. *	0.	0.	0.	0.	0.	4.	4.	4.	2.	0.	0.	0.	2.	2.	1.
340. *	0.	0.	0.	0.	0.	4.	4.	4.	3.	1.	0.	1.	3.	2.	1.
350. *	0.	0.	0.	0.	0.	3.	4.	4.	3.	2.	0.	1.	3.	2.	2.
360. *	0.	0.	0.	0.	0.	3.	3.	4.	3.	2.	1.	1.	3.	2.	2.
------*															
MAX *	4.	4.	4.	4.	4.	4.	4.	4.	3.	3.	3.	3.	4.	4.	4.
DEGR. *	170	160	220	260	280	340	340	340	0	20	70	90	110	120	120

THE HIGHEST CONCENTRATION OF 4. ug/m**3 OCCURRED AT RECEPTOR REC13.

Technical Report
Air Quality
Draft

Hot Spot: Microscale (Local) Analysis

Cal3QHC - Output Files

- Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank

East Taunton 2008 Existing – $PM_{2.5}$

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: South Coast Rail (Taunton) RUN: Existing Condition

DATE : 6/29/ 9
TIME : 16:39:29

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION * LINK COORDINATES (FT) * LENGTH BRG TYPE VPH EF H W V/C QUEUE
* X1 Y1 X2 Y2 * (FT) (DEG) (G/MI) (FT) (FT) (VEH)
---*---*---
1. Rt 140 NB L * 11948.8 -3565.2 11978.3 -3599.0 * 45. 139. AG 0. 100.0 1.0 10.0 0.26 2.3
2. Rt 140 NB T * 11964.0 -3553.9 11964.0 -3554.0 * 0. 138. AG 0. 100.0 1.0 20.0 0.26 0.0
3. Rt 140 SB T * 11903.1 -3548.3 11806.7 -3439.4 * 145. 318. AG 0. 100.0 1.0 20.0 0.80 7.4
4. 24SB/Route 140 North* 11930.8 -3558.3 11727.3 -3343.3 * 296. 317. AG 2350. 0.0 1.0 78.0
5. 24 SB/Rt 140 South * 11930.8 -3558.3 12101.5 -3735.9 * 246. 136. AG 3335. 0.0 1.0 78.0
6. Rt 24 SB Off Ramp * 11930.8 -3558.3 11814.2 -3698.5 * 182. 220. AG 1580. 0.0 1.0 42.0
7. Rt 24 SB On Ramp * 11888.8 -3530.6 11801.3 -3697.0 * 188. 208. AG 525. 0.0 1.0 30.0

JOB: South Coast Rail (Taunton) RUN: Existing Condition

DATE : 6/29/ 9
TIME : 16:39:29

1. Rt 140 NB L	*	90	40	3.0	205	1600	0.07	1	3
2. Rt 140 NB T	*	90	0	3.0	790	1600	0.07	1	3
3. Rt 140 SB T	*	90	50	3.0	1000	1600	0.07	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: Existing Condition

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0. *	0.	0.	0.	0.	0.	3.	3.	4.	4.	2.	1.	1.	3.	2.	2.
10. *	0.	0.	0.	0.	0.	3.	3.	4.	3.	3.	1.	1.	3.	2.	2.
20. *	0.	0.	0.	0.	0.	3.	2.	4.	3.	3.	1.	1.	2.	2.	2.
30. *	0.	0.	0.	0.	0.	2.	2.	3.	3.	3.	2.	2.	2.	2.	2.
40. *	0.	0.	0.	0.	0.	2.	2.	3.	2.	2.	2.	2.	2.	2.	2.
50. *	0.	0.	0.	0.	0.	3.	3.	3.	2.	2.	3.	2.	2.	2.	2.
60. *	0.	0.	0.	0.	0.	2.	2.	3.	2.	1.	3.	2.	2.	2.	2.
70. *	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	3.	3.	3.	2.	2.
80. *	0.	0.	0.	0.	0.	2.	3.	3.	2.	1.	3.	3.	3.	2.	2.
90. *	0.	0.	0.	0.	0.	2.	3.	3.	1.	1.	3.	3.	4.	3.	2.
100. *	0.	0.	0.	0.	0.	1.	3.	3.	1.	0.	2.	3.	4.	3.	3.
110. *	0.	0.	0.	0.	0.	1.	2.	3.	1.	0.	2.	3.	4.	4.	3.
120. *	0.	0.	0.	0.	0.	1.	2.	2.	0.	0.	1.	2.	4.	4.	4.
130. *	1.	1.	1.	0.	0.	0.	1.	2.	0.	0.	0.	2.	4.	3.	3.
140. *	2.	2.	2.	1.	0.	0.	0.	1.	0.	0.	0.	2.	2.	2.	2.
150. *	3.	3.	3.	2.	1.	0.	0.	0.	0.	0.	0.	2.	2.	1.	1.
160. *	4.	3.	3.	3.	2.	0.	0.	0.	0.	0.	0.	2.	2.	1.	0.
170. *	4.	3.	3.	3.	2.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.
180. *	3.	4.	3.	3.	3.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
190. *	3.	4.	3.	3.	3.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
200. *	2.	3.	3.	3.	2.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
210. *	2.	3.	4.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220. *	2.	3.	4.	3.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
230. *	2.	2.	4.	3.	3.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240. *	2.	2.	3.	3.	2.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
250. *	2.	2.	3.	4.	3.	0.	0.	2.	1.	0.	0.	0.	0.	0.	0.
260. *	2.	2.	2.	4.	3.	0.	0.	2.	2.	0.	0.	0.	0.	0.	0.
270. *	2.	2.	3.	4.	3.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
280. *	2.	2.	3.	3.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.
290. *	2.	2.	3.	3.	4.	0.	1.	2.	2.	0.	0.	0.	0.	0.	0.

```
300. *   2.   2.   3.   3.   3.   1.   1.   2.   2.   0.   0.   0.   0.   0.   0.
310. *   1.   1.   2.   2.   2.   2.   2.   2.   2.   0.   0.   0.   0.   0.   0.
320. *   0.   1.   1.   1.   1.   2.   3.   3.   2.   0.   0.   0.   1.   1.   0.
330. *   0.   0.   0.   0.   0.   3.   4.   4.   2.   0.   0.   0.   2.   2.   1.
340. *   0.   0.   0.   0.   0.   4.   4.   4.   3.   1.   0.   1.   3.   2.   1.
350. *   0.   0.   0.   0.   0.   3.   4.   4.   3.   2.   0.   1.   3.   2.   2.
360. *   0.   0.   0.   0.   0.   3.   3.   4.   4.   2.   1.   1.   3.   2.   2.
------*-------------------------------------------------------------------------------------
MAX  *   4.   4.   4.   4.   4.   4.   4.   4.   4.   3.   3.   3.   4.   4.   4.
DEGR. *  170  190  220  250  280  340  340  340    0   20   70   90  120  110  120

THE HIGHEST CONCENTRATION OF      4. ug/m**3 OCCURRED AT RECEPTOR REC13.
```

East Taunton 2016 No-Build – $PM_{2.5}$

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: South Coast Rail (Taunton) RUN: 2016 No Build

DATE : 6/29/ 9
TIME : 16:39:38

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION * LINK COORDINATES (FT) * LENGTH BRG TYPE VPH EF H W V/C QUEUE
* X1 Y1 X2 Y2 * (FT) (DEG) (G/MI) (FT) (FT) (VEH)
---*---*---
1. Rt 140 NB L * 11948.8 -3565.2 11989.8 -3612.2 * 62. 139. AG 0. 100.0 1.0 10.0 0.36 3.2
2. Rt 140 NB T * 11964.0 -3553.9 11964.1 -3554.1 * 0. 138. AG 0. 100.0 1.0 20.0 0.32 0.0
3. Rt 140 SB T * 11903.1 -3548.3 11787.0 -3417.0 * 175. 318. AG 0. 100.0 1.0 20.0 0.87 8.9
4. 24SB/Route 140 North* 11930.8 -3558.3 11727.3 -3343.3 * 296. 317. AG 2385. 0.0 1.0 78.0
5. 24 SB/Rt 140 South * 11930.8 -3558.3 12101.5 -3735.9 * 246. 136. AG 3775. 0.0 1.0 78.0
6. Rt 24 SB Off Ramp * 11930.8 -3558.3 11814.2 -3698.5 * 182. 220. AG 1440. 0.0 1.0 42.0
7. Rt 24 SB On Ramp * 11888.8 -3530.6 11801.3 -3697.0 * 188. 208. AG 620. 0.0 1.0 30.0

JOB: South Coast Rail (Taunton) RUN: 2016 No Build

DATE : 6/29/ 9
TIME : 16:39:38

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.04	1	3
2. Rt 140 NB T	*	90	0	3.0	965	1600	0.04	1	3
3. Rt 140 SB T	*	90	50	3.0	1085	1600	0.04	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2016 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	0.	1.	2.	1.	1.
10.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	0.	1.	1.	1.	1.
20.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	1.	1.	1.	1.	1.
30.	*	0.	0.	0.	0.	0.	2.	1.	2.	1.	1.	1.	1.	1.	1.	1.
40.	*	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	1.	1.	1.
50.	*	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	1.	1.	1.
60.	*	0.	0.	0.	0.	0.	2.	1.	2.	1.	1.	2.	1.	1.	1.	1.
70.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	1.	2.	2.	2.	1.	1.
80.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	2.	2.	2.	1.	1.
90.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	2.	2.	2.	2.	1.
100.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	1.	2.	2.	2.	2.
110.	*	0.	0.	0.	0.	0.	1.	1.	2.	0.	0.	1.	2.	2.	2.	2.
120.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	1.	1.	2.	2.	2.
130.	*	1.	1.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	2.	2.	2.
140.	*	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
150.	*	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.
160.	*	2.	2.	2.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
170.	*	2.	2.	2.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
180.	*	2.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
190.	*	2.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
200.	*	1.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
210.	*	1.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220.	*	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
230.	*	1.	1.	2.	2.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240.	*	1.	1.	2.	2.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
250.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
260.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
270.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
280.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
290.	*	1.	1.	2.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.

```
300. *   1.   1.   1.   1.   2.   0.   0.   1.   1.   0.   0.   0.   0.   0.   0.
310. *   0.   1.   1.   1.   1.   1.   1.   1.   1.   0.   0.   0.   0.   0.   0.
320. *   0.   0.   0.   0.   0.   2.   1.   2.   1.   0.   0.   0.   1.   0.   0.
330. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   0.
340. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   1.
350. *   0.   0.   0.   0.   0.   2.   2.   2.   2.   1.   0.   1.   2.   1.   1.
360. *   0.   0.   0.   0.   0.   2.   2.   2.   2.   1.   0.   1.   2.   1.   1.
------*-------------------------------------------------------------------------------------
MAX  *   2.   2.   2.   2.   2.   2.   2.   2.   2.   1.   2.   2.   2.   2.   2.
DEGR. *  160  190  170  240  270  340  340  350    0   10   60   90  120  120  120
```

THE HIGHEST CONCENTRATION OF 2. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2030 No-Build – $PM_{2.5}$

CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221 PAGE 1

JOB: South Coast Rail (Taunton) RUN: 2030 No Build

DATE : 6/29/ 9
TIME : 16:39:45

The MODE flag has been set to P for calculating PM averages.

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 ug/m**3

LINK VARIABLES

LINK DESCRIPTION * LINK COORDINATES (FT) * LENGTH BRG TYPE VPH EF H W V/C QUEUE
* X1 Y1 X2 Y2 * (FT) (DEG) (G/MI) (FT) (FT) (VEH)
---*---*---
1. Rt 140 NB L * 11948.8 -3565.2 11989.8 -3612.2 * 62. 139. AG 0. 100.0 1.0 10.0 0.36 3.2
2. Rt 140 NB T * 11964.0 -3553.9 11964.1 -3554.1 * 0. 138. AG 0. 100.0 1.0 20.0 0.32 0.0
3. Rt 140 SB T * 11903.1 -3548.3 11787.0 -3417.0 * 175. 318. AG 0. 100.0 1.0 20.0 0.87 8.9
4. 24SB/Route 140 North* 11930.8 -3558.3 11727.3 -3343.3 * 296. 317. AG 2385. 0.0 1.0 78.0
5. 24 SB/Rt 140 South * 11930.8 -3558.3 12101.5 -3735.9 * 246. 136. AG 3775. 0.0 1.0 78.0
6. Rt 24 SB Off Ramp * 11930.8 -3558.3 11814.2 -3698.5 * 182. 220. AG 1440. 0.0 1.0 42.0
7. Rt 24 SB On Ramp * 11888.8 -3530.6 11801.3 -3697.0 * 188. 208. AG 620. 0.0 1.0 30.0

JOB: South Coast Rail (Taunton) RUN: 2030 No Build

DATE : 6/29/ 9
TIME : 16:39:45

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.03	1	3
2. Rt 140 NB T	*	90	0	3.0	965	1600	0.03	1	3
3. Rt 140 SB T	*	90	50	3.0	1085	1600	0.03	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2030 No Build

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.	0.	0.	0.	0.	1.	1.	2.	2.	1.	0.	1.	1.	1.	1.
10.	*	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	0.	1.	1.	1.	1.
20.	*	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	0.	1.	1.	1.	1.
30.	*	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	1.	1.	1.	1.	1.
40.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
50.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
60.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
70.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	1.	1.	1.	1.
80.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	1.	2.	1.	1.
90.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	1.	2.	1.	1.
100.	*	0.	0.	0.	0.	0.	1.	1.	2.	0.	0.	1.	1.	2.	1.	1.
110.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	1.	1.	2.	2.	1.
120.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	1.	2.	2.	2.
130.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	2.	2.	1.
140.	*	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
150.	*	2.	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
160.	*	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
170.	*	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
180.	*	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
190.	*	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
200.	*	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
210.	*	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220.	*	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
230.	*	1.	1.	2.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240.	*	1.	1.	1.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
250.	*	1.	1.	1.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
260.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
270.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
280.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
290.	*	1.	1.	1.	1.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.

```
300. *   1.   1.   1.   1.   2.   0.   0.   1.   1.   0.   0.   0.   0.   0.   0.
310. *   0.   1.   1.   1.   1.   1.   1.   1.   1.   0.   0.   0.   0.   0.   0.
320. *   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.   0.   0.   1.   0.   0.
330. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   0.
340. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   0.
350. *   0.   0.   0.   0.   0.   2.   2.   2.   2.   1.   0.   0.   1.   1.   1.
360. *   0.   0.   0.   0.   0.   1.   1.   2.   2.   1.   0.   1.   1.   1.   1.
------*-------------------------------------------------------------------------------------
MAX  *   2.   2.   2.   2.   2.   2.   2.   2.   2.   1.   1.   1.   2.   2.   2.
DEGR. *  170  160  210  240  280  340  340  340   0   20   70   80  110  110  120
```

THE HIGHEST CONCENTRATION OF 2. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2016 Build Mitigated (Diesel) – $PM_{2.5}$

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

   JOB: South Coast Rail (Taunton)                    RUN: 2016 Build with Mitigation

   DATE :  6/29/ 9
   TIME : 16:40:11

     The MODE flag has been set to P for calculating PM averages.

   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
    U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 ug/m**3

   LINK VARIABLES
   --------------
     LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                          *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
   ------------------------*---------------------------------------*-------------------------------------------------------
   1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG      0. 100.0   1.0 10.0
0.36   3.2
   2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
   3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG      0. 100.0   1.0 20.0
0.91  10.0
   4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG      5. 100.0   1.0 20.0 0.00
0.0
   5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   0.0   1.0
78.0
   6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   0.0   1.0
78.0
   7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   0.0   1.0
42.0
   8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   0.0   1.0
30.0
   9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   1.0   1.0 48.0
  10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   1.0   1.0 48.0
  11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   1.0   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

DATE : 6/29/ 9
TIME : 16:40:11

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.04	1	3
2. Rt 140 NB T	*	90	0	3.0	976	1600	0.04	1	3
3. Rt 140 SB T	*	90	50	3.0	1129	1600	0.04	1	3
4. Train Queue	*	120	70	3.0	5	1600	1.53	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	0.	1.	2.	1.	1.
10.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	0.	1.	1.	1.	1.
20.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	1.	1.	1.	1.	1.
30.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	1.	1.	1.	1.	1.
40.	*	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	1.	1.	1.
50.	*	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	1.	1.	1.
60.	*	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	2.	1.	1.	1.	1.
70.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	1.	2.	2.	2.	1.	1.
80.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	2.	2.	2.	1.	1.
90.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	2.	2.	2.	2.	2.
100.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	1.	2.	2.	2.	2.
110.	*	0.	0.	0.	0.	0.	1.	1.	2.	0.	0.	1.	2.	2.	2.	2.
120.	*	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.	1.	1.	2.	2.	2.
130.	*	1.	1.	0.	0.	0.	0.	1.	1.	0.	0.	0.	1.	2.	2.	2.
140.	*	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
150.	*	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.
160.	*	2.	2.	2.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
170.	*	2.	2.	2.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
180.	*	2.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
190.	*	2.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
200.	*	1.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
210.	*	1.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220.	*	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
230.	*	1.	1.	2.	2.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240.	*	1.	1.	2.	2.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
250.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
260.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
270.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
280.	*	1.	1.	2.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
290.	*	1.	1.	2.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.

```
300. *   1.   1.   1.   1.   2.   0.   0.   1.   1.   0.   0.   0.   0.   0.   0.
310. *   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.   0.   0.   0.   0.   0.
320. *   0.   0.   0.   0.   0.   2.   1.   2.   1.   0.   0.   0.   1.   0.   0.
330. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   0.
340. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   2.   1.   1.
350. *   0.   0.   0.   0.   0.   2.   2.   2.   2.   1.   0.   1.   2.   1.   1.
360. *   0.   0.   0.   0.   0.   2.   2.   2.   2.   1.   0.   1.   2.   1.   1.
------*-------------------------------------------------------------------------------------
MAX  *   2.   2.   2.   2.   2.   2.   2.   2.   2.   1.   2.   2.   2.   2.   2.
DEGR. *  160  190  170  240  270  340  330  350    0   10   60   90  120  120  120
```

THE HIGHEST CONCENTRATION OF 2. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2016 Build Mitigated (Electric) – $PM_{2.5}$

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

   JOB: South Coast Rail (Taunton)                    RUN: 2016 Build with Mitigation

   DATE :  6/29/ 9
   TIME : 16:40: 6

     The MODE flag has been set to P for calculating PM averages.

   SITE & METEOROLOGICAL VARIABLES
   -------------------------------
   VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
    U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 ug/m**3

   LINK VARIABLES
   --------------
     LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                          *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
   ------------------------*---------------------------------------*-------------------------------------------------------
   1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG      0. 100.0   1.0 10.0
0.36   3.2
   2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
   3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG      0. 100.0   1.0 20.0
0.91  10.0
   4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG      0. 100.0   1.0 20.0 0.00
0.0
   5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   0.0   1.0
78.0
   6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   0.0   1.0
78.0
   7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   0.0   1.0
42.0
   8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   0.0   1.0
30.0
   9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   0.0   1.0 48.0
  10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   0.0   1.0 48.0
  11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   0.0   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

DATE : 6/29/ 9
TIME : 16:40: 6

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.04	1	3
2. Rt 140 NB T	*	90	0	3.0	976	1600	0.04	1	3
3. Rt 140 SB T	*	90	50	3.0	1129	1600	0.04	1	3
4. Train Queue	*	120	70	3.0	5	1600	0.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2016 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	0.	1.	2.	1.	1.
10.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	0.	1.	1.	1.	1.
20.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	1.	1.	1.	1.	1.
30.	*	0.	0.	0.	0.	0.	2.	2.	2.	2.	1.	1.	1.	1.	1.	1.
40.	*	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	1.	1.	1.
50.	*	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	1.	1.	1.	1.	1.
60.	*	0.	0.	0.	0.	0.	2.	2.	2.	1.	1.	2.	1.	1.	1.	1.
70.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	1.	2.	2.	2.	1.	1.
80.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	2.	2.	2.	1.	1.
90.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	2.	2.	2.	2.	2.
100.	*	0.	0.	0.	0.	0.	1.	2.	2.	1.	0.	1.	2.	2.	2.	2.
110.	*	0.	0.	0.	0.	0.	1.	1.	2.	0.	0.	1.	2.	2.	2.	2.
120.	*	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.	1.	1.	2.	2.	2.
130.	*	1.	1.	0.	0.	0.	0.	1.	1.	0.	0.	0.	1.	2.	2.	2.
140.	*	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
150.	*	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	1.	0.
160.	*	2.	2.	2.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
170.	*	2.	2.	2.	2.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
180.	*	2.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
190.	*	2.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
200.	*	1.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
210.	*	1.	2.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220.	*	1.	1.	2.	2.	2.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
230.	*	1.	1.	2.	2.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240.	*	1.	1.	2.	2.	2.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
250.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
260.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
270.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
280.	*	1.	1.	2.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
290.	*	1.	1.	2.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.

```
300. *   1.   1.   1.   1.   2.   0.   0.   1.   1.   0.   0.   0.   0.   0.   0.
310. *   1.   1.   1.   1.   1.   1.   1.   1.   1.   0.   0.   0.   0.   0.   0.
320. *   0.   0.   0.   0.   0.   2.   1.   2.   1.   0.   0.   0.   1.   0.   0.
330. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   0.
340. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   2.   1.   1.
350. *   0.   0.   0.   0.   0.   2.   2.   2.   2.   1.   0.   1.   2.   1.   1.
360. *   0.   0.   0.   0.   0.   2.   2.   2.   2.   1.   0.   1.   2.   1.   1.
------*-------------------------------------------------------------------------------------
MAX  *   2.   2.   2.   2.   2.   2.   2.   2.   2.   1.   2.   2.   2.   2.   2.
DEGR. *  160  190  170  240  270  340  330  350    0   10   60   90  120  120  120
```

THE HIGHEST CONCENTRATION OF 2. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2030 Build Mitigated (Diesel) – $PM_{2.5}$

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

    JOB: South Coast Rail (Taunton)                    RUN: 2030 Build with Mitigation

    DATE :  7/ 2/ 9
    TIME : 13:29: 2

      The MODE flag has been set to P for calculating PM averages.

    SITE & METEOROLOGICAL VARIABLES
    -------------------------------
    VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
     U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 ug/m**3

    LINK VARIABLES
    --------------
      LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                           *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
    ------------------------*---------------------------------------*-------------------------------------------------------
    1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG      0. 100.0   1.0 10.0
0.36   3.2
    2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
    3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG      0. 100.0   1.0 20.0
0.91  10.0
    4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG      3. 100.0   1.0 20.0 0.00
0.0
    5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   0.0   1.0
78.0
    6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   0.0   1.0
78.0
    7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   0.0   1.0
42.0
    8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   0.0   1.0
30.0
    9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   0.3   1.0 48.0
   10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   0.3   1.0 48.0
   11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   0.3   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

DATE : 7/ 2/ 9
TIME : 13:29: 2

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.03	1	3
2. Rt 140 NB T	*	90	0	3.0	976	1600	0.03	1	3
3. Rt 140 SB T	*	90	50	3.0	1129	1600	0.03	1	3
4. Train Queue	*	120	70	3.0	5	1600	0.83	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND * CONCENTRATION
ANGLE * (ug/m**3)

(DEGR)*	REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0. *	0.	0.	0.	0.	0.	1.	1.	2.	2.	1.	0.	1.	1.	1.	1.
10. *	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	0.	1.	1.	1.	1.
20. *	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	1.	1.	1.	1.	1.
30. *	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	1.	1.	1.	1.	1.
40. *	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
50. *	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
60. *	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
70. *	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	1.	1.	1.	1.
80. *	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	1.	2.	1.	1.
90. *	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	2.	2.	1.	1.
100. *	0.	0.	0.	0.	0.	1.	1.	2.	0.	0.	1.	1.	2.	1.	1.
110. *	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.	1.	1.	2.	2.	2.
120. *	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	1.	2.	2.	2.
130. *	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	2.	2.	2.
140. *	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
150. *	2.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
160. *	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
170. *	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
180. *	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
190. *	1.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
200. *	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
210. *	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220. *	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
230. *	1.	1.	2.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240. *	1.	1.	1.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
250. *	1.	1.	1.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
260. *	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
270. *	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
280. *	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
290. *	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.

```
300. *   1.   1.   1.   1.   2.   0.   0.   1.   1.   0.   0.   0.   0.   0.   0.
310. *   0.   1.   1.   1.   1.   1.   1.   1.   1.   0.   0.   0.   0.   0.   0.
320. *   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.   0.   0.   1.   0.   0.
330. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   0.
340. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   0.
350. *   0.   0.   0.   0.   0.   2.   2.   2.   2.   1.   0.   0.   1.   1.   1.
360. *   0.   0.   0.   0.   0.   1.   1.   2.   2.   1.   0.   1.   1.   1.   1.
------*-------------------------------------------------------------------------------------
MAX  *   2.   2.   2.   2.   2.   2.   2.   2.   2.   1.   1.   2.   2.   2.   2.
DEGR. *  170  160  210  240  280  340  340  340   0   20   70   90  120  110  120
```

THE HIGHEST CONCENTRATION OF 2. ug/m**3 OCCURRED AT RECEPTOR REC13.

East Taunton 2030 Build Mitigated (Electric) – $PM_{2.5}$

```
                    CAL3QHC: LINE SOURCE DISPERSION MODEL - VERSION 2.0 Dated 95221                    PAGE
1

    JOB: South Coast Rail (Taunton)                    RUN: 2030 Build with Mitigation

    DATE :  6/29/ 9
    TIME : 16:39:59

      The MODE flag has been set to P for calculating PM averages.

    SITE & METEOROLOGICAL VARIABLES
    -------------------------------
    VS =   0.0 CM/S      VD =   0.0 CM/S      Z0 = 175. CM
     U =  1.0 M/S        CLAS =   4  (D)     ATIM =  60. MINUTES     MIXH =  1000. M   AMB =  0.0 ug/m**3

    LINK VARIABLES
    --------------
     LINK DESCRIPTION     *        LINK COORDINATES (FT)         *    LENGTH  BRG TYPE   VPH    EF      H   W
V/C QUEUE
                          *   X1       Y1       X2       Y2     *     (FT)  (DEG)          (G/MI)  (FT) (FT)      (VEH)
   ------------------------*---------------------------------------*-------------------------------------------------------
    1. Rt 140 NB L        *  11948.8   -3565.2   11989.8   -3612.2 *      62.   139. AG      0. 100.0   1.0 10.0
0.36   3.2
    2. Rt 140 NB T        *  11964.0   -3553.9   11964.1   -3554.1 *       0.   138. AG      0. 100.0   1.0 20.0
0.32   0.0
    3. Rt 140 SB T        *  11903.1   -3548.3   11772.7   -3400.9 *     197.   318. AG      0. 100.0   1.0 20.0
0.91  10.0
    4. Train Queue        *   9191.5   -7114.1    9192.0   -7114.7 *       1.   138. AG      0. 100.0   1.0 20.0 0.00
0.0
    5. 24SB/Route 140 North*  11930.8   -3558.3   11727.3   -3343.3 *     296.   317. AG   2467.   0.0   1.0
78.0
    6. 24 SB/Rt 140 South  *  11930.8   -3558.3   12101.5   -3735.9 *     246.   136. AG   3830.   0.0   1.0
78.0
    7. Rt 24 SB Off Ramp   *  11930.8   -3558.3   11814.2   -3698.5 *     182.   220. AG   1440.   0.0   1.0
42.0
    8. Rt 24 SB On Ramp    *  11888.8   -3530.6   11801.3   -3697.0 *     188.   208. AG    647.   0.0   1.0
30.0
    9. Train Line 1        *  -3325.6    6855.1   10135.8   -8168.6 *    *****   138. AG      5.   0.0   1.0 48.0
   10. Train Line 2        *  10124.7   -8177.8   12559.4  -12250.7 *    4745.   149. AG      5.   0.0   1.0 48.0
   11. Train Line 3        *  -3319.6    6871.8   -6541.4   11486.7 *    5628.   325. AG      5.   0.0   1.0 48.0
```

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

DATE : 6/29/ 9
TIME : 16:39:59

1. Rt 140 NB L	*	90	40	3.0	285	1600	0.03	1	3
2. Rt 140 NB T	*	90	0	3.0	976	1600	0.03	1	3
3. Rt 140 SB T	*	90	50	3.0	1129	1600	0.03	1	3
4. Train Queue	*	120	70	3.0	5	1600	0.00	1	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. East 1	11858.3	-3406.1	6.0
2. East 2	11909.8	-3460.5	6.0
3. East 3	11961.4	-3515.0	6.0
4. East 4	12017.5	-3564.8	6.0
5. East 5	12069.5	-3619.0	6.0
6. SW1	12018.0	-3732.7	6.0
7. SW2	11966.0	-3678.7	6.0
8. SW3	11914.0	-3624.6	6.0
9. SW4	11866.0	-3682.2	6.0
10. SW5	11817.7	-3739.6	6.0
11. NW1	11777.6	-3678.7	6.0
12. NW2	11812.5	-3612.3	6.0
13. NW3	11847.5	-3545.9	6.0
14. NW4	11795.9	-3491.5	6.0
15. NW5	11744.3	-3437.0	6.0

JOB: South Coast Rail (Taunton) RUN: 2030 Build with Mitigation

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 0.-360.

WIND ANGLE (DEGR)	*	CONCENTRATION (ug/m**3) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15
0.	*	0.	0.	0.	0.	0.	1.	1.	2.	2.	1.	0.	1.	1.	1.	1.
10.	*	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	0.	1.	1.	1.	1.
20.	*	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	1.	1.	1.	1.	1.
30.	*	0.	0.	0.	0.	0.	1.	1.	2.	1.	1.	1.	1.	1.	1.	1.
40.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
50.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
60.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
70.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	1.	1.	1.	1.
80.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	1.	2.	1.	1.
90.	*	0.	0.	0.	0.	0.	1.	1.	1.	1.	0.	1.	2.	2.	1.	1.
100.	*	0.	0.	0.	0.	0.	1.	1.	2.	0.	0.	1.	1.	2.	1.	1.
110.	*	0.	0.	0.	0.	0.	0.	1.	2.	0.	0.	1.	1.	2.	2.	2.
120.	*	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.	0.	1.	2.	2.	2.
130.	*	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	1.	2.	2.	2.
140.	*	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.
150.	*	2.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
160.	*	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
170.	*	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	1.	1.	0.	0.
180.	*	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
190.	*	1.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.
200.	*	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
210.	*	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
220.	*	1.	1.	2.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
230.	*	1.	1.	2.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
240.	*	1.	1.	1.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
250.	*	1.	1.	1.	2.	1.	0.	0.	1.	0.	0.	0.	0.	0.	0.	0.
260.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
270.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
280.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.
290.	*	1.	1.	1.	2.	2.	0.	0.	1.	1.	0.	0.	0.	0.	0.	0.

```
300. *   1.   1.   1.   1.   2.   0.   0.   1.   1.   0.   0.   0.   0.   0.   0.
310. *   0.   1.   1.   1.   1.   1.   1.   1.   1.   0.   0.   0.   0.   0.   0.
320. *   0.   0.   0.   0.   0.   1.   1.   1.   1.   0.   0.   0.   1.   0.   0.
330. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   0.
340. *   0.   0.   0.   0.   0.   2.   2.   2.   1.   0.   0.   0.   1.   1.   0.
350. *   0.   0.   0.   0.   0.   2.   2.   2.   2.   1.   0.   0.   1.   1.   1.
360. *   0.   0.   0.   0.   0.   1.   1.   2.   2.   1.   0.   1.   1.   1.   1.
------*-------------------------------------------------------------------------------------
MAX  *   2.   2.   2.   2.   2.   2.   2.   2.   2.   1.   1.   2.   2.   2.   2.
DEGR. *  170  160  210  240  280  340  340  340   0   20   70   90  120  110  120
```

THE HIGHEST CONCENTRATION OF 2. ug/m**3 OCCURRED AT RECEPTOR REC13.

Hot Spot: Microscale (Local) Analysis

- Microscale Results
  - Carbon Monoxide (CO)
  - Particulate Matter 10 (PM_{10})
  - Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank

Hot Spot: Microscale (Local) Analysis

Microscale Results

- Carbon Monoxide (CO)

This Page Intentionally Left Blank

1 Hour CO Results

Background 3.0

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Norton	Barrowsville		North Worcester Street at Route 123/Main Street													
		Northeast	1	3.5	3.4	3.5	3.5				3.4	3.5	3.5			
			2	3.7	3.6	3.6	3.6				3.6	3.6	3.6			
			3	**3.8**	**3.7**	**4.1**	**4.1**				**3.7**	**4.2**	**4.2**			
			4	3.7	3.5	3.8	3.8				3.5	3.8	3.8			
			5	3.6	3.5	3.6	3.6				3.5	3.6	3.6			
		Southeast	1	3.6	3.4	3.5	3.5				3.4	3.5	3.5			
			2	3.7	3.6	3.7	3.7				3.6	3.7	3.7			
			3	**3.9**	**3.8**	**3.8**	**3.8**				**3.8**	**3.8**	**3.8**			
			4	3.8	3.6	3.8	3.8				3.6	3.7	3.7			
			5	3.7	3.6	3.6	3.6				3.6	3.6	3.6			
		Southwest	1	3.5	3.5	3.7	3.7				3.4	3.6	3.6			
			2	3.6	3.5	3.7	3.7				3.5	3.7	3.7			
			3	**3.8**	**3.6**	**3.7**	**3.7**				**3.6**	**3.7**	**3.7**			
			4	3.8	3.5	3.6	3.6				3.5	3.6	3.6			
			5	3.7	3.5	3.6	3.6				3.5	3.6	3.6			
		Northwest	1	3.6	3.5	3.5	3.5				3.5	3.5	3.5			
			2	3.7	3.6	3.7	3.7				3.6	**3.7**	**3.7**			
			3	3.7	**3.6**	**3.7**	**3.7**				**3.6**	3.6	3.6			
			4	**3.8**	3.5	3.6	3.6				3.5	3.6	3.6			
			5	3.5	3.4	3.5	3.5				3.4	3.5	3.5			
	East Taunton		Route 140 at the Route 24 Southbound Ramps													
East Taunton	North	East	1	4.6	4.1			4.1	4.1		4.1			4.1	4.1	
			2	**4.4**	**4.1**			**4.2**	**4.2**		**4.1**			**4.1**	**4.1**	
			3	4.5	4.1			4.2	4.2		4.1			4.2	4.2	
			4	4.5	4.2			4.2	4.2		4.2			4.2	4.2	
			5	4.4	4.2			4.2	4.2		4.2			4.2	4.2	
		Southwest	1	4.4	4.2			4.2	4.2		4.0			4.2	4.2	
			2	**4.4**	**4.1**			**4.1**	**4.1**		**4.1**			**4.1**	**4.1**	
			3	4.8	4.3			4.4	4.4		4.3			4.4	4.4	
			4	4.4	4.1			4.1	4.1		4.1			4.1	4.1	
			5	4.1	3.9			3.9	3.9		3.9			3.9	3.9	
		Northwest	1	4.2	3.9			3.9	3.9		3.9			3.9	3.9	
			2	**4.2**	**4.0**			**4.0**	**4.0**		**4.0**			**4.0**	**4.0**	
			3	4.8	4.3			4.5	4.5		4.3			4.5	4.5	
			4	4.7	4.3			4.4	4.4		4.2			4.3	4.3	
			5	4.5	4.1			4.1	4.1		4.1			4.1	4.1	

1 Hour CO Results

Background 3.0

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Easton	**Easton Village**		**Route 138 at Main Street**													
			1	4.7	4.4			4.3	4.3		4.4			4.3	4.3	
			2	**4.8**	**4.5**			**4.5**	**4.5**		**4.5**			**4.5**	**4.5**	
		Northeast	3	4.8	4.5			4.4	4.4		4.5			4.4	4.4	
			4	4.7	4.4			4.3	4.3		4.4			4.3	4.3	
			5	4.1	3.9			3.9	3.9		3.9			3.9	3.9	
			1	4.4	4.1			4.1	4.1		4.1			4.1	4.1	
			2	4.5	4.3			4.4	4.4		4.3			4.6	4.6	
		Southeast	3	4.7	4.6			4.4	4.4		4.5			4.4	4.4	
			4	**5.1**	**4.6**			**4.5**	**4.5**		4.6			**4.5**	**4.5**	
			5	4.7	4.6			4.4	4.4		**4.7**			4.4	4.4	
			1	4.7	4.6			4.5	4.5		4.6			4.5	4.5	
			2	4.7	4.4			4.4	4.4		4.4			4.4	4.4	
		Southwest	3	4.9	**4.7**			4.5	4.5		**4.7**			4.5	4.5	
			4	**5.0**	4.5			**4.7**	**4.7**		4.5			**4.7**	**4.7**	
			5	4.5	4.2			4.3	4.3		4.2			4.1	4.1	
			1	4.7	4.3			4.2	4.2		4.3			4.2	4.2	
			2	5.0	4.5			4.6	4.6		4.5			4.6	4.6	
		Northwest	3	4.8	4.5			4.4	4.4		4.5			4.4	4.4	
			4	5.0	4.4			4.5	4.5		4.4			4.5	4.5	
			5	**5.1**	**4.6**			**4.6**	**4.6**		**4.6**			**4.6**	**4.6**	
Fall River	**Fall River Depot**		**North Davol Street at President Avenue**													
			1	3.7	3.5	3.5	3.5				3.5	3.5	3.5			
			2	3.8	3.6	3.8	3.8				3.6	3.8	3.8			
		Northeast	3	4.5	4.1	3.9	3.9				4.1	3.9	3.9			
			4	**4.5**	**4.1**	**4.1**	**4.1**				**4.1**	**4.1**	**4.1**			
			5	4.5	4.1	4.0	4.0				4.1	3.9	3.9			
			1	4.2	4.0	4.0	4.0				4.0	3.9	3.9			
			2	4.3	4.0	3.9	3.9				4.0	3.9	3.9			
		Southeast	3	4.4	4.1	4.2	4.2				4.1	4.2	4.2			
			4	**4.5**	**4.2**	**4.1**	**4.1**				**4.2**	**4.1**	**4.1**			
			5	4.0	3.8	4.0	4.0				3.8	4.0	4.0			
			1	4.0	3.8	3.8	3.8				3.8	3.9	3.9			
			2	4.6	4.1	4.1	4.1				4.1	4.1	4.1			
		Southwest	3	**4.7**	**4.2**	**4.2**	**4.2**				**4.2**	**4.2**	**4.2**			
			4	4.2	4.0	3.8	3.8				4.0	3.8	3.8			
			5	4.3	4.0	3.9	3.9				4.0	3.9	3.9			
			1	4.1	3.9	3.8	3.8				3.9	3.8	3.8			
			2	4.1	3.9	3.8	3.8				3.9	3.8	3.8			
		Northwest	3	**4.6**	**4.0**	**4.1**	**4.1**				**4.0**	**4.0**	**4.0**			
			4	3.9	3.7	3.7	3.7				3.7	3.7	3.7			
			5	3.8	3.6	3.6	3.6				3.6	3.6	3.6			

1 Hour CO Results

Background 3.0

Town	Station	Quadrant	Intersection/Receptors	2008	2016						2030					
				Existing	No Build	Attelboro Electric	Atteboro Diesel	Stoughton Electric	Stroughton Diesel	Rapid Bus	No Build	Attelboro Electric	Atteboro Diesel	Stoughton Electric	Stroughton Diesel	Rapid Bus
Fall River	**Fall River Depot**		**South Davol Street at President Avenue**													
		Northeast	1	4.0	3.7	3.7	3.7				3.7	3.7	3.7			
			2	4.1	3.8	3.8	3.8				3.8	3.8	3.8			
			3	**4.2**	**3.9**	**4.0**	**4.1**				**3.9**	**4.0**	**4.0**			
			4	4.0	3.7	3.8	3.8				3.7	3.8	3.8			
			5	4.2	3.8	3.8	3.8				3.8	3.8	3.8			
		Southeast	1	4.2	3.9	3.9	3.9				3.9	3.9	3.9			
			2	4.3	3.9	3.9	3.9				3.9	3.9	3.9			
			3	**4.3**	**4.0**	**4.0**	**4.0**				**4.0**	**4.0**	**4.0**			
			4	3.9	3.8	3.8	3.8				3.8	3.8	3.8			
			5	3.7	3.6	3.6	3.6				3.6	3.6	3.6			
		Southwest	1	3.8	3.7	3.7	3.7				3.7	3.7	3.7			
			2	3.9	3.8	3.8	3.8				3.8	3.8	3.8			
			3	**4.4**	**3.9**	**3.9**	**3.9**				**3.9**	**3.9**	**3.9**			
			4	3.7	3.7	3.6	3.6				3.7	3.6	3.6			
			5	3.6	3.4	3.3	3.3				3.4	3.3	3.3			
		Northwest	1	3.6	3.5	3.4	3.4				3.5	3.4	3.4			
			2	3.8	3.7	3.6	3.6				3.7	3.6	3.6			
			3	4.6	4.2	4.1	4.1				4.1	4.0	4.0			
			4	**4.6**	**4.2**	**4.2**	**4.2**				**4.2**	**4.2**	**4.2**			
			5	4.4	4.0	4.0	4.0				4.0	4.0	4.0			
Freetown	**Freetown**		**South Main Street at Route 24 Northbound Ramps**													
		North	1	3.4	4.0			4.0	4.0		3.9			3.9	3.9	
			2	3.5	3.9			3.9	3.9		3.8			3.8	3.8	
			3	3.5	3.9			3.9	3.9		3.9			3.9	3.9	
			4	**3.5**	**4.1**			**4.1**	**4.1**		**4.1**			**4.1**	**4.1**	
			5	3.5	4.0			4.0	4.0		4.0			4.0	4.0	
		Southeast	1	3.5	3.8			3.8	3.8		3.8			3.8	3.8	
			2	3.4	4.0			4.0	4.0		3.9			3.9	3.9	
			3	**3.6**	**4.0**			**4.0**	**4.0**		**4.0**			**4.0**	**4.0**	
			4	3.4	3.7			3.7	3.7		3.7			3.7	3.7	
			5	3.3	3.4			3.4	3.4		3.4			3.4	3.4	
		Southwest	1	3.2	3.4			3.4	3.4		3.4			3.4	3.4	
			2	3.3	3.6			3.6	3.6		3.6			3.6	3.6	
			3	**3.4**	**4.0**			**4.1**	**4.1**		**4.0**			**4.0**	**4.0**	
			4	3.4	3.7			3.7	3.7		3.7			3.7	3.7	
			5	3.4	3.7			3.7	3.7		3.7			3.7	3.7	

1 Hour CO Results

Background 3.0

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
New Bedford	**King's Highway**		**Church Strret at Tarkiln Road**													
			1	3.6	3.6	3.5	3.6				3.5	3.6	3.6			
			2	3.9	3.6	3.5	3.7				3.6	3.8	3.7			
		Northeast	3	4.0	3.8	3.8	3.9				3.8	**4.1**	3.9			
			4	**4.0**	**3.8**	**3.8**	**4.0**				**3.8**	3.9	**4.0**			
			5	3.8	3.6	3.6	3.8				3.5	3.8	3.8			
			1	3.8	3.6	3.6	3.7				3.6	3.7	3.8			
			2	3.9	3.6	3.6	3.7				3.6	3.9	3.7			
		Southeast	3	**4.1**	**3.8**	**3.7**	**3.8**				**3.8**	**4.0**	**3.8**			
			4	4.1	3.8	3.6	3.8				3.8	3.9	3.8			
			5	3.6	3.6	3.6	3.7				3.6	3.6	3.7			
			1	3.7	3.5	3.5	3.6				3.5	3.6	3.6			
			2	3.9	3.6	3.5	3.6				3.6	3.8	3.6			
		Southwest	3	4.1	3.8	3.7	3.9				3.8	4.0	3.8			
			4	**4.1**	**3.9**	**3.9**	**4.0**				**3.9**	**4.0**	**4.0**			
			5	3.9	3.7	3.6	3.9				3.7	3.8	3.9			
			1	3.9	3.7	3.6	3.8				3.7	3.8	3.8			
			2	3.9	3.7	3.7	3.7				3.7	3.8	3.7			
		Northwest	3	4.0	**3.8**	**3.8**	**3.8**				**3.8**	**4.0**	**3.8**			
			4	**4.1**	3.7	3.6	3.8				3.7	3.8	3.8			
			5	3.6	3.6	3.6	3.6				3.6	3.7	3.6			
Raynham	**Raynham Park**		**Route 138 at Found Street/Route 106**			**Whittenton Electric**	**Whittenton Diesel**					**Whittenton Electric**	**Whittenton Diesel**			
			1	4.1	3.8	3.8	3.8				3.8	3.8	3.8			
			2	4.1	3.9	3.9	3.9				3.9	3.9	3.9			
		Northeast	3	4.4	**4.1**	**4.2**	**4.2**				**4.1**	**4.1**	**4.1**			
			4	**4.5**	4.0	4.1	4.1				4.0	4.1	4.1			
			5	4.1	4.0	4.0	4.0				4.0	4.0	4.0			
			1	4.1	3.9	3.9	3.9				3.9	3.9	3.9			
			2	4.2	3.9	3.9	3.9				3.9	3.9	3.9			
		Southeast	3	**4.3**	**4.0**	**4.0**	**4.0**				**4.0**	**4.0**	**4.0**			
			4	4.3	4.0	4.0	4.0				4.0	4.0	4.0			
			5	4.1	3.8	3.9	3.9				3.8	3.9	3.9			
			1	4.1	3.8	3.9	3.9				3.8	3.9	3.9			
			2	**4.3**	**4.1**	**4.1**	**4.1**				**4.1**	**4.1**	**4.1**			
		Southwest	3	4.2	4.0	4.0	4.0				4.0	4.0	4.0			
			4	4.0	3.9	3.9	3.9				3.9	3.9	3.9			
			5	3.8	3.7	3.8	3.8				3.7	3.7	3.7			
			1	3.8	3.8	3.8	3.8				3.8	3.8	3.8			
			2	4.0	3.8	3.8	3.8				3.8	3.8	3.8			
		Northwest	3	4.3	4.0	4.0	4.0				4.0	4.0	4.0			
			4	**4.3**	**4.0**	**4.0**	**4.0**				**4.0**	**4.0**	**4.0**			
			5	4.2	3.9	4.0	4.0				3.9	4.0	4.0			

1 Hour CO Results

Background 3.0

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Taunton	**Dean Street**		**Route 44 at Longmeadow Road**													
		Northeast	1	4.1	3.7			3.7	3.7		3.7			3.7	3.7	
			2	4.2	3.9			3.9	3.9		3.9			3.9	3.9	
			3	5.2	4.6			4.5	4.5		4.6			4.5	4.5	
			4	5.1	4.6			4.5	4.5		4.6			4.5	4.5	
			5	**5.2**	**4.6**			**4.7**	**4.7**		**4.6**			**4.6**	**4.6**	
		Southeast	1	4.7	4.3			4.3	4.3		4.3			4.3	4.3	
			2	4.5	4.1			4.2	4.2		4.1			4.2	4.2	
			3	**4.7**	**4.3**			**4.4**	**4.4**		**4.3**			**4.4**	**4.4**	
			4	4.4	4.1			4.0	4.0		4.1			4.0	4.0	
			5	4.4	4.0			4.0	4.0		4.0			4.0	4.0	
		Southwest	1	4.3	4.0			4.0	4.0		4.0			4.0	4.0	
			2	4.4	4.1			4.1	4.1		4.1			4.1	4.1	
			3	**5.4**	**4.7**			**4.8**	**4.8**		**4.7**			**4.8**	**4.8**	
			4	5.2	4.5			4.7	4.7		4.5			4.7	4.7	
			5	5.2	4.6			4.6	4.6		4.6			4.6	4.6	
		Northwest	1	4.7	4.3			4.4	4.4		4.3			4.4	4.4	
			2	4.8	4.2			4.4	4.4		4.2			4.4	4.4	
			3	**5.1**	**4.5**			**4.6**	**4.6**		**4.5**			**4.6**	**4.6**	
			4	4.4	4.0			3.9	3.9		4.1			3.9	3.9	
			5	4.1	3.9			3.9	3.9		3.9			3.9	3.9	
Taunton	**Taunton Depot**		**Route 140 at the Route 24 Northbound Ramps without Slip Ramp**													
		Northeast	1	3.6	3.5	3.5	3.5				3.5	3.5	3.5			
			2	3.9	3.7	3.7	3.7				3.7	3.7	3.7			
			3	5.0	4.6	4.8	4.8				4.6	4.8	4.8			
			4	5.0	4.7	4.7	4.6				4.7	4.7	4.7			
			5	**5.1**	**4.7**	**4.8**	**4.7**				**4.7**	**4.8**	**4.8**			
		South	1	5.2	4.7	4.7	4.7				4.7	4.7	4.7			
			2	5.1	4.7	4.8	4.7				4.7	4.7	4.7			
			3	**5.3**	**4.8**	**4.9**	**4.9**				**4.8**	**4.9**	**4.9**			
			4	5.2	4.8	4.8	4.7				4.8	4.8	4.8			
			5	5.1	4.7	4.7	4.6				4.7	4.7	4.7			
		Northwest	1	5.2	4.8	4.7	4.6				4.8	4.6	4.6			
			2	5.2	4.8	4.6	4.5				4.8	4.6	4.6			
			3	**5.2**	**4.9**	**4.7**	**4.6**				**4.9**	**4.7**	**4.7**			
			4	4.0	3.8	3.8	3.8				3.8	3.8	3.8			
			5	3.7	3.6	3.6	3.6				3.6	3.6	3.6			

1 Hour CO Results

Background 3.0

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Taunton	**Taunton Depot**		**Washington Street at Tremont Street**													
			1	4.3	4.0	4.1	4.1				4.0	4.1	4.1			
			2	4.4	4.0	4.2	4.2				4.0	4.2	4.2			
		Northeast	3	4.4	4.0	4.0	4.0				4.0	4.0	4.0			
			4	4.8	4.2	4.2	4.2				4.2	4.2	4.2			
			5	**4.8**	**4.2**	**4.2**	**4.2**				**4.3**	**4.2**	**4.2**			
			1	4.4	4.0	4.1	4.1				4.0	4.1	4.1			
			2	4.3	4.0	3.9	3.9				4.0	3.9	3.9			
		Southeast	3	**4.5**	**4.2**	**4.2**	**4.2**				**4.2**	**4.2**	**4.2**			
			4	4.1	3.9	4.0	4.0				3.8	4.0	4.0			
			5	4.0	3.7	3.7	3.7				3.7	3.7	3.7			
			1	3.9	3.7	3.7	3.7				3.7	3.7	3.7			
			2	4.1	3.8	3.7	3.7				3.8	3.7	3.7			
		Southwest	3	**4.4**	**4.0**	**4.0**	**4.0**				**3.9**	**4.0**	**4.0**			
			4	4.1	3.8	3.8	3.8				3.8	3.8	3.8			
			5	4.0	3.7	3.9	3.9				3.8	4.0	4.0			
			1	3.9	3.7	3.8	3.8				3.7	3.8	3.8			
			2	4.1	3.8	3.8	3.8				3.8	3.8	3.8			
		Northwest	3	4.5	4.1	4.1	4.1				4.1	4.1	4.1			
			4	**4.9**	**4.4**	**4.3**	**4.3**				**4.4**	**4.3**	**4.3**			
			5	4.5	4.0	4.2	4.2				4.0	4.2	4.2			
New Bedford	**Whale's Tooth**		**Union Street at McCarthur at Route 18 at State Pier**													
			1	4.3	3.9	3.9	3.9				4.3	4.3	4.3			
			2	4.4	**4.0**	**4.0**	**4.0**				**4.3**	**4.3**	**4.3**			
		Northeast	3	**4.5**	3.9	4.1	4.1				4.2	4.3	4.3			
			4	3.8	3.7	3.7	3.7				3.9	3.9	3.9			
			5	3.6	3.4	3.5	3.5				3.6	3.6	3.6			
			1	3.7	3.4	3.5	3.5				3.6	3.6	3.6			
			2	3.9	3.6	3.7	3.7				3.9	3.9	3.9			
		Southeast	3	4.3	4.0	4.0	4.0				4.3	4.4	4.4			
			4	4.5	4.1	4.0	4.0				4.4	4.4	4.4			
			5	**4.5**	**4.2**	**4.1**	**4.1**				**4.5**	**4.6**	**4.6**			
			1	4.2	3.7	3.8	3.8				4.1	4.2	4.2			
			2	4.2	3.9	4.0	4.0				4.2	4.3	4.3			
		Southwest	3	**4.7**	**4.2**	**4.2**	**4.2**				**4.7**	**4.7**	**4.7**			
			4	4.3	3.9	3.9	3.9				4.2	4.4	4.4			
			5	4.0	3.7	3.7	3.7				4.1	4.1	4.1			
			1	4.9	4.4	4.0	4.0				4.7	4.3	4.3			
			2	4.0	3.7	3.8	3.8				4.0	4.1	4.1			
		Northwest	3	**4.9**	**4.4**	**4.5**	**4.5**				**4.8**	**4.8**	**4.8**			
			4	4.7	4.2	4.2	4.2				4.6	4.6	4.6			
			5	4.7	4.1	4.2	4.2				4.5	4.5	4.5			

8 Hour CO Results

Factor 0.7 **Background** 2.1

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Norton	**Barrowsville**		**North Worcester Street at Route 123/Main Street**													
		Northeast	1	2.5	2.4	2.5	2.5				2.4	2.5	2.5			
			2	2.6	2.5	2.5	2.5				2.5	2.5	2.5			
			3	**2.7**	**2.6**	**2.9**	**2.9**				**2.6**	**2.9**	**2.9**			
			4	2.6	2.5	2.7	2.7				2.5	2.7	2.7			
			5	2.5	2.5	2.5	2.5				2.5	2.5	2.5			
		Southeast	1	2.5	2.4	2.5	2.5				2.4	2.5	2.5			
			2	2.6	2.5	2.6	2.6				2.5	2.6	2.6			
			3	**2.7**	**2.7**	**2.7**	**2.7**				**2.7**	**2.7**	**2.7**			
			4	2.7	2.5	2.7	2.7				2.5	2.6	2.6			
			5	2.6	2.5	2.5	2.5				2.5	2.5	2.5			
		Southwest	1	2.5	2.5	2.6	2.6				2.4	2.5	2.5			
			2	2.5	2.5	2.6	2.6				2.5	2.6	2.6			
			3	**2.7**	**2.5**	**2.6**	**2.6**				**2.5**	**2.6**	**2.6**			
			4	2.7	2.5	2.5	2.5				2.5	2.5	2.5			
			5	2.6	2.5	2.5	2.5				2.5	2.5	2.5			
		Northwest	1	2.5	2.5	2.5	2.5				2.5	2.5	2.5			
			2	2.6	2.5	2.6	2.6				2.5	**2.6**	**2.6**			
			3	2.6	**2.5**	**2.6**	**2.6**				**2.5**	2.5	2.5			
			4	**2.7**	2.5	2.5	2.5				2.5	2.5	2.5			
			5	2.5	2.4	2.5	2.5				2.4	2.5	2.5			
	East Taunton		**Route 140 at the Route 24 Southbound Ramps**													
East Taunton	**North**	**East**	1	3.2	2.9			2.9	2.9		2.9			2.9	2.9	
			2	3.1	2.9			2.9	2.9		2.9			2.9	2.9	
			3	**3.2**	**2.9**			**2.9**	**2.9**		**2.9**			**2.9**	**2.9**	
			4	3.2	2.9			2.9	2.9		2.9			2.9	2.9	
			5	3.1	2.9			2.9	2.9		2.9			2.9	2.9	
		Southwest	1	3.1	2.9			2.9	2.9		2.8			2.9	2.9	
			2	3.1	2.9			2.9	2.9		2.9			2.9	2.9	
			3	**3.4**	**3.0**			**3.1**	**3.1**		**3.0**			**3.1**	**3.1**	
			4	3.1	2.9			2.9	2.9		2.9			2.9	2.9	
			5	2.9	2.7			2.7	2.7		2.7			2.7	2.7	
		Northwest	1	2.9	2.7			2.7	2.7		2.7			2.7	2.7	
			2	2.9	2.8			2.8	2.8		2.8			2.8	2.8	
			3	**3.4**	**3.0**			**3.2**	**3.2**		**3.0**			**3.2**	**3.2**	
			4	3.3	3.0			3.1	3.1		2.9			3.0	3.0	
			5	3.2	2.9			2.9	2.9		2.9			2.9	2.9	

8 Hour CO Results

Factor 0.7 **Background** 2.1

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Easton	**Easton Village**		**Route 138 at Main Street**													
			1	3.3	3.1			3.0	3.0		3.1			3.0	3.0	
			2	**3.4**	**3.2**			**3.2**	**3.2**		**3.2**			**3.2**	**3.2**	
		Northeast	3	3.4	3.2			3.1	3.1		3.2			3.1	3.1	
			4	3.3	3.1			3.0	3.0		3.1			3.0	3.0	
			5	2.9	2.7			2.7	2.7		2.7			2.7	2.7	
			1	3.1	2.9			2.9	2.9		2.9			2.9	2.9	
			2	3.2	3.0			3.1	3.1		3.0			3.2	3.2	
		Southeast	3	3.3	3.2			3.1	3.1		3.2			3.1	3.1	
			4	**3.6**	**3.2**			**3.2**	**3.2**		3.2			**3.2**	**3.2**	
			5	3.3	3.2			3.1	3.1		**3.3**			3.1	3.1	
			1	3.3	3.2			3.2	3.2		3.2			3.2	3.2	
			2	3.3	3.1			3.1	3.1		3.1			3.1	3.1	
		Southwest	3	3.4	**3.3**			3.2	3.2		**3.3**			3.2	3.2	
			4	**3.5**	3.2			**3.3**	**3.3**		3.2			**3.3**	**3.3**	
			5	3.2	2.9			3.0	3.0		2.9			2.9	2.9	
			1	3.3	3.0			2.9	2.9		3.0			2.9	2.9	
			2	3.5	3.2			3.2	3.2		3.2			3.2	3.2	
		Northwest	3	3.4	3.2			3.1	3.1		3.2			3.1	3.1	
			4	3.5	3.1			3.2	3.2		3.1			3.2	3.2	
			5	**3.6**	**3.2**			**3.2**	**3.2**		**3.2**			**3.2**	**3.2**	
Fall River	**Fall River Depot**		**North Davol Street at President Avenue**													
			1	2.6	2.5	2.5	2.5				2.5	2.5	2.5			
			2	2.7	2.5	2.7	2.7				2.5	2.7	2.7			
		Northeast	3	3.2	2.9	2.7	2.7				2.9	2.7	2.7			
			4	**3.2**	**2.9**	**2.9**	**2.9**				**2.9**	**2.9**	**2.9**			
			5	3.2	2.9	2.8	2.8				2.9	2.7	2.7			
			1	2.9	2.8	2.8	2.8				2.8	2.7	2.7			
			2	3.0	2.8	2.7	2.7				2.8	2.7	2.7			
		Southeast	3	3.1	2.9	2.9	2.9				2.9	2.9	2.9			
			4	**3.2**	**2.9**	**2.9**	**2.9**				**2.9**	**2.9**	**2.9**			
			5	2.8	2.7	2.8	2.8				2.7	2.8	2.8			
			1	2.8	2.7	2.7	2.7				2.7	2.7	2.7			
			2	3.2	2.9	2.9	2.9				2.9	2.9	2.9			
		Southwest	3	**3.3**	**2.9**	**2.9**	**2.9**				**2.9**	**2.9**	**2.9**			
			4	2.9	2.8	2.7	2.7				2.8	2.7	2.7			
			5	3.0	2.8	2.7	2.7				2.8	2.7	2.7			
			1	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			2	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
		Northwest	3	**3.2**	**2.8**	**2.9**	**2.9**				**2.8**	**2.8**	**2.8**			
			4	2.7	2.6	2.6	2.6				2.6	2.6	2.6			
			5	2.7	2.5	2.5	2.5				2.5	2.5	2.5			

8 Hour CO Results

Factor 0.7 **Background** 2.1

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Fall River	**Fall River Depot**		**South Davol Street at President Avenue**													
		Northeast	1	2.8	2.6	2.6	2.6				2.6	2.6	2.6			
			2	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			3	**2.9**	**2.7**	**2.8**	**2.9**				**2.7**	**2.8**	**2.8**			
			4	2.8	2.6	2.7	2.7				2.6	2.7	2.7			
			5	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
		Southeast	1	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			2	3.0	2.7	2.7	2.7				2.7	2.7	2.7			
			3	**3.0**	**2.8**	**2.8**	**2.8**				**2.8**	**2.8**	**2.8**			
			4	2.7	2.7	2.7	2.7				2.7	2.7	2.7			
			5	2.6	2.5	2.5	2.5				2.5	2.5	2.5			
		Southwest	1	2.7	2.6	2.6	2.6				2.6	2.6	2.6			
			2	2.7	2.7	2.7	2.7				2.7	2.7	2.7			
			3	**3.1**	**2.7**	**2.7**	**2.7**				**2.7**	**2.7**	**2.7**			
			4	2.6	2.6	2.5	2.5				2.6	2.5	2.5			
			5	2.5	2.4	2.3	2.3				2.4	2.3	2.3			
		Northwest	1	2.5	2.5	2.4	2.4				2.5	2.4	2.4			
			2	2.7	2.6	2.5	2.5				2.6	2.5	2.5			
			3	3.2	2.9	2.9	2.9				2.9	2.8	2.8			
			4	**3.2**	**2.9**	**2.9**	**2.9**				**2.9**	**2.9**	**2.9**			
			5	3.1	2.8	2.8	2.8				2.8	2.8	2.8			
Freetown	**Freetown**		**South Main Street at Route 24 Northbound Ramps**													
		North	1	2.4	2.8			2.8	2.8		2.7			2.7	2.7	
			2	2.5	2.7			2.7	2.7		2.7			2.7	2.7	
			3	2.5	2.7			2.7	2.7		2.7			2.7	2.7	
			4	**2.5**	**2.9**			**2.9**	**2.9**		**2.9**			**2.9**	**2.9**	
			5	2.5	2.8			2.8	2.8		2.8			2.8	2.8	
		Southeast	1	2.5	2.7			2.7	2.7		2.7			2.7	2.7	
			2	2.4	2.8			2.8	2.8		2.7			2.7	2.7	
			3	**2.5**	**2.8**			**2.8**	**2.8**		**2.8**			**2.8**	**2.8**	
			4	2.4	2.6			2.6	2.6		2.6			2.6	2.6	
			5	2.3	2.4			2.4	2.4		2.4			2.4	2.4	
		Southwest	1	2.2	2.4			2.4	2.4		2.4			2.4	2.4	
			2	2.3	2.5			2.5	2.5		2.5			2.5	2.5	
			3	**2.4**	**2.8**			**2.9**	**2.9**		**2.8**			**2.8**	**2.8**	
			4	2.4	2.6			2.6	2.6		2.6			2.6	2.6	
			5	2.4	2.6			2.6	2.6		2.6			2.6	2.6	

8 Hour CO Results

Factor 0.7 **Background** 2.1

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
New Bedford	King's Highway		Church Strret at Tarkiln Road													
		Northeast	1	2.5	2.5	2.5	2.5				2.5	2.5	2.5			
			2	2.7	2.5	2.5	2.6				2.5	2.7	2.6			
			3	2.8	2.7	2.7	2.7				2.7	**2.9**	2.7			
			4	**2.8**	**2.7**	**2.7**	**2.8**				**2.7**	2.7	**2.8**			
			5	2.7	2.5	2.5	2.7				2.5	2.7	2.7			
		Southeast	1	2.7	2.5	2.5	2.6				2.5	2.6	2.7			
			2	2.7	2.5	2.5	2.6				2.5	2.7	2.6			
			3	**2.9**	**2.7**	**2.6**	**2.7**				**2.7**	**2.8**	**2.7**			
			4	2.9	2.7	2.5	2.7				2.7	2.7	2.7			
			5	2.5	2.5	2.5	2.6				2.5	2.5	2.6			
		Southwest	1	2.6	2.5	2.5	2.5				2.5	2.5	2.5			
			2	2.7	2.5	2.5	2.5				2.5	2.7	2.5			
			3	2.9	2.7	2.6	2.7				2.7	2.8	2.7			
			4	**2.9**	**2.7**	**2.7**	**2.8**				**2.7**	**2.8**	**2.8**			
			5	2.7	2.6	2.5	2.7				2.6	2.7	2.7			
		Northwest	1	2.7	2.6	2.5	2.7				2.6	2.7	2.7			
			2	2.7	2.6	2.6	2.6				2.6	2.7	2.6			
			3	2.8	**2.7**	**2.7**	**2.7**				**2.7**	**2.8**	**2.7**			
			4	**2.9**	2.6	2.5	2.7				2.6	2.7	2.7			
			5	2.5	2.5	2.5	2.5				2.5	2.6	2.5			
Raynham	Raynham Park		Route 138 at Found Street/Route 106			Whittenton Electric	Whittenton Diesel					Whittenton Electric	Whittenton Diesel			
		Northeast	1	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			2	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			3	3.1	**2.9**	**2.9**	**2.9**				**2.9**	**2.9**	**2.9**			
			4	**3.2**	2.8	2.9	2.9				2.8	2.9	2.9			
			5	2.9	2.8	2.8	2.8				2.8	2.8	2.8			
		Southeast	1	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			2	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			3	**3.0**	**2.8**	**2.8**	**2.8**				**2.8**	**2.8**	**2.8**			
			4	3.0	2.8	2.8	2.8				2.8	2.8	2.8			
			5	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
		Southwest	1	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			2	**3.0**	**2.9**	**2.9**	**2.9**				**2.9**	**2.9**	**2.9**			
			3	2.9	2.8	2.8	2.8				2.8	2.8	2.8			
			4	2.8	2.7	2.7	2.7				2.7	2.7	2.7			
			5	2.7	2.6	2.7	2.7				2.6	2.6	2.6			
		Northwest	1	2.7	2.7	2.7	2.7				2.7	2.7	2.7			
			2	2.8	2.7	2.7	2.7				2.7	2.7	2.7			
			3	3.0	2.8	2.8	2.8				2.8	2.8	2.8			
			4	**3.0**	**2.8**	**2.8**	**2.8**				**2.8**	**2.8**	**2.8**			
			5	2.9	2.7	2.8	2.8				2.7	2.8	2.8			

8 Hour CO Results

Factor 0.7 **Background** 2.1

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Taunton	**Dean Street**		**Route 44 at Longmeadow Road**													
		Northeast	1	2.9	2.6			2.6	2.6		2.6			2.6	2.6	
			2	2.9	2.7			2.7	2.7		2.7			2.7	2.7	
			3	3.6	3.2			3.2	3.2		3.2			3.2	3.2	
			4	3.6	3.2			3.2	3.2		3.2			3.2	3.2	
			5	**3.6**	**3.2**			**3.3**	**3.3**		**3.2**			**3.2**	**3.2**	
		Southeast	1	3.3	3.0			3.0	3.0		3.0			3.0	3.0	
			2	3.2	2.9			2.9	2.9		2.9			2.9	2.9	
			3	**3.3**	**3.0**			**3.1**	**3.1**		**3.0**			**3.1**	**3.1**	
			4	3.1	2.9			2.8	2.8		2.9			2.8	2.8	
			5	3.1	2.8			2.8	2.8		2.8			2.8	2.8	
		Southwest	1	3.0	2.8			2.8	2.8		2.8			2.8	2.8	
			2	3.1	2.9			2.9	2.9		2.9			2.9	2.9	
			3	**3.8**	**3.3**			**3.4**	**3.4**		**3.3**			**3.4**	**3.4**	
			4	3.6	3.2			3.3	3.3		3.2			3.3	3.3	
			5	3.6	3.2			3.2	3.2		3.2			3.2	3.2	
		Northwest	1	3.3	3.0			3.1	3.1		3.0			3.1	3.1	
			2	3.4	2.9			3.1	3.1		2.9			3.1	3.1	
			3	**3.6**	**3.2**			**3.2**	**3.2**		**3.2**			**3.2**	**3.2**	
			4	3.1	2.8			2.7	2.7		2.9			2.7	2.7	
			5	2.9	2.7			2.7	2.7		2.7			2.7	2.7	
Taunton	**Taunton Depot**		**Route 140 at the Route 24 Northbound Ramps without Slip Ramp**													
		Northeast	1	2.5	2.5	2.5	2.5				2.5	2.5	2.5			
			2	2.7	2.6	2.6	2.6				2.6	2.6	2.6			
			3	3.5	3.2	3.4	3.4				3.2	3.4	3.4			
			4	3.5	3.3	3.3	3.2				3.3	3.3	3.3			
			5	**3.6**	**3.3**	**3.4**	**3.3**				**3.3**	**3.4**	**3.4**			
		South	1	3.6	3.3	3.3	3.3				3.3	3.3	3.3			
			2	3.6	3.3	3.4	3.3				3.3	3.3	3.3			
			3	**3.7**	**3.4**	**3.4**	**3.4**				**3.4**	**3.4**	**3.4**			
			4	3.6	3.4	3.4	3.3				3.4	3.4	3.4			
			5	3.6	3.3	3.3	3.2				3.3	3.3	3.3			
		Northwest	1	3.6	3.4	3.3	3.2				3.4	3.2	3.2			
			2	3.6	3.4	3.2	3.2				3.4	3.2	3.2			
			3	**3.6**	**3.4**	**3.3**	**3.2**				**3.4**	**3.3**	**3.3**			
			4	2.8	2.7	2.7	2.7				2.7	2.7	2.7			
			5	2.6	2.5	2.5	2.5				2.5	2.5	2.5			

8 Hour CO Results

Factor 0.7 **Background** 2.1

Town	Station	Quadrant	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Taunton	Taunton Depot		Washington Street at Tremont Street													
		Northeast	1	3.0	2.8	2.9	2.9				2.8	2.9	2.9			
			2	3.1	2.8	2.9	2.9				2.8	2.9	2.9			
			3	3.1	2.8	2.8	2.8				2.8	2.8	2.8			
			4	3.4	2.9	2.9	2.9				2.9	2.9	2.9			
			5	**3.4**	**2.9**	**2.9**	**2.9**				**3.0**	**2.9**	**2.9**			
		Southeast	1	3.1	2.8	2.9	2.9				2.8	2.9	2.9			
			2	3.0	2.8	2.7	2.7				2.8	2.7	2.7			
			3	**3.2**	**2.9**	**2.9**	**2.9**				**2.9**	**2.9**	**2.9**			
			4	2.9	2.7	2.8	2.8				2.7	2.8	2.8			
			5	2.8	2.6	2.6	2.6				2.6	2.6	2.6			
		Southwest	1	2.7	2.6	2.6	2.6				2.6	2.6	2.6			
			2	2.9	2.7	2.6	2.6				2.7	2.6	2.6			
			3	**3.1**	**2.8**	**2.8**	**2.8**				**2.7**	**2.8**	**2.8**			
			4	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			5	2.8	2.6	2.7	2.7				2.7	2.8	2.8			
		Northwest	1	2.7	2.6	2.7	2.7				2.6	2.7	2.7			
			2	2.9	2.7	2.7	2.7				2.7	2.7	2.7			
			3	3.2	2.9	2.9	2.9				2.9	2.9	2.9			
			4	**3.4**	**3.1**	**3.0**	**3.0**				**3.1**	**3.0**	**3.0**			
			5	3.2	2.8	2.9	2.9				2.8	2.9	2.9			
New Bedford	Whale's Tooth		Union Street at McCarthur at Route 18 at State Pier													
		Northeast	1	3.0	2.7	2.7	2.7				3.0	3.0	3.0			
			2	3.1	**2.8**	**2.8**	**2.8**				**3.0**	**3.0**	**3.0**			
			3	**3.2**	2.7	2.9	2.9				2.9	3.0	3.0			
			4	2.7	2.6	2.6	2.6				2.7	2.7	2.7			
			5	2.5	2.4	2.5	2.5				2.5	2.5	2.5			
		Southeast	1	2.6	2.4	2.5	2.5				2.5	2.5	2.5			
			2	2.7	2.5	2.6	2.6				2.7	2.7	2.7			
			3	3.0	2.8	2.8	2.8				3.0	3.1	3.1			
			4	3.2	2.9	2.8	2.8				3.1	3.1	3.1			
			5	**3.2**	**2.9**	**2.9**	**2.9**				**3.2**	**3.2**	**3.2**			
		Southwest	1	2.9	2.6	2.7	2.7				2.9	2.9	2.9			
			2	2.9	2.7	2.8	2.8				2.9	3.0	3.0			
			3	**3.3**	**2.9**	**2.9**	**2.9**				**3.3**	**3.3**	**3.3**			
			4	3.0	2.7	2.7	2.7				2.9	3.1	3.1			
			5	2.8	2.6	2.6	2.6				2.9	2.9	2.9			
		Northwest	1	3.4	3.1	2.8	2.8				3.3	3.0	3.0			
			2	2.8	2.6	2.7	2.7				2.8	2.9	2.9			
			3	**3.4**	**3.1**	**3.2**	**3.2**				**3.4**	**3.4**	**3.4**			
			4	3.3	2.9	2.9	2.9				3.2	3.2	3.2			
			5	3.3	2.9	2.9	2.9				3.2	3.2	3.2			

Hot Spot: Microscale (Local) Analysis

Microscale Results

- Particulate Matter 10 (PM_{10})

This Page Intentionally Left Blank

24 Hour PM10 Results

Factor 0.4 **Background** 45.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Norton	Barrowsville			North Worcester Street at Route 123/Main Street													
		Northeast		1	46.5	46.1	46.5	46.5				46.1	46.1	46.1			
				2	46.5	46.5	46.5	46.5				46.5	46.5	46.5			
				3	46.9	46.5	46.9	46.9				46.5	46.9	46.9			
				4	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Southeast		1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				3	47.3	46.9	46.9	46.9				46.5	46.9	46.9			
				4	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.5	46.5	46.5	46.5				46.5	46.5	46.5			
		Southwest		1	46.5	46.5	46.5	46.5				46.1	46.5	46.5			
				2	46.5	46.5	46.5	46.5				46.1	46.5	46.5			
				3	46.9	46.5	46.9	46.9				46.5	46.5	46.5			
				4	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Northwest		1	46.5	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				3	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				4	46.5	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.5	46.1	46.1	46.1				46.1	46.1	46.1			
East Taunton	East Taunton North			Route 140 at the Route 24 Southbound Ramps													
		East		1	47.7	47.3			47.3	47.3		47.3			47.3	49.3	
				2	47.7	47.3			47.3	47.3		46.9			47.3	48.9	
				3	48.1	47.3			47.3	47.3		47.3			47.3	49.3	
				4	48.1	47.3			47.3	47.3		47.3			47.3	49.3	
				5	48.1	47.3			47.3	47.3		47.3			47.3	49.3	
		Southwest		1	47.7	47.3			47.3	47.3		47.3			47.3	49.3	
				2	48.1	47.3			47.3	47.3		47.3			47.3	49.3	
				3	48.5	47.3			47.7	47.7		47.3			47.3	49.3	
				4	47.7	47.3			47.3	47.3		46.9			46.9	48.9	
				5	47.3	46.9			46.9	46.9		46.9			46.9	48.9	
		Northwest		1	47.7	46.9			46.9	46.9		46.9			46.9	48.9	
				2	47.7	47.3			47.3	47.3		46.9			46.9	48.9	
				3	48.5	47.7			47.7	47.7		47.3			47.3	49.7	
				4	48.1	47.3			47.3	47.3		47.3			47.3	49.3	
				5	48.1	47.3			47.3	47.3		47.3			47.3	49.3	

24 Hour PM10 Results

Factor 0.4 **Background** 45.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Easton	**Easton Village**			**Route 138 at Main Street**													
				1	47.7	47.3			47.3	47.3		47.3			47.3	47.3	
				2	47.7	47.3			47.3	47.3		47.3			47.3	47.3	
		Northeast		3	48.1	47.3			47.3	47.3		47.3			47.3	47.3	
				4	47.7	47.3			46.9	46.9		46.9			46.9	46.9	
				5	47.3	46.9			46.9	46.9		46.9			46.9	46.9	
				1	47.3	46.9			46.9	46.9		46.9			46.9	46.9	
				2	47.3	47.3			47.3	47.3		46.9			47.3	47.3	
		Southeast		3	48.1	47.7			47.7	47.7		47.3			47.3	47.3	
				4	48.1	47.3			47.3	47.3		47.3			47.3	47.3	
				5	47.7	47.7			47.3	47.3		47.3			47.3	47.3	
				1	47.7	47.3			47.3	47.3		47.3			47.3	47.3	
				2	47.7	47.3			47.3	47.3		47.3			47.3	47.3	
		Southwest		3	48.1	47.7			47.7	47.7		47.3			47.3	47.3	
				4	47.7	47.3			47.3	47.3		47.3			47.3	47.3	
				5	47.7	47.3			47.3	47.3		46.9			46.9	46.9	
				1	47.7	47.3			46.9	46.9		46.9			46.9	46.9	
				2	47.7	47.3			47.3	47.3		47.3			47.3	47.3	
		Northwest		3	48.1	47.7			47.7	47.7		47.3			47.3	47.3	
				4	47.7	47.3			47.3	47.3		47.3			47.3	47.3	
				5	48.1	47.3			47.3	47.3		47.3			47.3	47.3	
Fall River	**Fall River Depot**			**North Davol Street at President Avenue**													
				1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Northeast		3	47.3	46.9	46.9	46.9				46.9	46.9	**46.9**			
				4	47.3	46.9	46.9	**46.9**				46.9	46.9	46.9			
				5	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				1	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				2	47.3	46.9	46.9	**46.9**				46.5	46.9	**46.9**			
		Southeast		3	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				4	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				5	46.9	46.5	46.9	46.9				46.5	46.5	46.5			
				1	46.9	46.5	46.9	46.9				46.5	46.5	46.5			
				2	47.3	46.9	46.9	46.9				46.9	46.9	**46.9**			
		Southwest		3	47.7	47.3	46.9	**46.9**				46.9	46.9	46.9			
				4	47.3	46.9	46.9	46.9				46.5	46.5	46.5			
				5	47.3	46.9	46.5	46.5				46.5	46.5	46.5			
				1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	47.3	46.9	46.5	46.5				46.5	46.5	46.5			
		Northwest		3	47.7	47.3	46.9	**46.9**				46.9	46.9	**46.9**			
				4	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			

24 Hour PM10 Results

Factor 0.4 **Background** 45.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Fall River	Fall River Depot			**South Davol Street at President Avenue**													
				1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Northeast		3	47.3	46.9	46.9	**46.9**				46.5	46.5	**46.5**			
				4	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				5	47.3	46.9	46.9	46.9				46.5	46.5	46.5			
				1	47.3	46.9	46.9	46.9				46.9	46.5	46.5			
				2	47.3	46.9	46.5	46.5				46.5	46.5	46.5			
		Southeast		3	47.3	46.9	46.9	**46.9**				46.9	46.9	**46.9**			
				4	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.5	46.5	46.5	46.5				46.5	46.5	46.5			
				1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Southwest		3	47.3	46.9	46.9	**46.9**				46.9	46.9	**46.9**			
				4	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.5	46.5	46.1	46.1				46.5	46.1	46.1			
				1	46.5	46.5	46.5	46.5				46.1	46.1	46.1			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Northwest		3	47.7	47.3	47.3	**47.3**				46.9	46.9	46.9			
				4	47.3	46.9	46.9	46.9				46.9	46.9	**46.9**			
				5	47.3	46.9	46.9	46.9				46.5	46.9	46.9			
Freetown	Freetown			**South Main Street at Route 24 Northbound Ramps**													
				1	46.5	46.9			46.9	46.9		46.9			46.9	46.9	
				2	46.5	46.9			46.9	46.9		46.9			46.9	46.9	
		North		3	46.5	46.9			46.9	46.9		46.9			46.9	**46.9**	
				4	46.5	47.3			47.3	**47.3**		46.9			46.9	46.9	
				5	46.5	47.3			47.3	47.3		46.9			46.9	46.9	
				1	46.5	46.9			46.9	46.9		46.9			46.9	46.9	
				2	46.5	46.9			46.9	46.9		46.9			46.9	46.9	
		Southeast		3	46.5	47.3			47.3	**47.3**		46.9			46.9	**46.9**	
				4	46.1	46.5			46.5	46.5		46.5			46.5	46.5	
				5	46.1	46.5			46.5	46.5		46.5			46.5	46.5	
				1	46.1	46.5			46.5	46.5		46.1			46.1	46.1	
				2	46.1	46.5			46.5	46.5		46.5			46.5	46.5	
		Southwest		3	46.5	46.9			46.9	**46.9**		46.9			46.9	**46.9**	
				4	46.5	46.9			46.9	46.9		46.9			46.9	46.9	
				5	46.5	46.5			46.5	46.5		46.5			46.5	46.5	

24 Hour PM10 Results

Factor 0.4 **Background** 45.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
New Bedford	King's Highway			Church Strret at Tarkiln Road													
		Northeast		1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				3	47.3	46.9	46.9	**46.9**				46.5	46.9	**46.9**			
				4	47.3	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Southeast		1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				3	47.3	46.9	46.9	**46.9**				46.5	46.5	46.5			
				4	46.9	46.5	46.5	46.5				46.5	46.5	**46.5**			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Southwest		1	46.5	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				3	47.3	46.9	46.9	**46.9**				46.9	46.9	**46.9**			
				4	47.3	46.9	46.9	46.9				46.5	46.5	46.5			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Northwest		1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				3	47.3	46.5	46.9	**46.9**				46.5	46.5	**46.5**			
				4	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
Raynham	Raynham Park			Route 138 at Found Street/Route 106			Whittenton Electric	Whittenton Diesel					Whittenton Electric	Whittenton Diesel			
		Northeast		1	47.3	46.9	46.9	46.9				46.5	46.5	46.5			
				2	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				3	48.1	47.3	47.3	47.3				47.3	47.3	47.3			
				4	47.7	46.9	47.3	47.3				46.9	46.9	46.9			
				5	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
		Southeast		1	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				2	47.3	46.9	46.9	46.9				46.5	46.5	46.5			
				3	47.7	47.3	47.3	47.3				46.9	46.9	46.9			
				4	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				5	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
		Southwest		1	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				2	47.7	46.9	46.9	46.9				46.9	46.9	46.9			
				3	47.7	47.3	47.3	47.3				46.9	46.9	46.9			
				4	47.3	46.9	46.9	46.9				46.5	46.9	46.9			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Northwest		1	46.9	46.9	46.9	46.9				46.5	46.5	46.5			
				2	47.3	46.9	46.9	46.9				46.5	46.5	46.5			
				3	47.7	47.3	47.3	47.3				46.9	46.9	46.9			
				4	47.7	46.9	46.9	46.9				46.9	46.9	46.9			
				5	47.3	46.9	46.9	46.9				46.9	46.9	46.9			

24 Hour PM10 Results

Factor 0.4 **Background** 45.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Taunton	Dean Street			Route 44 at Longmeadow Road													
		Northeast		1	47.3	46.9			46.5	46.5		46.5			46.5	46.5	
				2	47.3	46.9			46.9	46.9		46.9			46.9	46.9	
				3	48.1	47.3			47.3	47.3		47.3			47.3	47.3	
				4	48.1	47.3			47.7	47.7		47.3			47.3	47.3	
				5	48.5	47.3			47.7	47.7		47.3			47.3	47.3	
		Southeast		1	48.1	47.3			47.3	47.3		47.3			47.3	47.3	
				2	48.1	47.3			47.3	47.3		46.9			47.3	47.3	
				3	48.1	47.3			47.7	47.7		47.3			47.3	47.3	
				4	47.7	46.9			46.9	46.9		46.9			46.9	46.9	
				5	47.3	46.9			46.9	46.9		46.9			46.9	46.9	
		Southwest		1	47.3	46.9			46.9	46.9		46.9			46.9	46.9	
				2	47.7	47.3			46.9	46.9		46.9			46.9	46.9	
				3	49.3	48.1			48.1	48.1		47.7			47.7	47.7	
				4	48.9	47.7			47.7	47.7		47.3			47.7	47.7	
				5	48.5	47.7			47.7	47.7		47.3			47.3	47.3	
		Northwest		1	48.1	47.3			47.3	47.3		47.3			47.3	47.3	
				2	48.1	47.3			47.7	47.7		47.3			47.3	47.3	
				3	48.9	47.7			47.7	47.7		47.7			47.7	47.7	
				4	47.3	46.9			46.9	46.9		46.9			46.9	46.9	
				5	47.3	46.9			46.9	46.9		46.5			46.5	46.5	
Taunton	Taunton Depot			Route 140 at the Route 24 Northbound Ramps without Slip Ramp													
		Northeast		1	46.5	46.5	46.5	46.5				46.5	46.5	46.5			
				2	47.3	46.9	46.9	46.5				46.9	46.5	46.5			
				3	48.9	48.1	48.5	48.1				48.1	48.1	48.1			
				4	48.9	48.1	48.1	48.1				48.1	48.1	48.1			
				5	48.9	48.1	48.1	48.1				48.1	48.1	48.1			
		South		1	48.9	48.1	48.5	48.1				48.1	48.1	48.1			
				2	48.9	48.1	48.1	48.1				48.1	48.1	48.1			
				3	49.3	48.5	48.5	48.5				48.5	48.1	48.1			
				4	49.3	48.1	48.1	48.1				49.3	48.1	48.1			
				5	49.3	48.5	48.1	48.1				48.9	48.1	48.1			
		Northwest		1	49.3	48.5	48.1	48.1				48.1	48.1	48.1			
				2	49.3	48.5	48.1	48.1				48.1	48.1	48.1			
				3	49.3	48.5	48.1	48.1				48.1	48.1	48.1			
				4	47.3	46.9	46.9	46.9				46.9	46.5	46.5			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			

24 Hour PM10 Results

Factor 0.4 **Background** 45.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Taunton	Taunton Depot			Washington Street at Tremont Street													
		Northeast		1	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				2	47.3	46.9	46.9	46.9				46.5	46.9	46.9			
				3	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				4	47.7	47.3	47.3	47.3				46.9	46.9	46.9			
				5	47.7	47.3	46.9	46.9				46.9	46.9	46.9			
		Southeast		1	47.7	46.9	46.9	46.9				46.9	46.9	46.9			
				2	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				3	47.7	47.3	47.3	47.3				46.9	47.3	47.3			
				4	47.3	46.9	46.9	46.9				46.5	46.5	46.5			
				5	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
		Southwest		1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				3	47.7	46.9	46.9	46.9				46.9	46.9	46.9			
				4	47.3	46.9	46.9	46.9				46.5	46.5	46.5			
				5	47.3	46.5	46.5	46.5				46.5	46.5	46.5			
		Northwest		1	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				2	47.3	46.9	46.9	46.9				46.5	46.9	46.9			
				3	48.1	47.3	47.3	47.3				47.3	47.3	47.3			
				4	48.1	47.3	47.3	47.3				46.9	46.9	46.9			
				5	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
New Bedford	Whale's Tooth			Union Street at McCarthur at Route 18 at State Pier													
		Northeast		1	47.3	46.9	47.3	47.3				46.9	46.9	46.9			
				2	47.3	46.9	46.9	**46.9**				46.9	46.9	46.9			
				3	47.3	46.9	46.9	46.9				46.9	46.9	**46.9**			
				4	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				5	46.5	46.5	46.5	46.5				46.1	46.1	46.1			
		Southeast		1	46.5	46.5	46.5	46.5				46.1	46.1	46.1			
				2	46.9	46.5	46.5	46.5				46.5	46.5	46.5			
				3	47.3	46.9	46.9	46.9				46.9	46.9	**46.9**			
				4	47.7	46.9	47.3	**47.3**				46.9	46.9	46.9			
				5	47.7	46.9	47.3	47.3				46.9	46.9	46.9			
		Southwest		1	47.3	46.9	46.9	46.9				46.5	46.9	46.9			
				2	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				3	48.1	47.3	47.3	**47.3**				46.9	47.3	**47.3**			
				4	47.3	46.9	46.9	46.9				46.9	46.9	46.9			
				5	47.3	46.5	46.9	46.9				46.5	46.5	46.5			
		Northwest		1	48.1	47.3	46.9	46.9				47.3	46.9	46.9			
				2	47.3	46.5	46.9	46.9				46.5	46.5	46.5			
				3	48.1	47.3	47.3	**47.3**				47.3	47.3	**47.3**			
				4	47.7	47.3	47.3	47.3				46.9	46.9	46.9			
				5	47.7	46.9	47.3	47.3				46.9	46.9	46.9			

Hot Spot: Microscale (Local) Analysis

Microscale Results

- Particulate Matter 2.5 ($PM_{2.5}$)

This Page Intentionally Left Blank

24 Hour PM2.5 Results

Factor 0.4 **Background** 29.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Norton	**Barrowsville**			**North Worcester Street at Route 123/Main Street**													
		Northeast		1	30.1	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.5	30.1	30.5	30.5				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Southeast		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Southwest		1	30.1	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Northwest		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				4	30.1	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.1	30.1	30.1	30.1				30.1	30.1	30.1			
East Taunton	**East Taunton North**			**Route 140 at the Route 24 Southbound Ramps**													
		East		1	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				2	31.3	30.5			**30.5**	30.5		30.5			**30.5**	30.5	
				3	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				4	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				5	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
		Southwest		1	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				2	31.3	30.5			**30.5**	30.5		30.5			**30.5**	30.5	
				3	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				4	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				5	30.9	30.1			30.1	30.1		30.1			30.1	30.1	
		Northwest		1	30.9	30.5			30.5	30.5		30.1			30.1	30.1	
				2	30.9	30.5			30.5	30.5		30.1			30.5	30.5	
				3	31.3	30.5			**30.5**	30.5		30.5			**30.5**	30.5	
				4	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				5	31.3	30.5			30.5	30.5		30.5			30.5	30.5	

24 Hour PM2.5 Results

Factor 0.4 **Background** 29.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Easton	**Easton Village**			**Route 138 at Main Street**													
		Northeast		1	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
				2	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				3	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				4	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
				5	30.5	30.1			30.1	30.1		30.1			30.1	30.1	
		Southeast		1	30.9	30.5			30.5	30.5		30.1			30.1	30.1	
				2	30.9	30.5			30.5	30.5		30.1			30.5	30.5	
				3	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				4	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				5	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
		Southwest		1	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
				2	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
				3	31.3	30.5			30.9	30.9		30.5			30.5	30.5	
				4	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
				5	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
		Northwest		1	30.9	30.5			30.5	30.5		30.5			30.1	30.1	
				2	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
				3	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				4	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				5	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
Fall River	**Fall River Depot**			**North Davol Street at President Avenue**													
		Northeast		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.9	30.5	**30.5**	30.5				30.1	**30.1**	30.1			
				4	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				5	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
		Southeast		1	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				2	30.9	30.1	30.5	30.5				30.1	30.1	30.1			
				3	30.9	30.1	**30.5**	30.5				30.1	30.1	30.1			
				4	30.9	30.5	30.5	30.5				30.1	**30.1**	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Southwest		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.9	30.5	30.5	30.5				30.1	**30.1**	30.1			
				3	30.9	30.5	**30.5**	30.5				30.5	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Northwest		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.9	30.5	**30.5**	30.5				30.5	**30.1**	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			

24 Hour PM2.5 Results

Factor	0.4		Background	29.7												
Town	Station				2008	2016						2030				
		Quadrant	Receptor Location	Intersection/Receptors	Existing	No Build	Attelboro Electric	Atteboro Diesel	Stoughton Electric	Stroughton Diesel	Rapid Bus	No Build	Attelboro Electric	Atteboro Diesel	Stoughton Electric	Stroughton Diesel	Rapid Bus
Fall River	Fall River Depot			South Davol Street at President Avenue													
		Northeast		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Southeast		1	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.9	30.1	30.5	30.5				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Southwest		1	30.5	30.1	30.1	30.1				34.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.9	30.5	30.1	30.1				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.1	30.1	30.1	30.1				29.7	29.7	29.7			
		Northwest		1	30.1	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				4	30.9	30.5	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
Freetown	Freetown			South Main Street at Route 24 Northbound Ramps													
		North		1	30.1	30.1			30.1	30.1		30.1			30.1	30.1	
				2	30.1	30.5			30.5	30.5		30.1			30.1	30.1	
				3	30.1	30.5			30.5	30.5		30.1			30.1	30.1	
				4	30.1	30.5			30.5	30.5		30.1			30.1	30.1	
				5	30.1	30.5			30.5	30.5		30.5			30.5	30.5	
		Southeast		1	30.1	30.5			30.5	30.5		30.1			30.1	30.1	
				2	30.1	30.5			30.5	30.5		30.1			30.1	30.1	
				3	30.1	30.5			30.5	30.5		30.1			30.1	30.1	
				4	30.1	30.1			30.1	30.1		30.1			30.1	30.1	
				5	30.1	30.1			30.1	30.1		30.1			30.1	30.1	
		Southwest		1	30.1	30.1			30.1	30.1		30.1			30.1	30.1	
				2	30.1	30.1			30.1	30.1		30.1			30.1	30.1	
				3	30.1	30.5			30.5	30.5		30.1			30.1	30.1	
				4	30.1	30.1			30.1	30.1		30.1			30.1	30.1	
				5	30.1	30.1			30.1	30.1		30.1			30.1	30.1	

24 Hour PM2.5 Results

Factor 0.4 **Background** 29.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
New Bedford	King's Highway			Church Strret at Tarkiln Road													
		Northeast		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Southeast		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Southwest		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.9	30.1	30.1	30.1				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Northwest		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
Raynham	Raynham Park			Route 138 at Found Street/Route 106			Whittenton Electric	Whittenton Diesel					Whittenton Electric	Whittenton Diesel			
		Northeast		1	30.5	30.5	30.5	30.5				30.1	30.1	30.1			
				2	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				3	31.3	30.5	30.5	30.5				30.5	30.5	30.5			
				4	30.9	30.5	30.5	30.5				30.5	30.5	30.5			
				5	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
		Southeast		1	30.9	30.1	30.5	30.5				30.1	30.1	30.1			
				2	30.5	30.5	30.5	30.5				30.1	30.1	30.1			
				3	30.9	30.5	30.5	30.5				30.5	30.5	30.5			
				4	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				5	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
		Southwest		1	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				2	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				3	30.9	30.5	30.5	30.5				30.5	30.5	30.5			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Northwest		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				3	30.9	30.5	30.5	30.5				30.5	30.5	30.5			
				4	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				5	30.9	30.5	30.5	30.5				30.1	30.1	30.1			

24 Hour PM2.5 Results

Factor	0.4		Background	29.7												
Town	Station				2008	2016						2030				
		Quadrant	Receptor Location	Intersection/Receptors	Existing	No Build	Attelboro Electric	Atteboro Diesel	Stoughton Electric	Stroughton Diesel	Rapid Bus	No Build	Attelboro Electric	Atteboro Diesel	Stoughton Electric	Stroughton Diesel	Rapid Bus
Taunton	Dean Street			Route 44 at Longmeadow Road													
		Northeast		1	30.5	30.1			30.1	30.1		30.1			30.1	30.1	
				2	30.9	30.1			30.5	30.5		30.1			30.1	30.1	
				3	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				4	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				5	31.3	30.9			30.5	30.5		30.5			30.5	30.5	
		Southeast		1	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				2	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				3	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				4	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
				5	30.9	30.5			30.5	30.5		30.1			30.1	30.1	
		Southwest		1	30.9	30.5			30.5	30.5		30.1			30.1	30.1	
				2	30.9	30.5			30.5	30.5		30.5			30.5	30.5	
				3	31.7	30.9			30.9	30.9		30.5			30.5	30.5	
				4	31.7	30.5			30.9	30.9		30.5			30.5	30.5	
				5	31.7	30.5			30.9	30.9		30.5			30.5	30.5	
		Northwest		1	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				2	31.3	30.5			30.5	30.5		30.5			30.5	30.5	
				3	31.7	30.9			30.9	30.9		30.5			30.5	30.5	
				4	30.9	30.5			30.5	30.5		30.1			30.1	30.1	
				5	30.5	30.1			30.5	30.5		30.1			30.1	30.1	
Taunton	Taunton Depot			Route 140 at the Route 24 Northbound Ramps without Slip Ramp													
		Northeast		1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.5	30.1	30.1			
				3	31.7	30.9	**30.9**	30.9				30.9	**30.9**	30.9			
				4	31.7	30.9	30.9	30.9				30.9	30.9	30.9			
				5	31.7	30.9	30.9	30.9				30.9	30.9	30.9			
		South		1	31.7	30.9	30.9	30.9				30.9	30.9	30.9			
				2	31.7	30.9	30.9	30.9				30.9	30.9	30.9			
				3	32.1	30.9	**31.3**	30.9				31.3	**30.9**	30.9			
				4	32.1	30.9	30.9	30.9				32.1	30.9	30.9			
				5	32.1	30.9	30.9	30.9				32.1	30.9	30.9			
		Northwest		1	32.1	30.9	30.9	30.9				30.9	30.9	30.9			
				2	32.1	30.9	**30.9**	30.9				30.9	**30.9**	30.9			
				3	32.1	30.9	30.9	30.9				30.9	30.9	30.9			
				4	30.5	30.5	30.1	30.1				30.5	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			

24 Hour PM2.5 Results

Factor 0.4 **Background** 29.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Taunton	**Taunton Depot**			**Washington Street at Tremont Street**													
				1	30.9	30.1	30.5	30.5				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Northeast		3	30.9	30.5	**30.5**	30.5				30.1	30.1	30.1			
				4	30.9	30.5	30.5	30.5				30.5	**30.5**	30.5			
				5	30.9	30.5	30.5	30.5				30.5	30.5	30.5			
				1	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
				2	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
		Southeast		3	31.3	30.5	**30.5**	30.5				30.5	**30.5**	30.5			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
		Southwest		3	30.9	30.5	**30.5**	30.5				30.1	**30.5**	30.5			
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				1	30.5	30.1	30.1	30.1				30.1	30.1	30.1			
				2	30.9	30.1	30.1	30.1				30.1	30.1	30.1			
		Northwest		3	31.3	30.5	**30.5**	30.5				30.5	**30.5**	30.5			
				4	31.3	30.5	30.5	30.5				30.5	30.5	30.5			
				5	30.9	30.5	30.5	30.5				30.1	30.1	30.1			
New Bedford	**Whale's Tooth**			**Union Street at McCarthur at Route 18 at State Pier**													
				1	30.9	30.1	30.5	30.5				30.1	30.1	30.1	-	-	
				2	30.5	30.1	30.1	30.5				30.1	30.1	30.1	-	-	
		Northeast		3	30.9	30.1	30.1	30.5				30.1	30.1	30.1	-	-	
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1	-	-	
				5	30.1	30.1	30.1	30.1				30.1	29.7	30.1	-	-	
				1	30.1	30.1	30.1	30.1				30.1	29.7	30.1	-	-	
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1	-	-	
		Southeast		3	30.9	30.5	30.1	30.5				30.1	30.1	30.1	-	-	
				4	30.9	30.1	30.5	30.5				30.1	30.1	30.1	-	-	
				5	30.9	30.5	30.5	30.5				30.1	30.1	30.1	-	-	
				1	30.5	30.1	30.1	30.1				30.1	30.1	30.1	-	-	
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1	-	-	
		Southwest		3	30.9	30.5	30.5	30.5				30.5	30.5	30.1	-	-	
				4	30.5	30.1	30.1	30.1				30.1	30.1	30.1	-	-	
				5	30.5	30.1	30.1	30.1				30.1	30.1	30.1	-	-	
				1	30.9	30.5	30.1	30.1				30.1	30.1	30.1	-	-	
				2	30.5	30.1	30.1	30.1				30.1	30.1	30.1	-	-	
		Northwest		3	31.3	30.5	30.5	30.5				30.5	30.5	30.1	-	-	
				4	30.9	30.5	30.5	30.5				30.1	30.1	30.1	-	-	
				5	30.9	30.5	30.5	30.5				30.1	30.1	30.1	-	-	

Annual PM2.5 Results

Factor 0.08 **Background** 11.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Norton	**Barrowsville**			**North Worcester Street at Route 123/Main Street**													
		Northeast		1	11.8	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.9	11.9				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Southeast		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Southwest		1	11.8	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Northwest		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				4	11.8	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.8	11.8	11.8	11.8				11.8	11.8	11.8			
East Taunton	**East Taunton North**			**Route 140 at the Route 24 Southbound Ramps**													
		East		1	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				2	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				3	12.0	11.9			**11.9**	11.9		11.9			**11.9**	11.9	
				4	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				5	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
		Southwest		1	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				2	12.0	11.9			**11.9**	11.9		11.9			**11.9**	11.9	
				3	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				4	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				5	11.9	11.8			11.8	11.8		11.8			11.8	11.8	
		Northwest		1	11.9	11.9			11.9	11.9		11.8			11.8	11.8	
				2	11.9	11.9			**11.9**	11.9		11.8			**11.9**	11.9	
				3	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				4	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				5	12.0	11.9			11.9	11.9		11.9			11.9	11.9	

Annual PM2.5 Results

Factor 0.08 **Background** 11.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Easton	**Easton Village**			**Route 138 at Main Street**													
		Northeast		1	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
				2	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				3	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				4	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
				5	11.9	11.8			11.8	11.8		11.8			11.8	11.8	
		Southeast		1	11.9	11.9			11.9	11.9		11.8			11.8	11.8	
				2	11.9	11.9			11.9	11.9		11.8			11.9	11.9	
				3	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				4	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				5	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
		Southwest		1	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
				2	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
				3	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				4	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
				5	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
		Northwest		1	11.9	11.9			11.9	11.9		11.9			11.8	11.8	
				2	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
				3	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				4	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				5	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
Fall River	**Fall River Depot**			**North Davol Street at President Avenue**													
		Northeast		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				4	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				5	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
		Southeast		1	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				2	11.9	11.8	11.9	11.9				11.8	11.8	11.8			
				3	11.9	11.8	11.9	11.9				11.8	11.8	11.8			
				4	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Southwest		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.9	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Northwest		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.9	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			

Annual PM2.5 Results

Factor 0.08 **Background** 11.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Fall River	Fall River Depot			South Davol Street at President Avenue													
		Northeast		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Southeast		1	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.9	11.9				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Southwest		1	11.9	11.8	11.8	11.8				12.6	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.9	11.8	11.8				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.8	11.8	11.8	11.8				11.7	11.7	11.7			
		Northwest		1	11.8	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				4	11.9	11.9	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
Freetown	Freetown			South Main Street at Route 24 Northbound Ramps													
		North		1	11.8	11.8			11.8	11.8		11.8			11.8	11.8	
				2	11.8	11.9			11.9	11.9		11.8			11.8	11.8	
				3	11.8	11.9			11.9	11.9		11.8			11.8	11.8	
				4	11.8	11.9			11.9	11.9		11.8			11.8	11.8	
				5	11.8	11.9			11.9	11.9		11.9			11.9	11.9	
		Southeast		1	11.8	11.9			11.9	11.9		11.8			11.8	11.8	
				2	11.8	11.9			11.9	11.9		11.8			11.8	11.8	
				3	11.8	11.9			11.9	11.9		11.8			11.8	11.8	
				4	11.8	11.8			11.8	11.8		11.8			11.8	11.8	
				5	11.8	11.8			11.8	11.8		11.8			11.8	11.8	
		Southwest		1	11.8	11.8			11.8	11.8		11.8			11.8	11.8	
				2	11.8	11.8			11.8	11.8		11.8			11.8	11.8	
				3	11.8	11.9			11.9	11.9		11.8			11.8	11.8	
				4	11.8	11.8			11.8	11.8		11.8			11.8	11.8	
				5	11.8	11.8			11.8	11.8		11.8			11.8	11.8	

Annual PM2.5 Results

Factor 0.08 **Background** 11.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
New Bedford	King's Highway			Church Strret at Tarkiln Road													
		Northeast		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Southeast		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Southwest		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Northwest		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
Raynham	Raynham Park			Route 138 at Found Street/Route 106													
							Whittenton Electric	Whittenton Diesel					Whittenton Electric	Whittenton Diesel			
		Northeast		1	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				2	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				3	12.0	11.9	11.9	11.9				11.9	11.9	11.9			
				4	11.9	11.9	11.9	11.9				11.9	11.9	11.9			
				5	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
		Southeast		1	11.9	11.8	11.9	11.9				11.8	11.8	11.8			
				2	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.9	11.9	11.9			
				4	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				5	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
		Southwest		1	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				2	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.9	11.9	11.9			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Northwest		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.9	11.9	11.9			
				4	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				5	11.9	11.9	11.9	11.9				11.8	11.8	11.8			

Annual PM2.5 Results

Factor 0.08 **Background** 11.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Taunton	**Dean Street**			**Route 44 at Longmeadow Road**													
		Northeast		1	11.9	11.8			11.8	11.8		11.8			11.8	11.8	
				2	11.9	11.8			11.9	11.9		11.8			11.8	11.8	
				3	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				4	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				5	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
		Southeast		1	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				2	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				3	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				4	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
				5	11.9	11.9			11.9	11.9		11.8			11.8	11.8	
		Southwest		1	11.9	11.9			11.9	11.9		11.8			11.8	11.8	
				2	11.9	11.9			11.9	11.9		11.9			11.9	11.9	
				3	12.1	11.9			11.9	11.9		11.9			11.9	11.9	
				4	12.1	11.9			11.9	11.9		11.9			11.9	11.9	
				5	12.1	11.9			11.9	11.9		11.9			11.9	11.9	
		Northwest		1	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				2	12.0	11.9			11.9	11.9		11.9			11.9	11.9	
				3	12.1	11.9			11.9	11.9		11.9			11.9	11.9	
				4	11.9	11.9			11.9	11.9		11.8			11.8	11.8	
				5	11.9	11.8			11.9	11.9		11.8			11.8	11.8	
Taunton	**Taunton Depot**			**Route 140 at the Route 24 Northbound Ramps without Slip Ramp**													
		Northeast		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.9	11.8	11.8			
				3	12.1	11.9	11.9	11.9				11.9	11.9	11.9			
				4	12.1	11.9	11.9	11.9				11.9	11.9	11.9			
				5	12.1	11.9	11.9	11.9				11.9	11.9	11.9			
		South		1	12.1	11.9	11.9	11.9				11.9	11.9	11.9			
				2	12.1	11.9	11.9	11.9				11.9	11.9	11.9			
				3	12.2	11.9	12.0	11.9				12.0	11.9	11.9			
				4	12.2	11.9	11.9	11.9				12.2	11.9	11.9			
				5	12.2	11.9	11.9	11.9				12.2	11.9	11.9			
		Northwest		1	12.2	11.9	11.9	11.9				11.9	11.9	11.9			
				2	12.2	11.9	11.9	11.9				11.9	11.9	11.9			
				3	12.2	11.9	11.9	11.9				11.9	11.9	11.9			
				4	11.9	11.9	11.8	11.8				11.9	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			

Annual PM2.5 Results

Factor 0.08 **Background** 11.7

Town	Station	Quadrant	Receptor Location	Intersection/Receptors	2008 Existing	2016 No Build	2016 Attelboro Electric	2016 Atteboro Diesel	2016 Stoughton Electric	2016 Stroughton Diesel	2016 Rapid Bus	2030 No Build	2030 Attelboro Electric	2030 Atteboro Diesel	2030 Stoughton Electric	2030 Stroughton Diesel	2030 Rapid Bus
Taunton	**Taunton Depot**			**Washington Street at Tremont Street**													
		Northeast		1	11.9	11.8	11.9	11.9				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				4	11.9	11.9	11.9	11.9				11.9	11.9	11.9			
				5	11.9	11.9	11.9	11.9				11.9	11.9	11.9			
		Southeast		1	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				2	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				3	12.0	11.9	11.9	11.9				11.9	11.9	11.9			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Southwest		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.8	11.9	11.9			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Northwest		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	12.0	11.9	11.9	11.9				11.9	11.9	11.9			
				4	12.0	11.9	11.9	11.9				11.9	11.9	11.9			
				5	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
New Bedford	**Whale's Tooth**			**Union Street at McCarthur at Route 18 at State Pier**													
		Northeast		1	11.9	11.8	11.9	11.9				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.9				11.8	11.8	11.8			
				3	11.9	11.8	11.8	11.9				11.8	11.8	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.8	11.8	11.8	11.8				11.8	11.7	11.8			
		Southeast		1	11.8	11.8	11.8	11.8				11.8	11.7	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.9	11.8	11.9				11.8	11.8	11.8			
				4	11.9	11.8	11.9	11.9				11.8	11.8	11.8			
				5	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
		Southwest		1	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	11.9	11.9	11.9	11.9				11.9	11.9	11.8			
				4	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				5	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
		Northwest		1	11.9	11.9	11.8	11.8				11.8	11.8	11.8			
				2	11.9	11.8	11.8	11.8				11.8	11.8	11.8			
				3	12.0	11.9	11.9	11.9				11.9	11.9	11.8			
				4	11.9	11.9	11.9	11.9				11.8	11.8	11.8			
				5	11.9	11.9	11.9	11.9				11.8	11.8	11.8			

Technical Report
Air Quality
Draft

Mesoscale (Regional) Analysis

- CTPS Model Data
- Rapid Bus Alternative
- Train Emissions

This Page Intentionally Left Blank

Mesoscale (Regional) Analysis

- CTPS Model Data

This Page Intentionally Left Blank

South Coast Rail Air Quality Mesoscale Results

	TOTAL EMSSIONS							
Alternative	CO-Winter	NOx	VOC	CO2	PM2.5	PM10	VMT	VHT
				look below for Tons/year				
	kg/day	kg/day	kg/day	kg/day	kg/day	kg/day	Avg daily	Avg daily
Existing	1,852,715.1	212,844.2	75,306.9	69,130,131.4	4,534.4	6,632.2	125,719,800.0	4,203,768.0
No-Build (TSM)	1,162,045.5	20,878.3	24,803.9	76,170,121.3	1,704.7	3,671.1	133,778,821.0	4,464,879.0
Attleboro Electric	1,159,470.0	20,835.0	24,748.0	75,999,344.0	1,703.0	3,665.0	133,482,252.0	4,442,755.0
Difference	(2,575.5)	(43.3)	(55.9)	(170,777.3)	(1.7)	(6.1)	(296,569.0)	(22,124.0)
Attleboro Diesel	1,159,930.3	20,867.4	24,757.6	76,034,198.7	1,704.0	3,667.4	133,522,400.0	4,444,185.0
Difference	(2,115.2)	(10.9)	(46.3)	(135,922.5)	(0.7)	(3.7)	(256,421.0)	(20,694.0)
Stoughton Electric	1,159,586.0	20,837.5	24,751.0	76,006,518.2	1,703.2	3,665.6	133,482,899.0	4,443,176.0
Difference	(2,459.5)	(40.8)	(52.9)	(163,603.1)	(1.5)	(5.5)	(295,922.0)	(21,703.0)
Stoughton Diesel	1,160,161.2	20,869.5	24,762.5	76,049,553.9	1,704.4	3,667.8	133,550,116.0	4,444,815.0
Difference	(1,884.3)	(8.7)	(41.5)	(120,567.4)	(0.3)	(3.4)	(228,705.0)	(20,064.0)
Whittenton Electric	1,160,155.0	20,847.0	24,762.0	76,045,234.0	1,704.0	3,667.0	133,550,803.0	4,444,876.0
Difference	(1,890.5)	(31.3)	(41.9)	(124,887.3)	(0.7)	(4.1)	(228,018.0)	(20,003.0)
Whittenton Diesel	1,160,543.9	20,874.7	24,780.6	76,080,802.5	1,705.4	3,669.4	133,604,860.0	4,450,380.0
Difference	(1,501.6)	(3.5)	(23.3)	(89,318.7)	0.7	(1.8)	(173,961.0)	(14,499.0)
Rapid Bus	1,161,433.2	20,882.5	24,794.6	76,152,071.7	1,706.4	3,672.8	133,697,326.0	4,450,872.0
Difference	(612.3)	4.2	(9.3)	(18,049.6)	1.7	1.7	(81,495.0)	(14,007.0)

South Coast Rail Air Quality Mesoscale Results

	TOTAL EMSSIONS							
Alternative				CO2				
				CO2 Converted to Tons/Year	Annualization Factor[1]=	365	Kg to Tons (1000kg/1Ton)=	1000
Existing				25,232,498.0				
No-Build (TSM)				27,802,094.3				
Attleboro Electric				27,739,760.6				
				(62,333.70)				
Attleboro Diesel				27,752,482.5				
				(49,611.73)				
Stoughton Electric				27,742,379.1				
Difference				(59,715.12)				
Stoughton Diesel				27,758,087.2				
Difference				(44,007.08)				
Whittenton Electric				27,756,510.4				
				(45,583.85)				
Whittendon Diesel				27,769,492.9				
				(32,601.34)				
Rapid Bus				27,795,506.2				
				(6,588.11)				

1: Based on CTPS' Calculation of Annualization Factor which used the commuter rail ridership information.

South Coast Rail Air Qu South Coast Rail Air Quality Mesoscale Results

	CTPS EMISSIONS WITHOUT SCR TRAIN EMISSIONS							
Alternative	CO-Winter	NOx	VOC	CO2	PM2.5	PM10	VMT	VHT
	kg/day	kg/day	kg/day	kg/day	kg/day	kg/day	Avg daily	Avg daily
Existing	1,852,715	212,844	75,307	69,130,131	4,534	6,632	125,719,800	4,203,768
No-Build (TSM)	1,162,045	20,878	24,804	76,170,121	1,705	3,671	133,778,821	4,464,879
Attleboro Electric	1,159,470	20,835	24,748	75,999,344	1,703	3,665	133,482,252	4,442,755
Difference								
Attleboro Diesel	1,159,917	20,843	24,757	76,029,115	1,704	3,667	133,522,400	4,444,185
Difference								
Stoughton Electric	1,159,586	20,837	24,751	76,006,518	1,703	3,666	133,482,899	4,443,176
Difference	(2,459.5)	(40.8)	(52.9)	(163,603.1)	(1.5)	(5.5)	(295,922.0)	(21,703.0)
Stoughton Diesel	1,160,149	20,847	24,762	76,044,858	1,704	3,667	133,550,116	4,444,815
Difference	(1,896.5)	(31.3)	(42.0)	(125,262.8)	(0.6)	(3.7)	(228,705.0)	(20,064.0)
Whittenton Electric	1,160,155	20,847	24,762	76,045,234	1,704	3,667	133,550,803	4,444,876
Difference								
Whittenton Diesel	1,160,532	20,853	24,780	76,076,229	1,705	3,669	133,604,860	4,450,380
Difference								
Rapid Bus	1,161,430	20,869	24,792	76,129,499	1,706	3,672	133,697,326	4,450,872
Difference								

South Coast Rail Air Qu South Coast Rail Air Quality Mesoscale Results

	SCR TRAIN EMISSIONS (1)							
Alternative	CO-Winter	NOx	VOC	CO2	PM2.5	PM10	VMT	VHT
	kg/day	kg/day	kg/day	kg/day	kg/day	kg/day	Avg daily	Avg daily
Existing								
No-Build (TSM)								
Attleboro Electric								-
Difference								
Attleboro Diesel	13.3	24.4	0.6	5,083.7	0.4	0.4		
Difference								
Stoughton Electric								
Difference								
Stoughton Diesel	12.2	22.5	0.6	4,695.5	0.4	0.4		
Difference								
Whittenton Electric								
Difference								
Whittenton Diesel	11.9	21.9	0.6	4,573.2	0.4	0.4		
Difference								
Rapid Bus	3.2	13.5	2.6	22,572.7	0.4	0.8		
Difference								

1 Based on estimated train mileage for SCR and EPA Train Emissions information - see XX

Technical Report
Air Quality
Draft

Mesoscale (Regional) Analysis

- Rapid Bus Alternative

This Page Intentionally Left Blank

Mesoscale Analysis Summary - Rapid Bus Alternative

Bus Route (To/From)	No. of Buses	Local Roads: RT[1] Distance in miles (Bus Station to freeways[2])	Freeways: RT[1] Distance in miles (freeways[2] to Route 24)	Freeways: RT[1] Distance in miles (Route 24 to South Station)	Emissions (kg/day): CO-W	Nox	VOC	CO_2 [3]	PM2.5	PM10
Whale's Tooth Station - King's Hwy Station - South Station	50	3.24	40.35	78.85	1.21	5.18	0.97	8552.73	0.15	0.32
Fall River Depot Station - Freetown Station - South Station	42	9.61	4.67	91.95	0.89	3.66	0.73	6232.94	0.11	0.23
Galleria Station - South Station	34	1.60	1.28	78.85	0.55	2.36	0.44	3882.11	0.07	0.14
Taunton Depot Station - South Station	34	7.67	0.00	74.54	0.56	2.29	0.46	3904.88	0.07	0.15
				Emissions Total	***3.21***	***13.49***	***2.59***	***22572.65***	***0.40***	***0.84***

****Notes:***

1. RT = Round Trip

2. Any other freeways included in the bus routes that leads to Route 24

3. CO_2 concentrations are expressed in tons per year

This Page Intentionally Left Blank.

Technical Report
Air Quality
Draft

Mesoscale (Regional) Analysis

- Train Emissions

This Page Intentionally Left Blank

Train Emissions

Number of Trains	38								
	19								
	4					Emission Factor (kg)			
Alternatives	**From**	**To**	**Miles**	**$PM_{2.5}$**	**PM_{10}**	**HC**	**NOX**	**CO**	**CO2**
Stoughton									
	Weir Junction	Canton Junction	20.51	0.20	0.21	0.33	12.73	6.92	2,653.77
	Canton Junction	South Station	14.70	0.02	0.02	0.02	0.96	0.52	200.25
				0.22	**0.22**	**0.35**	**13.69**	**7.44**	**2,854.03**
Including Southern Triangle				**0.45**	**0.46**	**0.73**	**28.39**	**15.43**	**5,920.26**
Whittenton									
	Weir Junction	Whittenton Junction	1.89	0.02	0.02	0.03	1.17	0.64	244.57
	Whittenton Junction	Stoughton	1.88	0.02	0.02	0.03	1.16	0.63	242.70
	Stoughton	Canton Junction	16.17	0.16	0.16	0.26	10.04	5.45	2,092.97
	Canton Junction	South Station	14.70	0.02	0.02	0.02	0.96	0.52	200.25
				0.21	**0.22**	**0.34**	**13.34**	**7.25**	**2,780.50**
Including Southern Triangle				**0.44**	**0.46**	**0.72**	**28.04**	**15.24**	**5,846.73**
Attleboro									
	Weir Junction	Attleboro Bypass	12.51	0.12	0.13	0.20	7.76	4.22	1,618.45
	Attleboro Bypass	Canton Junction	14.00	0.01	0.01	0.02	0.91	0.50	190.72
	Canton Junction	South Station	14.70	0.02	0.02	0.02	0.96	0.52	200.25
				0.15	**0.16**	**0.25**	**9.64**	**5.24**	**2,009.42**
Including Southern Triangle				**0.39**	**0.40**	**0.63**	**24.34**	**13.23**	**5,075.66**
Southern Triangle									
New Bedford Mainline	Cotley Junction	Weir Junction	1.42	0.01	0.01	0.02	0.88	0.48	183.17
	Myricks Junction	Cotley Junction	3.60	0.04	0.04	0.06	2.23	1.21	465.67
	New Bedford	Myricks Junction	14.82	0.07	0.08	0.12	4.60	2.50	959.01
				0.12	**0.13**	**0.20**	**7.71**	**4.19**	**1,607.85**
Fall River Secondary	Cotley Junction	Weir Junction	1.42	0.01	0.01	0.02	0.88	0.48	183.17
	Myricks Junction	Cotley Junction	3.60	0.04	0.04	0.06	2.23	1.21	465.67
	Fall River	Myricks Junction	12.51	0.06	0.06	0.10	3.88	2.11	809.54
				0.11	**0.11**	**0.18**	**6.99**	**3.80**	**1,458.39**
Northeast Corridor									
Northeast Corridor (South)	Attleboro Bypass	Canton Junction	14.00	0.01	0.01	0.02	0.91	0.50	190.72
Northeast Corridor (North)	Canton Junction	South Station	14.70	0.02	0.02	0.02	0.96	0.52	200.25
				0.03	**0.03**	**0.05**	**1.88**	**1.02**	**390.97**

This Page Intentionally Left Blank.

Technical Report
Air Quality
Draft

Layover Facilities Emissions

This Page Intentionally Left Blank

CO2 Emissions at Layover Facilities

Convert Mwh to lbs	1107	lbs
Convert lbs to tons	0.0005	tons

		kwh	Mwh	tons/yr	kg/d
Layover facilities	6 hours/day	258	0.258	1271.5	129.6651

This Page Intentionally Left Blank

Technical Report
Air Quality
Draft

Emission Factors for Locomotives

This Page Intentionally Left Blank

Technical Highlights

Emission Factors for Locomotives

The Environmental Protection Agency (EPA) has established emission standards for oxides of nitrogen (NOx), hydrocarbons (HC), carbon monoxide (CO), particulate matter (PM) and smoke for newly manufactured and remanufactured locomotives. These standards, which are codified at 40 CFR part 1033, include several sets of emission standards with applicability dependent on the date a locomotive is first manufactured. The first set of standards (Tier 0) applies to most locomotives originally manufactured before 2001. The most stringent set of standards (Tier 4) applies to locomotives originally manufactured in 2015 and later. This fact sheet describes EPA's estimates of the typical in-use emission rates for locomotives subject to these standards, as well as the previous standards.

It is important to emphasize that this fact sheet relies on many simplifying assumptions. Thus emission rates calculated as described in this fact sheet should be considered as approximations.

Estimated Locomotive Emission Rates by Tier

EPA has estimated average emission rates, given in grams per brake horsepower-hour (g/bhp-hr), for uncontrolled locomotives and those required to meet the various emission standards. Emissions were estimated for two different types of operation: a low power cycle representing operation in a switch yard, and a higher power cycle representative of general line-haul operation. These estimates are shown in Tables 1 and 2. Note that plus signs in the table indicate that a given tier of standards was revised in a 2008 rulemaking (73 FR 37096, June 30, 2008). For example, locomotives originally manufactured in years 2002-2004 were initially subject to the original Tier 1 standards, but will be required to meet revised Tier 1 standards (also known as Tier 1+ standards) when remanufactured. See the regulatory text for a more precise explanation of which standards apply to which locomotives.

United States Environmental Protection Agency

Office of Transportation and Air Quality
EPA-420-F-09-025
April 2009

It is important to note that there can be significant variability in in-use emission rates, especially for uncontrolled locomotives. Also, a single locomotive's emission rate can vary throughout its life as the engine ages and as ambient conditions change. Thus the values presented here are intended to reflect the average emission rates. It is also worth noting that these emission estimates were developed in the context of adopting new emission standards. This is especially important for the CO emission factors. Because EPA's CO emission standards were intended to cap CO emissions at pre-control levels (which were relatively low), we have not projected any reductions in CO emission factors. However, recent testing indicates that emission controls designed to reduce PM and HC emissions are also reducing CO emissions. Thus the CO emission rates presented here may be too high and should be used with some caution. A similar effect may also apply for HC emissions from Tier 0 and Tier 1 locomotives (but not the Tier 0+ and Tier 1+ locomotives).

Table 1 - Line-Haul Emission Factors (g/bhp-hr)

	PM_{10}	HC	NO_x	CO
UNCONTROLLED	0.32	0.48	13.00	1.28
TIER 0	0.32	0.48	8.60	1.28
TIER 0+	0.20	0.30	7.20	1.28
TIER 1	0.32	0.47	6.70	1.28
TIER 1+	0.20	0.29	6.70	1.28
TIER2	0.18	0.26	4.95	1.28
TIER 2+ & TIER 3	0.08	0.13	4.95	1.28
TIER 4	0.015	0.04	1.00	1.28
+ INDICATES THAT THESE ARE THE REVISED STANDARDS IN 40 CFR PART 1033				

Table 2 - Switch Emission Factors (g/bhp-hr)

	PM_{10}	HC	NO_x	CO
UNCONTROLLED	0.44	1.01	17.40	1.83
TIER 0	0.44	1.01	12.60	1.83
TIER 0+	0.23	0.57	10.60	1.83
TIER 1	0.43	1.01	9.90	1.83
TIER 1+	0.23	0.57	9.90	1.83
TIER2	0.19	0.51	7.30	1.83
TIER 2+	0.11	0.26	7.30	1.83
TIER 3	0.08	0.26	4.50	1.83
TIER 4	0.015	0.08	1.00	1.83
+ INDICATES THAT THESE ARE THE REVISED STANDARDS IN 40 CFR PART 1033				

Conversion to Gram per Gallon Emission Factors

It is often useful to express emission rates as grams of pollutant emitted per gallon of fuel consumed (g/gal). This can be done by multiplying the emission rates in Table 1 or 2 by a conversion factor relating the fuel consumption (gal/hr) and the usable power (bhp) of the engine. EPA has estimated different conversion factors for different types of locomotive service as shown in Table 3. The two primary reasons for the differences are variations in locomotive age and duty cycle. Fuel efficiency tends to be worse for older locomotive designs and for locomotives used in low power applications such as switching. Note that the g/gal emission factors presented at the end of this fact sheet can be converted back to g/bhp-hr by dividing them by the conversion factors shown here.

Table 3
Conversion Factors (bhp-hr/gal)

Locomotive Application	Conversion Factor (bhp-hr/gal)
Large Line-Haul and Passenger	20.8
Small Line-Haul	18.2
Switching	15.2

Conversion to Gram per Ton-Mile Emission Factors

In some cases, it can be helpful to express emission factors as grams emitted per ton-mile of freight hauled. However, this can also be very problematic because the amount of engine work required for each ton-mile varies significantly with a variety of factors. For example, it takes more work to haul freight through mountainous terrain than across flat areas. Since EPA does not have detailed information about these variations, we cannot provide accurate g/ton-mile emission rates. However, very approximate national average values can be calculated based on data collected by the Association of American Railroads for revenue ton-miles and fuel consumption, which show that about one gallon of fuel is consumed by the railroads to haul 400 tons-miles of freight. Thus dividing g/gal emission rates by 400 ton-miles/gal gives approximate g/ton-mile emission rates.

Emission Inventory Estimation

Total emissions can be calculated by multiplying the emission factors (in g/gal) by the fuel consumption rates (in million-gal/yr) to give annual emission rates (in metric tons per year). Multiplying this metric estimate by 1.102 gives standard U.S. tons (or short tons) per year.

EPA has estimated that locomotives consume approximately 4 billion gallons of diesel fuel each year. This includes national/regional freight service, switching, local freight service, and passenger service. The relative amounts of fuel used in the United States for these four different types of operation are shown in Table 4. The great majority of fuel consumed by locomotives each year is used in line-haul freight service by the largest railroads. Smaller amounts are also used in

switching and passenger service, and by very small railroads. For the purpose of this fact sheet, we are aggregating the largest railroads with smaller railroads that are fully subject to EPA's emission requirements. This includes regional railroads as well as other railroads such as those that are owned by large businesses. The local freight category includes only those railroads that meet our regulatory definition of "small railroad" (40 CFR 1033.901) to qualify for small business allowances under our regulations. These railroads are included in this fact sheet as local whether or not they are truly local in nature. The passenger category includes local commuter railroads and AMTRAK.

Table 4 - Locomotive Fuel Consumption by Service Category	
National and Regional Freight Line-haul	88%
National Freight Switching	7%
Local Freight	<2%
Passenger	3%

Other Pollutants

The preceding emission factors include those pollutants for which EPA has set emission standards. However, other pollutants may also be of interest.

The broad category of volatile organic compounds (VOC) is a slightly different way of aggregating the organic pollutants controlled by our HC emission standards. In our rulemaking analysis (http://www.epa.gov/otaq/regs/nonroad/420r08001a.pdf), we estimated that VOC emissions can be assumed to be equal to 1.053 times the HC emissions. Similarly, PM emissions can be expressed as PM_{10} (which includes all particles up to 10 microns in diameter) or $PM_{2.5}$ (which includes only those particles up to 2.5 microns in diameter). $PM_{2.5}$ emissions can be estimated as 0.97 times the PM_{10} emissions, meaning that nearly all of the PM is less than 2.5 microns in diameter.

Gram per gallon emissions of sulfur dioxide (SO_2) and carbon dioxide (CO_2) are largely independent of engine parameters and are primarily dependent on fuel properties. Locomotive-specific emission rates are not presented here. Instead, SO_2 and CO_2 emission rates should be calculated based on the properties of the specific fuel being used by the locomotives. These emission rates can also be assumed to be the same as for other diesel engines operating on similar fuel. Note that special caution should be used when estimating SO_2 emission rates since the sulfur content of diesel fuel varies much more than the carbon content. Also, while the vast majority of sulfur in the fuel is typically converted to SO_2, up to 5 percent of the sulfur is oxidized further to sulfate (and forms particulate matter), so that the fraction of fuel sulfur emitted as SO_2 may be as low as 95 percent. Examples of these calculations are shown below based on inputs described in the NONROAD technical document NR-009c (http://www.epa.gov/otaq/models/nonrdmdl/nonrdmdl2004/420p04009.pdf).

SO_2 (g/gal) = (fuel density) × (conversion factor) × (64 g SO_2/32 g S) × (S content of fuel)

Consider the example where the density of diesel fuel is 3200 g/gal, the fraction of fuel sulfur converted to SO_2 is 97.8 percent, and the sulfur content of the fuel is 300 ppm.

SO_2 (g/gal) = (3200) × (0.978) × (2.00) × (300 x 10^{-6}) = 1.88 g/gal

CO_2 (g/gal) = (fuel density) × (44 g CO_2/12 g C) × (C content of fuel)

Consider the example where the density of diesel fuel is 3200 g/gal and the carbon content of the fuel is 87 percent by mass.

CO_2 (g/gal) = (3200) × (3.67) × (0.87) = 10,217 g/gal

Other trace pollutants such as N_2O, methane, and many air toxics are more dependent on engine parameters. At this time, however, EPA does not have detailed emission rates for these pollutants from locomotives. Where estimates are needed for N_2O or methane, you may assume that emissions of these pollutants from locomotives are similar to those of other diesel engines with similar technology. For N_2O, you may assume the emissions are proportional to total NOx. For methane, you may assume the emissions are proportional to total hydrocarbons. Note however, that the presence of catalyzed components in the exhaust can significantly affect these ratios. So it is best to compare emissions from uncatalyzed locomotives to emissions from other uncatalyzed diesel engines. While this same approach could be used for air toxics (assuming that air toxic emissions are proportional to total hydrocarbons), EPA has estimated air toxic emissions from locomotives. These estimates are described in the National Emission Inventory documentation (see ftp://ftp.epa.gov/EmisInventory/2002finalnei/documentation/mobile/2002nei_mobile_nonroad_methods.pdf - appendix C).

Projected Future Emission Factors

Tables 5-7 give the expected fleet average NOx, PM_{10}, and HC emission factors by calendar year for the four categories of locomotives (the same four categories as are shown in Table 4). The steady decline in these emission factors reflects the penetration of the various tiers of locomotives into the fleet over time. More detail regarding the assumptions on which these projections were based can be found in the Regulatory Impact Analysis for the 2008 rulemaking (http://www.epa.gov/otaq/regs/nonroad/420r08001a.pdf)

For More Information

You can access the rule and related documents on EPA's Office of Transportation and Air Quality (OTAQ) Web site at: www.epa.gov/otaq/locomotives.htm.

For more information on this rule, please contact the Assessment and Standards Division information line at:

U.S. Environmental Protection Agency
Office of Transportation and Air Quality
2000 Traverwood Drive
Ann Arbor, MI 48105
Voicemail: (734) 214-4636
E-mail: asdinfo@epa.gov

Table 5 – NOx Emission Factors (g/gal)

Calendar Year	Large Line-haul	Large Switch	Small Railroads	Passenger/Commuter	Overall Average
2006	180	250	242	244	188
2007	175	249	242	229	183
2008	169	243	242	214	177
2009	165	241	242	200	172
2010	157	236	242	183	165
2011	149	235	242	167	157
2012	144	227	242	157	152
2013	139	225	242	147	147
2014	135	217	242	138	143
2015	129	215	240	131	137
2016	121	208	239	119	129
2017	114	206	237	112	122
2018	108	202	236	105	117
2019	103	200	233	98	112
2020	99	187	231	93	107
2021	94	185	228	88	102
2022	89	177	225	83	97
2023	84	172	223	78	92
2024	79	162	220	73	87
2025	74	150	217	68	81
2026	69	144	215	64	77
2027	65	138	212	60	72
2028	61	132	209	56	68
2029	57	126	206	52	64
2030	53	119	203	49	60
2031	49	112	200	46	56
2032	46	105	197	42	52
2033	43	98	193	39	49
2034	40	91	190	36	46
2035	37	84	187	33	43
2036	35	77	184	30	40
2037	33	71	180	28	38
2038	31	67	177	26	36
2039	29	63	174	24	34
2040	28	60	171	23	32

Table 6 – PM_{10} Emission Factors (g/gal)

Calendar Year	Large Line-haul	Large Switch	Small Railroads	Passenger/Commuter	Overall Average
2006	6.4	6.5	6.5	6.5	6.4
2007	6.3	6.5	6.5	6.4	6.3
2008	5.1	5.5	5.7	5.1	5.1
2009	4.9	5.5	5.7	5.0	4.9
2010	4.7	5.4	5.7	4.8	4.7
2011	4.4	5.3	5.7	4.5	4.5
2012	4.1	5.1	5.7	4.2	4.2
2013	3.8	5.0	5.6	3.9	3.9
2014	3.6	4.8	5.6	3.6	3.7
2015	3.4	4.8	5.5	3.4	3.5
2016	3.1	4.6	5.5	3.1	3.3
2017	2.9	4.5	5.4	2.8	3.0
2018	2.7	4.4	5.4	2.6	2.8
2019	2.5	4.4	5.4	2.3	2.6
2020	2.3	4.1	5.3	2.1	2.5
2021	2.2	4.0	5.3	2.0	2.4
2022	2.0	3.9	5.3	1.8	2.2
2023	1.9	3.7	5.2	1.7	2.1
2024	1.7	3.5	5.2	1.5	1.9
2025	1.6	3.2	5.1	1.4	1.8
2026	1.5	3.1	5.1	1.2	1.6
2027	1.4	3.0	5.1	1.1	1.5
2028	1.3	2.8	5.0	1.0	1.4
2029	1.1	2.7	5.0	0.9	1.3
2030	1.0	2.5	4.9	0.8	1.2
2031	1.0	2.4	4.8	0.7	1.1
2032	0.9	2.2	4.8	0.7	1.0
2033	0.8	2.1	4.7	0.6	0.9
2034	0.7	1.9	4.6	0.6	0.9
2035	0.7	1.7	4.6	0.5	0.8
2036	0.6	1.6	4.5	0.5	0.7
2037	0.6	1.5	4.4	0.4	0.7
2038	0.5	1.4	4.4	0.4	0.6
2039	0.5	1.3	4.3	0.4	0.6
2040	0.4	1.2	4.2	0.3	0.5

Table 7 - HC Emission Factors (g/gal)

Calendar Year	Large Line-haul	Large Switch	Small Railroads	Passenger/Commuter	Overall Average
2006	9.5	15.0	11.7	9.7	10.0
2007	9.3	15.0	11.7	9.5	9.8
2008	9.0	14.5	11.7	9.3	9.5
2009	8.7	14.5	11.7	9.1	9.1
2010	8.3	14.1	11.7	8.6	8.8
2011	7.7	14.0	11.7	8.1	8.2
2012	7.1	13.3	11.7	7.5	7.6
2013	6.5	13.3	11.7	6.9	7.1
2014	6.1	12.7	11.7	6.3	6.7
2015	5.7	12.6	11.7	5.8	6.3
2016	5.1	12.0	11.7	5.2	5.7
2017	4.6	11.8	11.7	4.6	5.2
2018	4.2	11.5	11.7	4.1	4.8
2019	3.9	11.4	11.7	3.5	4.5
2020	3.6	10.5	11.7	3.1	4.2
2021	3.4	10.4	11.7	2.9	4.0
2022	3.2	9.8	11.7	2.7	3.8
2023	3.0	9.5	11.7	2.4	3.6
2024	2.8	8.9	11.7	2.2	3.4
2025	2.6	8.0	11.7	2.0	3.1
2026	2.5	7.6	11.7	1.8	2.9
2027	2.3	7.3	11.7	1.6	2.8
2028	2.1	6.9	11.7	1.5	2.6
2029	2.0	6.5	11.7	1.3	2.4
2030	1.9	6.2	11.7	1.2	2.3
2031	1.7	5.8	11.7	1.1	2.2
2032	1.6	5.5	11.7	1.0	2.0
2033	1.5	5.1	11.7	0.9	1.9
2034	1.4	4.7	11.7	0.8	1.8
2035	1.3	4.4	11.7	0.7	1.7
2036	1.2	4.0	11.7	0.7	1.6
2037	1.2	3.7	11.7	0.6	1.5
2038	1.1	3.6	11.7	0.6	1.4
2039	1.1	3.4	11.7	0.5	1.4
2040	1.0	3.2	11.7	0.5	1.3