

**Appendix C**

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Air Quality

## APPENDIX C AIR QUALITY

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### Introduction

The Air Quality Appendix C to the Seaport Square DPIR/DEIR provides modeling assumptions and backup for results presented in Section 4.6 of the report. Included within this documentation is a brief description of the methodology employed along with modeling outputs for the EPA MOBILE6 emission model and EPA AERMOD model.

### Motor Vehicle Emissions

The EPA MOBILE6.2 computer program generated motor vehicle emissions used in the garage analysis along with the CAL3QHC modeling. The model input parameters were provided by MassDEP via e-mail from Marc Bennett on May 4, 2009. Emission rates were derived for 2009 and 2015 for speed limits of 2.5, 10, 15, and 30 mph for use in the mesoscale and microscale analyses. The 10 mph rate was used to estimate parking garage emissions.

### CAL3QHC

For the intersections studied, the CAL3QHC model was applied to calculate CO concentrations at sensitive receptor locations using emission rates derived in MOBILE6.2. The intersection's queue links and free flow links were input to the model along with sensitive receptors at all locations nearby each intersection. The meteorological assumptions input into the model were a 1.0 meter per second wind speed, Pasquill-Gifford Class D stability combined with a mixing height of 1000 meters. For each direction, the full range of wind directions at 10 degree intervals was examined. In addition, a surface roughness ( $z_0$ ) of 321 cm was used. Idle emission rates for queue links were based on 2.5 mph emission rates derived in MOBILE6.2 and converted from grams per mile to grams per hour. Emission rates for speeds of 10, 15, and 30 mph were used for free flow links and turn movements.

### AERMOD

The EPA AERMOD model was used to calculate air quality impacts due to the parking garage vents, heating combustion boilers, emergency generators, and cooling towers. For non-combustion sources, ambient temperature releases were assumed; otherwise temperatures from the exhaust gas were used. Urban dispersion coefficients were used. Building downwash was accounted for in the modeling based on the building heights and projected widths of the buildings. The maximum modeled impacts from the garage vents and the stack sources were conservatively added to monitored background values for comparison to the NAAQS.

### Emissions

Emissions for the heating combustion units were calculated using the latest DEP emission limits for boilers based on the Boiler Environmental Results Program (ERP). Emissions for the emergency generator were obtained from vendor information for a similar size unit. The resulting hourly emission rate in pounds per hour were converted to grams per second and input to the AERMOD model. For the NAAQS analysis, a similar approach was conducted for SO<sub>2</sub>, NO<sub>x</sub>, PM-10, and PM-2.5. The emergency generator emissions were calculated based on a g/bhp-hr emission factor provided by vendor information for typical size units.

**Boiler, Cooling Tower, Emergency  
Generator and Garage Exhaust Vent Emissions Calculations**

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Seaport Square Stationary Source Emissions Calculations

Seaport Square - Calculation of Modeling Emission Rates

Heating Boilers

Block Name	A	B	C	D	F(Park)	G	H	J	K	L1
Phase	1	1	1	1	1	1	1	1	2	2
Model	"C"	"B"	"B"	"A"	N/A	"B"	"C"	"C"	"A"	"B"
Qty.	2	8	6	6	0	6	1	2	5	7
Heat Input (MMBTU/hr) (ea)	1.5	3.0	3.0	2.0	0.0	3.0	1.5	1.5	2.0	3.0
Boiler Emission Rates										
NOx (g/s ea.)	0.0066	0.0132	0.0132	0.0088	0.0000	0.0132	0.0066	0.0066	0.0088	0.0132
CO (g/s ea.)	0.0151	0.0302	0.0302	0.0202	0.0000	0.0302	0.0151	0.0151	0.0202	0.0302
VOC (g/s ea.)	0.0057	0.0113	0.0113	0.0076	0.0000	0.0113	0.0057	0.0057	0.0076	0.0113
PM-10/PM-2.5 (g/s ea.)	0.0019	0.0038	0.0038	0.0025	0.0000	0.0038	0.0019	0.0019	0.0025	0.0038
SO2 (g/s ea.)	0.0001	0.0002	0.0002	0.0002	0.0000	0.0002	0.0001	0.0001	0.0002	0.0002
CO2 (g/s ea.)	21.8072	43.6144	43.6144	29.0763	0.0000	43.6144	21.8072	21.8072	29.0763	43.6144
Stack Parameters (each unit)										
Gas Exit Temp (°F)	170	170	170	170	0	170	170	170	170	170
Exhaust air (CFM)	743.22	1486.44	1486.44	990.96	0	1486.44	743.22	743.22	990.96	1486.44
Gas Exit Velocity (fps)	63.09	45.42	45.42	47.31	0	45.42	63.09	63.09	47.31	45.42
Primary Building Height (ft)	75.00	250.00	250.00	250.00	0	250.00	102.00	42.00	150.00	250.00
Stack Height (ft) (10' above roofline)	85.00	260.00	260.00	260.00	10.00	260.00	112.00	52.00	160.00	260.00
Stack Diameter (in.)	6	10	10	8	0	10	6	6	8	10

Cooling Towers

Project "Block"	A	B	C	D	F(Park)	G	H	J	K	L1
Project Phase	1	1	1	1	1	1	1	1	2	2
# of CTs	1	2	2	1	0	2	1	1	2	2
CT Designation	"C"	"A"	"B"	"A"	N/A	"A"	"C"	"C"	"B"	"B"
Model	NC8405NAN1	NC8412VLN1	NC8409ULN1	NC8412VLN1	N/A	NC8412VLN1	NC8405NAN1	NC8405NAN1	NC8409ULN1	NC8409ULN1
Cooling Tower Specs (per tower)										
Cooling Tower Exhaust Flow (cfm)	87280	266100	194800	266100	0	266100	87280	87280	194800	194800
Cooling Tower Exhaust Flow (kg/s)	45.9	140.0	102.5	140.0	0	140.0	45.9	45.9	102.5	102.5
Cooling Tower Exhaust Temp (°F)	88.14	89.73	88.68	89.73	0	89.73	88.14	88.14	88.68	88.68
Cooling Tower Stack Diameter (ft)	9	12	12	12	0	12	9	9	12	12
Cooling Tower Stack Velocity (fps)	22.87	39.21	28.71	39.21	0	39.21	22.87	22.87	28.71	28.71
Tower Overall Dimensions (width, length, height of stack exit) (ft)	19.917W x9.896L x 11.979H	22.42W x13.90L x 18.82H	22.42W x13.90L x 12.00H	22.42W x13.90L x 18.82H	N/A	22.42W x13.90L x 18.82H	19.917W x9.896L x 11.979H	19.917W x9.896L x 11.979H	22.42W x13.90L x 12.00H	22.42W x13.90L x 12.00H
CT Stack Height (ft) (above roofline)	11.979	18.82	12	18.82	0	18.82	11.979	11.979	12	12
Primary Building Height (ft)	75.00	250.00	250.00	250.00	0	250.00	102.00	42.00	150.00	250.00
CT Stack Height (ft)	86.98	268.82	262.00	268.82	0.00	268.82	113.98	53.98	162.00	262.00
Number of cells	1	1	1	1	0	1	1	1	1	1
Cooling Tower Drift										
Drift Rate (% of circ water)	0.001	0.001	0.001	0.001	0	0.001	0.001	0.001	0.001	0.001
Circulating Water Rate (gph)	49,500	177,300	117,000	177,300	0	177,300	49,500	49,500	117,000	117,000
Circulating Water Rate (gpm)	825	2,955	1,950	2,955	0	2,955	825	825	1,950	1,950
TDS+TSS concentration in drift (mg/L)	1,500	1,500	1,500	1,500	0	1,500	1,500	1,500	1,500	1,500
PM emission rate in drift (lb/hr)	0.006	0.022	0.015	0.022	0	0.022	0.006	0.006	0.015	0.015
PM emission rate in drift (g/s)	0.00078	0.00280	0.00185	0.00280	0	0.00280	0.00078	0.00078	0.00185	0.00185

Seaport Square Stationary Source Emissions Calculations

Seaport Square - Calculation of Modeling

Heating Boilers

Block Name	L2	L3	L4	L5	L6	M1	M2	N	P	Q	Emission rates	
Phase	2	2	2	2	2	2	2	2	2	2		
Model	"B"	"A"	"A"	"A"	"A"	"B"	"B"	"B"	"B"	"A"		
Qty.	6	3	4	5	3	6	4	4	6	3		
Heat Input (MMBTU/hr) (ea)	3.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	2.0		
Boiler Emission Rates												
NOx (g/s ea.)	0.0132	0.0088	0.0088	0.0088	0.0088	0.0132	0.0132	0.0132	0.0132	0.0088	0.035	ERP limits
CO (g/s ea.)	0.0302	0.0202	0.0202	0.0202	0.0202	0.0302	0.0302	0.0302	0.0302	0.0202	0.080	ERP limits
VOC (g/s ea.)	0.0113	0.0076	0.0076	0.0076	0.0076	0.0113	0.0113	0.0113	0.0113	0.0076	0.030	ERP limits
PM-10/PM-2.5 (g/s ea.)	0.0038	0.0025	0.0025	0.0025	0.0025	0.0038	0.0038	0.0038	0.0038	0.0025	0.010	ERP limits Assume PM10=PM
SO2 (g/s ea.)	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0006	AP42 Table 1.4-2
CO2 (g/s ea.)	43.6144	29.0763	29.0763	29.0763	29.0763	43.6144	43.6144	43.6144	43.6144	29.0763	115.385	AP42 Table 1.4-2
Stack Parameters (each unit)												
Gas Exit Temp (°F)	170	170	170	170	170	170	170	170	170	170		
Exhaust air (CFM)	1486.44	990.96	990.96	990.96	990.96	1486.44	1486.44	1486.44	1486.44	990.96		
Gas Exit Velocity (fps)	45.42	47.31	47.31	47.31	47.31	45.42	45.42	45.42	45.42	47.31		
Primary Building Height (ft)	250.00	150.00	200.00	250.00	250.00	250.00	250.00	250.00	250.00	102.00		
Stack Height (ft) (10' above roofline)	260.00	160.00	210.00	260.00	260.00	260.00	260.00	260.00	260.00	112.00		
Stack Diameter (in.)	10	8	8	8	8	10	10	10	10	8		

Cooling Towers

Project "Block"	L2	L3	L4	L5	L6	M1	M2	N	P	Q	Emission rates	
Project Phase	2	2	2	2	2	2	2	2	2	2		
# of CTs	2	1	1	2	1	2	1	1	2	1		
CT Designation	"B"	"A"	"A"	"B"	"A"	"A"	"A"	"A"	"A"	"B"		
Model	NC8409ULN1	NC8412VLN1	NC8412VLN1	NC8409ULN1	NC8412VLN1	NC8412VLN1	NC8412VLN1	NC8412VLN1	NC8412VLN1	NC8409ULN1		
Cooling Tower Specs (per tower)												
Cooling Tower Exhaust Flow (cfm)	194800	266100	266100	194800	266100	266100	266100	266100	266100	194800		
Cooling Tower Exhaust Flow (kg/s)	102.5	140.0	140.0	102.5	140.0	140.0	140.0	140.0	140.0	102.5		
Cooling Tower Exhaust Temp (°F)	88.68	89.73	89.73	88.68	89.73	89.73	89.73	89.73	89.73	88.68		
Cooling Tower Stack Diameter (ft)	12	12	12	12	12	12	12	12	12	12		
Cooling Tower Stack Velocity (fps)	28.71	39.21	39.21	28.71	39.21	39.21	39.21	39.21	39.21	28.71		
Tower Overall Dimensions (width, length, height of stack exit) (ft)	22.42W x13.90L x 12.00H	22.42W x13.90L x 18.82H	22.42W x13.90L x 18.82H	22.42W x13.90L x 12.00H	22.42W x13.90L x 18.82H	22.42W x13.90L x 18.82H	22.42W x13.90L x 18.82H	22.42W x13.90L x 18.82H	22.42W x13.90L x 18.82H	22.42W x13.90L x 12.00H		
CT Stack Height (ft) (above roofline)	12	18.82	18.82	12	18.82	18.82	18.82	18.82	18.82	12		
Primary Building Height (ft)	250.00	150.00	200.00	250.00	180.00	250.00	250.00	238.00	270.00	102.00		
CT Stack Height (ft)	262.00	168.82	218.82	262.00	198.82	268.82	268.82	256.82	288.82	114.00		
Number of cells	1	1	1	1	1	1	1	1	1	1		
Cooling Tower Drift												
Drift Rate (% of circ water)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001		
Circulating Water Rate (gph)	117,000	177,300	177,300	117,000	177,300	177,300	177,300	177,300	177,300	117,000		
Circulating Water Rate (gpm)	1,950	2,955	2,955	1,950	2,955	2,955	2,955	2,955	2,955	1,950		
TDS+TSS concentration in drift (mg/L)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500		
PM emission rate in drift (lb/hr)	0.015	0.022	0.022	0.015	0.022	0.022	0.022	0.022	0.022	0.015		
PM emission rate in drift (g/s)	0.00185	0.00280	0.00280	0.00185	0.00280	0.00280	0.00280	0.00280	0.00280	0.00185		

Seaport Square Stationary Source Emissions Calculations

Emergency Engines

	A	B	C	D	F(Park)	G	H	J	K	L1
Project "Block"										
Project Phase	1	1	1	1	1	1	1	1	2	2
Generator Designation	GS-2	GS-6	GS-8	GS-5	N/A	GS-7	GS-1	GS-4	GS-5	GS-5
Generator Size (kW)	400	750	1000	700	0	900	150	600	700	700
100% load fuel consumption (gph)	31.9	53.5	74.3	50.3	0	66.5	11.8	42.7	50.3	50.3
Heat Input (MMBTU/hr)	4.3703	7.3295	10.1791	6.8911	0	9.1105	1.6166	5.8499	6.8911	6.8911
Emission Factors										
NOx (g/BHP-hr)	3.49	5.32	4.82	5.33	0	4.74	3	5.84	5.33	5.33
CO (g/BHP-hr)	0.35	0.24	0.19	0.28	0	0.17	2.6	0.48	0.28	0.28
VOC (g/BHP-hr)	0.04	0.03	0.01	0.03	0	0.02	1	0.01	0.03	0.03
PM10/PM2.5 (g/BHP-hr)	0.034	0.022	0.023	0.025	0	0.022	0.15	0.035	0.025	0.025
SO2 (lb/mmBTU)	0.29	0.29	0.29	0.29	0	0.29	0.29	0.29	0.29	0.29
HAPs (lb/mmBTU)	0.004	0.004	0.004	0.004	0	0.004	0.004	0.004	0.004	0.004
CO2 (lb/mmBTU)	164	164	164	164	0	164	164	164	164	164
Emission Rates										
Short Term										
NOx (g/s)	1.666	4.260	5.360	4.013	0	4.718	0.530	3.732	4.013	4.013
CO (g/s)	0.167	0.192	0.211	0.211	0	0.169	0.459	0.307	0.211	0.211
VOC (g/s)	0.019	0.024	0.011	0.023	0	0.020	0.177	0.006	0.023	0.023
PM10/PM2.5 (g/s)	0.016	0.018	0.026	0.019	0	0.022	0.026	0.022	0.019	0.019
SO2 (g/s)	0.160	0.268	0.372	0.252	0	0.333	0.059	0.214	0.252	0.252
HAPs (g/s)	0.002	0.004	0.005	0.003	0	0.004	0.001	0.003	0.003	0.003
CO2 (g/s)	90.306	151.453	210.336	142.395	0	188.255	33.405	120.880	142.395	142.395
Long Term (300 hr/yr)										
NOx (g/s)	0.05707	0.14589	0.18357	0.13743	0	0.16158	0.01815	0.12782	0.13743	0.13743
CO (g/s)	0.00572	0.00658	0.00724	0.00722	0	0.00579	0.01573	0.01051	0.00722	0.00722
VOC (g/s)	0.00065	0.00082	0.00038	0.00077	0	0.00068	0.00065	0.00022	0.00077	0.00077
PM10/PM2.5 (g/s)	0.00056	0.00060	0.00088	0.00064	0	0.00075	0.00091	0.00077	0.00064	0.00064
SO2 (g/s)	0.00547	0.00917	0.01274	0.00862	0	0.01140	0.00202	0.00732	0.00862	0.00862
HAPs (g/s)	0.00007	0.00012	0.00017	0.00011	0	0.00015	0.00003	0.00010	0.00011	0.00011
CO2 (g/s)	3.09267	5.18676	7.20330	4.87653	0	6.44710	1.14400	4.13971	4.87653	4.87653
Stack Parameters										
Exhaust Temperature (°F)	909.9	949.8	964.9	964.6	0	912.9	853.9	994.3	964.6	964.6
Exhaust Flow (ACFM)	3655.1	5646.8	8387.2	5283.1	0	7589.1	1,112.0	4781.6	5283.1	5283.1
Flange Diameter (in)	6	8	8	8	0	8	N/A	8	8	8
Maximum Backpressure (in. H2O)	27.3	40.2	40.2	40.2	0	40.2	59.8	40.2	40.2	40.2
Maximum velocity (fpm)	16415.94	20208.39	20316.33	20314.19	0	19942.17	23794.23	20524.85	20314.19	20314.19
Flow area required (sq ft)	0.22	0.28	0.41	0.26	0	0.38	0.05	0.23	0.26	0.26
Selected silencer diameter (in)	10	12	14	12	0	14	6	12	12	12
Actual silencer opening area (sq ft)	0.545	0.785	1.069	0.785	0	1.069	0.196	0.785	0.785	0.785
Actual velocity (fpm)	6701.498	7189.729	7845.733	6726.652	0	7099.158	5663.369	6088.122	6726.652	6726.652
Actual velocity (fps)	111.692	119.829	130.762	112.111	0	118.319	94.389	101.469	112.111	112.111
Primary Building Height (ft)	75.00	250.00	250.00	250.00	0	250.00	102.00	42.00	150.00	250.00
Stack Height (ft) (10' above roofline)	85.00	260.00	260.00	260.00	10.00	260.00	112.00	52.00	160.00	260.00

Seaport Square Stationary Source Emissions Calculations

**Emergency Engines**

	L2	L3	L4	L5	L6	M1	M2	N	P	Q
Project "Block"										
Project Phase	2	2	2	2	2	2	2	2	2	2
Generator Designation	GS-5	GS-8	GS-6	GS-6	GS-6	GS-8	GS-5	GS-3	GS-7	GS-2
Generator Size (kW)	700	1000	750	750	750	800	700	500	900	400
100% load fuel consumption (gph)	50.3	74.3	53.5	53.5	53.5	57.2	50.3	36.6	66.5	31.9
Heat Input (MMBTU/hr)	6.8911	10.1791	7.3295	7.3295	7.3295	7.8364	6.8911	5.0142	9.1105	4.3703
<b>Emission Factors</b>										
NOx (g/BHP-hr)	5.33	4.82	5.32	5.32	5.32	5.26	5.33	5.74	4.74	3.49
CO (g/BHP-hr)	0.28	0.19	0.24	0.24	0.24	0.23	0.28	0.4	0.17	0.35
VOC (g/BHP-hr)	0.03	0.01	0.03	0.03	0.03	0.03	0.03	0.01	0.02	0.04
PM10/PM2.5 (g/BHP-hr)	0.025	0.023	0.022	0.022	0.022	0.024	0.025	0.018	0.022	0.034
SO2 (lb/mmBTU)	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
HAPs (lb/mmBTU)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
CO2 (lb/mmBTU)	164	164	164	164	164	164	164	164	164	164
<b>Emission Rates</b>										
<b>Short Term</b>										
NOx (g/s)	4.013	5.360	4.260	4.260	4.260	4.503	4.013	3.144	4.718	1.666
CO (g/s)	0.211	0.211	0.192	0.192	0.192	0.197	0.211	0.219	0.169	0.167
VOC (g/s)	0.023	0.011	0.024	0.024	0.024	0.023	0.023	0.005	0.020	0.019
PM10/PM2.5 (g/s)	0.019	0.026	0.018	0.018	0.018	0.021	0.019	0.010	0.022	0.016
SO2 (g/s)	0.252	0.372	0.268	0.268	0.268	0.286	0.252	0.183	0.333	0.160
HAPs (g/s)	0.003	0.005	0.004	0.004	0.004	0.004	0.003	0.002	0.004	0.002
CO2 (g/s)	142.395	210.336	151.453	151.453	151.453	161.928	142.395	103.611	188.255	90.306
<b>Long Term (300 hr/yr)</b>										
NOx (g/s)	0.13743	0.18357	0.14589	0.14589	0.14589	0.15423	0.13743	0.10769	0.16158	0.05707
CO (g/s)	0.00722	0.00724	0.00658	0.00658	0.00658	0.00674	0.00722	0.00750	0.00579	0.00572
VOC (g/s)	0.00077	0.00038	0.00082	0.00082	0.00082	0.00088	0.00077	0.00019	0.00068	0.00065
PM10/PM2.5 (g/s)	0.00064	0.00088	0.00060	0.00060	0.00060	0.00070	0.00064	0.00034	0.00075	0.00056
SO2 (g/s)	0.00862	0.01274	0.00917	0.00917	0.00917	0.00981	0.00862	0.00627	0.01140	0.00547
HAPs (g/s)	0.00011	0.00017	0.00012	0.00012	0.00012	0.00013	0.00011	0.00008	0.00015	0.00007
CO2 (g/s)	4.87653	7.20330	5.18676	5.18676	5.18676	5.54547	4.87653	3.54833	6.44710	3.09267
<b>Stack Parameters</b>										
Exhaust Temperature (°F)	964.6	964.9	949.8	949.8	949.8	955	964.6	942.1	912.9	909.9
Exhaust Flow (ACFM)	5283.1	8387.2	5646.8	5646.8	5646.8	6045.9	5283.1	3842.2	7589.1	3655.1
Flange Diameter (in)	8	8	8	8	8	8	8	6	8	6
Maximum Backpressure (in. H2O)	40.2	40.2	40.2	40.2	40.2	40.2	40.2	27.3	40.2	27.3
Maximum velocity (fpm)	20314.19	20316.33	20208.39	20208.39	20208.39	20245.62	20314.19	16607.75	19942.17	16415.94
Flow area required (sq ft)	0.26	0.41	0.28	0.28	0.28	0.30	0.26	0.23	0.38	0.22
Selected silencer diameter (in)	12	14	12	12	12	14	12	10	14	10
Actual silencer opening area (sq ft)	0.785	1.069	0.785	0.785	0.785	1.069	0.785	0.545	1.069	0.545
Actual velocity (fpm)	6726.652	7845.733	7189.729	7189.729	7189.729	5655.585	6726.652	7044.539	7099.158	6701.498
Actual velocity (fps)	112.111	130.762	119.829	119.829	119.829	94.260	112.111	117.409	118.319	111.692
Primary Building Height (ft)	250.00	150.00	200.00	250.00	180.00	250.00	250.00	238.00	270.00	102.00
Stack Height (ft) (10' above roofline)	260.00	160.00	210.00	260.00	190.00	260.00	260.00	248.00	280.00	112.00

Seaport Square Stationary Source Emissions Calculations

Garage Exhaust Vents

	Garage B	Garage K	Garage L 2700 spaces, 5 levels, 3 under Parcels L1-L6, 2 at or above ground	Garage M 579 spaces, 3 levels, under Parcels M1 & M2	Garage N 355 spaces, 2 levels, under Parcels N&P	Garage A 28 spaces, 1 level, under Parcel A	total project spaces
total spaces	2387 spaces, 4 levels, under Parcels B-G	451 spaces, 3 levels, under Parcels K&Q	2700	579	355	28	<b>6500</b>
Residential spaces	835	90	880	358	0	11	
Hotel spaces	88	44	0	0	88	0	
Retail/commercial spaces	1464	317	1820	221	267	17	
# vehicles entering garage/hr	1714	357	2049	314	300	20	
Levels	4	3	3	3	2	1	
Footprint of garage (sq ft)	300500	73000	316000	125500	82800	17000	
Ungerground total area (sq ft)	1074300	203000	881200	261000	159600	14000	from Parking Summary 5/7/09
Number of vents	22	4	18	6	3	1	
Stack Exhaust Flow (acfm)	1611450	304500	1321800	391500	239400	21000	
Stack Exhaust Temperature (°F)	70	70	70	70	70	70	
outlet area per vent (sqft)	100	100	100	100	100	30	
effective diameter (ft)	11.28	11.28	11.28	11.28	11.28	6.18	
Stack Velocity (fps)	12.2	12.7	12.2	10.9	13.3	11.7	
Stack Velocity (fpm)	732.5	761.3	734.3	652.5	798.0	700.0	should be approx 700fpm for each louver Email 5/19/09
Stack height (ft)	10	10	10	10	10	10	email 5/20/09 louvers along vertical face of building - horizontal release
X-length (ft)	1350	420	725	450	375	100	
Y-length (ft)	220	135	440	275	160	270	
Per Level Distance Traveled (ft)	1570	555	1165	725	535	370	
Hourly garage mileage (VMT)	2038.621	112.577	1356.298	129.347	60.795	1.402	

Total Emissions

	Per Vent Emission Rates (2015)						2015 Emission Factors	
							M6.2 g/mile	
Composite VOC (g/s):	0.01065	0.00323	0.00866	0.00248	0.00233	0.00016	Composite VOC (g/mile):	0.414
Composite CO (g/s):	0.31166	0.09466	0.25343	0.07251	0.06816	0.00471	Composite CO (g/mile):	12.108
Composite NOX (g/s):	0.00832	0.00253	0.00677	0.00194	0.00182	0.00013	Composite NOX (g/mile):	0.323
Composite CO2 (g/s):	11.14760	3.38576	9.06463	2.59341	2.43791	0.16860	Composite CO2 (g/mile):	433.082
Total PM2.5 (g/s):	0.00029	0.00009	0.00024	0.00007	0.00006	0.000004	Total PM2.5 (g/mile):	0.011
Total PM10 (g/s):	0.00064	0.00019	0.00052	0.00015	0.00014	0.00001	Total PM10 (g/mile):	0.025
SO2 (g/s):	0.00020	0.00006	0.00016	0.00005	0.00004	0.000003	SO2 (g/mile):	0.008

Example Emissions Assumption.

The 2387-space garage is a 4 levels underground. The largest footprint is approximately 1350 feet by 220 feet. Total number of cars broken down into residential, hotel and commercial and assumed 26% of residential, 37% of hotel, and 100% of commercial/retail enter the garage in an hour. Assuming the cars entering and exiting each level of the garage travel approximately 1570 feet, a total trip of 458.5 miles is traveled on each floor (1570 feet x 1542 cars / 5,280 feet per mile). Therefore, if all of these spaces are either filled or vacated during the a.m. or p.m. peak hour, approximately 2038 miles will be driven in the garage during that peak hour.

Emission factor is assumed to be weighted average of 10 mph LDGV, LDGT<6000gw, LDDV, and MC. Higher of summer/winter values.

Parking Garage Emission Factor Calculations

summer 2015 10 mph

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh	
VMT Distribution:	0.2837	0.4219	0.1659			0.0367	0.0004	0.0016	0.0861	0.0037	1
Fuel Economy (mpg):	24.1	18.5	14.2	17.1	9.9	32.4	18.3	7.3	50	16.1	
-----											
Composite Emission Factors (g/ mi):											
Composite VOC :	0.421	0.365	0.435	0.385	0.654	0.539	0.33	0.602	5.39	0.442	
Composite CO :	4.89	4.69	4.97	4.77	14.16	2.109	0.891	1.706	36.49	4.996	
Composite NOX :	0.327	0.278	0.397	0.312	0.497	0.628	0.285	3.522	1	0.602	
Composite CO2 :	368	479.2	624.2	520.1	894	314.1	555.3	1397.6	177.4	564.97	
Total PM:	0.0113	0.0113	0.0113	0.0113	0.0222	0.0523	0.0296	0.065	0.0207	0.0164	
Total PM:	0.0248	0.0248	0.0248	0.0248	0.0372	0.0694	0.0447	0.0953	0.0372	0.0314	
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.013	0.0033	0.0092	

winter 2015 10 mph

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh	
VMT Distribution:	0.2873	0.4202	0.165			0.0363	0.0004	0.0016	0.0856	0.0037	1
Fuel Economy (mpg):	24.1	18.5	14.2	17.1	9.9	32.4	18.3	7.3	50	16.2	
-----											
Composite Emission Factors (g/ mi):											
Composite VOC :	0.368	0.348	0.46	0.38	0.692	0.53	0.342	0.611	4.82	0.424	
Composite CO :	12.87	11.41	11.37	11.4	18.23	2.077	0.906	1.813	33.28	11.31	
Composite NOX :	0.311	0.322	0.47	0.364	0.583	0.624	0.303	3.795	1.38	0.654	
Composite CO2 :	368	479.2	624.2	520.1	894	314.1	555.5	1398.5	177.4	563.82	
Total PM:	0.0113	0.0113	0.0113	0.0113	0.0229	0.0523	0.0308	0.068	0.0207	0.0167	
Total PM:	0.0248	0.0248	0.0248	0.0248	0.038	0.0694	0.046	0.0987	0.0372	0.0317	
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.013	0.0033	0.0092	

Summer garage vehicles :

	LDGV	LDGT12	LDDV	MC	SUM
actual fraction	0.2837	0.4219	0.0004	0.0037	0.7097
garage fraction	0.3997	0.5945	0.0006	0.0052	1
Composite EF					
Composite VOC :	0.421	0.365	0.539	5.39	0.414
Composite CO :	4.89	4.69	2.109	36.49	4.934
Composite NOX :	0.327	0.278	0.628	1	0.302
Composite CO2 :	368	479.2	314.1	177.4	433.082
Total PM2.5:	0.0113	0.0113	0.0523	0.0207	0.011
Total PM10:	0.0248	0.0248	0.0694	0.0372	0.025
SO2:	0.0066	0.0087	0.0029	0.0033	0.008

winter garage vehicles :

	LDGV	LDGT12	LDDV	MC	SUM
actual fraction	0.2873	0.4202	0.0004	0.0037	0.7116
garage fraction	0.4037	0.5905	0.0006	0.0052	1
Composite EF					
Composite VOC :	0.368	0.348	0.53	4.82	0.379
Composite CO :	12.87	11.41	2.077	33.28	12.108
Composite NOX :	0.311	0.322	0.624	1.38	0.323
Composite CO2 :	368	479.2	314.1	177.4	432.642
Total PM2.5:	0.0113	0.0113	0.0523	0.0207	0.011
Total PM10:	0.0248	0.0248	0.0694	0.0372	0.025
SO2:	0.0066	0.0087	0.0029	0.0033	0.008



\* MOBI LE6.2.03 (24-Sep-2003)
\* Input file: MA15\_ALL.INP (file 1, run 1).
\*\*\* Summer 2015 \*\*\*

\* Reading Registration Distributions from the following external

\* data file: 2005\_REG.D
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.999 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.999 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)

\* Reading I/M program description records from the following external

\* data file: 09NEWIM.D
\* 15 Year Exemption Age
\* New Annual OBD Exhaust I/M program for Light Duty MY 1996 through 2007 vehicles <=8,500 lb GVWR
\* New Annual OBD Exhaust I/M program for Light Duty and Medium duty MY 2008 and later <=14,000 lb GVWR
\* New Annual OBD Evap I/M program for Light Duty MY 1996 through 2007 vehicles <=8,500 lb GVWR
\* New Annual OBD Evap I/M program for Light Duty and Medium duty MY 2008 and later <=14,000 lb GVWR
M601 Comment:
User has enabled STAGE II REFUELING.

\* Reading 94+ LEV IMPLEMENTATION SCHEDULE from the following external

\* data file: MA\_LEV2.D
Reading User Supplied Tier2 Exhaust bin phase-in fractions
Data read from file: LEV2EXH.D
Reading User Supplied Tier2 EVAP phase-in fractions
Data read from file: LEV2EVAP.D
Reading User Supplied Tier2 50K certification standards
Data read from file: LEV2CERT.D
M616 Comment:
User has supplied post-1999 sulfur levels.
M614 Comment:
User supplied diesel sale fractions.

\* #####
\* 2015 DEFAULT SPEED - Summer, with PM2.5
\* File 1, Run 1, Scenario 1.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

\*\*\* I/M credits for Tech1&2 vehicles were read from the following external
data file: TECH12.D

M 48 Warning:
there are no sales for vehicle class HDGV8b
HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

\* Reading Ammonia (NH3) Basic Emission Rates
\* from the external data file PMNH3BER.D

\* Reading Ammonia (NH3) Sulfur Deterioration Rates
\* from the external data file PMNH3SDR.D

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2015
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2837	0.4219	0.1659	0.0367	0.0004	0.0016	0.0861	0.0037	1.0000	16.1
Fuel Economy (mpg):	24.1	18.5	14.2	17.1	9.9	32.4	18.3	7.3	50.0	16.1
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	0.273	0.233	0.278	0.246	0.329	0.334	0.195	0.282	3.65	0.272
Composite CO :	4.12	4.03	4.28	4.10	5.74	1.197	0.471	0.684	17.10	3.914
Composite NOX :	0.214	0.202	0.290	0.227	0.631	0.520	0.235	3.026	1.26	0.483
Composite CO2 :	368.1	479.2	624.3	520.2	894.0	314.1	555.4	1397.7	177.4	565.01

\* #####  
 \* 2015 Idle Scenario - Summer (multiply g/mi by 2.5 mph to get g/hr), with PM2.5  
 \* File 1, Run 1, Scenario 2.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 2.5  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M 48 Warning:  
 there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
 Calendar Year: 2015  
 Month: July  
 Altitude: Low  
 Minimum Temperature: 70.4 (F)  
 Maximum Temperature: 93.7 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2837	0.4219	0.1659	0.0367	0.0004	0.0016	0.0861	0.0037	1.0000	16.1
Fuel Economy (mpg):	24.1	18.5	14.2	17.1	9.9	32.4	18.3	7.3	50.0	16.1
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	1.983	1.544	1.689	1.585	2.320	0.712	0.444	0.873	11.94	1.700
Composite CO :	11.97	10.07	10.69	10.25	26.63	3.291	1.434	3.032	120.29	11.109
Composite NOX :	0.505	0.395	0.564	0.443	0.461	0.831	0.378	4.636	1.12	0.825
Composite CO2 :	368.0	479.2	624.2	520.1	894.0	314.1	555.3	1397.6	177.4	564.97

\* #####  
 \* 2015 10 mph Scenario - Summer, with PM2.5  
 \* File 1, Run 1, Scenario 3.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 10.0  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M 48 Warning:  
 there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
 Calendar Year: 2015  
 Month: July  
 Altitude: Low  
 Minimum Temperature: 70.4 (F)  
 Maximum Temperature: 93.7 (F)

Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* #####
\* 2015 15 mph Scenario - Summer, with PM2.5
\* File 1, Run 1, Scenario 4.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 15.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2015
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* #####
\* 2015 30 mph Scenario - Summer, with PM2.5
\* File 1, Run 1, Scenario 5.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 30.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2015
Month: July
Altitude: Low

Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* #####
\* 2015 Idle Scenario - Summer (multiply g/mi by 2.5 mph to get g/hr), with PM10
\* File 1, Run 1, Scenario 6.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 2.5 will be used for all hours of the day. 100% of VMT has been assigned to the arterial/collector roadway type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8B

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2015
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* #####
\* 2015 10 mph Scenario - Summer, with PM10
\* File 1, Run 1, Scenario 7.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 10.0 will be used for all hours of the day. 100% of VMT has been assigned to the arterial/collector roadway type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8B

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2015

Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12, LDGT34, LDGT, HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy, Composite Emission Factors, and various pollutants (VOC, CO, NOX, CO2).

\* #####
\* 2015 15 mph Scenario - Summer, with PM10
\* File 1, Run 1, Scenario 8.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 15.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2015
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12, LDGT34, LDGT, HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy, Composite Emission Factors, and various pollutants (VOC, CO, NOX, CO2).

\* #####
\* 2015 30 mph Scenario - Summer, with PM10
\* File 1, Run 1, Scenario 9.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 30.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2015
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, CO2.

\*\*\*\*\*
\* MOBILE6.2.03 (24-Sep-2003)
\* Input file: MA15\_ALL.INP (file 1, run 2).
\* \*\*\* Winter 2015 \*\*\*

\* Reading Registration Distributions from the following external

- \* data file: 2005\_REG.D
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
...
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)

\* Reading I/M program description records from the following external

- \* data file: 09NEWIM.D
\* 15 Year Exemption Age
\* New Annual OBD Exhaust I/M program for Light Duty MY 1996 through 2007 vehicles <=8,500 lb GVWR
\* New Annual OBD Exhaust I/M program for Light Duty and Medium duty MY 2008 and later <=14,000 lb GVWR
\* New Annual OBD Evap I/M program for Light Duty MY 1996 through 2007 vehicles <=8,500 lb GVWR
\* New Annual OBD Evap I/M program for Light Duty and Medium duty MY 2008 and later <=14,000 lb GVWR
M601 Comment: User has enabled STAGE II REFUELING.

\* Reading 94+ LEV IMPLEMENTATION SCHEDULE from the following external

- \* data file: MA\_LEV2.D
Reading User Supplied Tier2 Exhaust bin phase-in fractions
Data read from file: LEV2EXH.D
Reading User Supplied Tier2 EVAP phase-in fractions
Data read from file: LEV2EVAP.D
Reading User Supplied Tier2 50K certification standards
Data read from file: LEV2CERT.D
M616 Comment: User has supplied post-1999 sulfur levels.
M614 Comment: User supplied diesel sale fractions.

\* #####
\* 2015 DEFAULT SPEED - Winter, with PM2.5
\* File 1, Run 2, Scenario 1.
\* #####

- \* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV
\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV
\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV
\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M112 Warning:  
 Wintertime Reformulated Gasoline Rules Apply

\*\*\* I/M credits for Tech1&2 vehicles were read from the following external  
 data file: TECH12.D

M 48 Warning:  
 there are no sales for vehicle class HDGV8b

HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2015  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2873	0.4202	0.1650	17.1	0.0363	0.0004	0.0016	0.0856	0.0037	1.0000
Fuel Economy (mpg):	24.1	18.5	14.2	17.1	9.9	32.4	18.3	7.3	50.0	16.2
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	0.239	0.236	0.312	0.258	0.283	0.327	0.202	0.286	3.14	0.266
Composite CO :	11.87	10.52	10.40	10.48	7.39	1.172	0.479	0.726	16.82	9.940
Composite NOX :	0.231	0.243	0.356	0.275	0.739	0.516	0.250	3.263	1.76	0.540
Composite CO2 :	368.1	479.2	624.2	520.1	894.0	314.1	555.5	1398.6	177.4	563.87

\* #####  
 \* 2015 Idle Scenario - Winter (multiply g/mi by 2.5 mph to get g/hr), with PM2.5  
 \* File 1, Run 2, Scenario 2.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 2.5  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M112 Warning:  
 Wintertime Reformulated Gasoline Rules Apply

M 48 Warning:  
 there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2015  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2873	0.4202	0.1650	17.1	0.0363	0.0004	0.0016	0.0856	0.0037	1.0000
Fuel Economy (mpg):	24.1	18.5	14.2	17.1	9.9	32.4	18.3	7.3	50.0	16.2
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	1.806	1.448	1.661	1.508	2.356	0.701	0.461	0.886	11.13	1.605
Composite CO :	22.78	20.15	20.77	20.33	34.30	3.248	1.460	3.221	104.23	20.347
Composite NOX :	0.429	0.443	0.648	0.501	0.541	0.826	0.402	4.994	1.56	0.870
Composite CO2 :	368.0	479.2	624.2	520.1	894.0	314.1	555.5	1398.5	177.4	563.82

\* #####  
 \* 2015 10 mph Scenario - Winter, with PM2.5  
 \* File 1, Run 2, Scenario 3.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels

\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
\* from the external data file PMDDR2.CSV

M583 Warning:  
The user supplied arterial average speed of 10.0 will be used for all hours of the day. 100% of VMT has been assigned to the arterial/collector roadway type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
Calendar Year: 2015  
Month: Jan.  
Altitude: Low  
Minimum Temperature: 22.8 (F)  
Maximum Temperature: 38.3 (F)  
Absolute Humidity: 75. grains/lb  
Fuel Sulfur Content: 30. ppm  
Exhaust I/M Program: Yes  
Evap I/M Program: Yes  
ATP Program: No  
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12, LDGT34, LDGT, HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* #####  
\* 2015 15 mph Scenario - Winter, with PM2.5  
\* File 1, Run 2, Scenario 4.  
\* #####

\* Reading PM Gas Carbon ZML Levels  
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
\* from the external data file PMDDR2.CSV  
M583 Warning:  
The user supplied arterial average speed of 15.0 will be used for all hours of the day. 100% of VMT has been assigned to the arterial/collector roadway type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
Calendar Year: 2015  
Month: Jan.  
Altitude: Low  
Minimum Temperature: 22.8 (F)  
Maximum Temperature: 38.3 (F)  
Absolute Humidity: 75. grains/lb  
Fuel Sulfur Content: 30. ppm  
Exhaust I/M Program: Yes  
Evap I/M Program: Yes  
ATP Program: No  
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12, LDGT34, LDGT, HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* #####  
\* 2015 30 mph Scenario - Winter, with PM2.5  
\* File 1, Run 2, Scenario 5.  
\* #####

\* Reading PM Gas Carbon ZML Levels

\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 30.0  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2015  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm  
 Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2873	0.4202	0.1650	0.0363	0.0004	0.0016	0.0856	0.0037	1.0000	
Fuel Economy (mpg):	24.1	18.5	14.2	17.1	9.9	32.4	18.3	7.3	50.0	16.2
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	0.224	0.221	0.295	0.242	0.259	0.329	0.203	0.289	2.99	0.251
Composite CO :	11.14	9.80	9.65	9.76	6.19	1.105	0.447	0.646	14.76	9.250
Composite NOX :	0.220	0.233	0.344	0.264	0.695	0.432	0.209	2.655	1.64	0.477
Composite CO2 :	368.0	479.2	624.2	520.1	894.0	314.1	555.5	1398.5	177.4	563.82

\* #####  
 \* 2015 Idle Scenario - Winter (multiply g/mi by 2.5 mph to get g/hr), with PM10  
 \* File 1, Run 2, Scenario 6.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 2.5  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2015  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm  
 Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2873	0.4202	0.1650	0.0363	0.0004	0.0016	0.0856	0.0037	1.0000	
Fuel Economy (mpg):	24.1	18.5	14.2	17.1	9.9	32.4	18.3	7.3	50.0	16.2
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	1.806	1.448	1.661	1.508	2.356	0.701	0.461	0.886	11.13	1.605
Composite CO :	22.78	20.15	20.77	20.33	34.30	3.248	1.460	3.221	104.23	20.347
Composite NOX :	0.429	0.443	0.648	0.501	0.541	0.826	0.402	4.994	1.56	0.870
Composite CO2 :	368.0	479.2	624.2	520.1	894.0	314.1	555.5	1398.5	177.4	563.82

\* #####
\* 2015 10 mph Scenario - Winter, with PM10
\* File 1, Run 2, Scenario 7.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 10.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2015
Month: Jan.
Altitude: Low
Minimum Temperature: 22.8 (F)
Maximum Temperature: 38.3 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12, LDGT34, LDGT, HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution and Fuel Economy (mpg).

Table with 11 columns: Composite Emission Factors (g/mi), Composite VOC, Composite CO, Composite NOX, Composite CO2. Rows include various emission factors.

\* #####
\* 2015 15 mph Scenario - Winter, with PM10
\* File 1, Run 2, Scenario 8.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 15.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2015
Month: Jan.
Altitude: Low
Minimum Temperature: 22.8 (F)
Maximum Temperature: 38.3 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12, LDGT34, LDGT, HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution and Fuel Economy (mpg).

Composite Emission Factors (g/mi):

	MA15_MES.TXT									
Composite VOC :	0.295	0.284	0.376	0.310	0.497	0.455	0.290	0.490	3.89	0.341
Composite CO :	11.94	10.55	10.45	10.52	12.82	1.657	0.708	1.308	23.77	10.253
Composite NOX :	0.266	0.278	0.407	0.314	0.611	0.541	0.263	3.302	1.40	0.571
Composite CO2 :	368.0	479.2	624.2	520.1	894.0	314.1	555.5	1398.5	177.4	563.82

\* #####  
 \* 2015 30 mph Scenario - Winter, with PM10  
 \* File 1, Run 2, Scenario 9.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 30.0  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
 Calendar Year: 2015  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm  
 Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2873	0.4202	0.1650	0.0363	0.0004	0.0016	0.0856	0.0037	1.0000	
Fuel Economy (mpg):	24.1	18.5	14.2	17.1	9.9	32.4	18.3	7.3	50.0	16.2

Composite Emission Factors (g/mi):										
Composite VOC :	0.224	0.221	0.295	0.242	0.259	0.329	0.203	0.289	2.99	0.251
Composite CO :	11.14	9.80	9.65	9.76	6.19	1.105	0.447	0.646	14.76	9.250
Composite NOX :	0.220	0.233	0.344	0.264	0.695	0.432	0.209	2.655	1.64	0.477
Composite CO2 :	368.0	479.2	624.2	520.1	894.0	314.1	555.5	1398.5	177.4	563.82

\*\*\*\*\*  
 \* MOBILE6.2.03 (24-Sep-2003) \*  
 \* Input file: MA09\_ALL.INP (file 1, run 1). \*  
 \*\*\*\*\*

\* #####  
 \* 2009 DEFAULT SPEED - Summer, with PM2.5  
 \* File 1, Run 1, Scenario 1.  
 \* #####

Calendar Year: 2009										
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	LDLT	HDDV	MC	All Veh
GVWR:	<6000	<6000	>6000	(All)						
VMT Distribution:	0.3386	0.3823	0.1504		0.0368	0.0004	0.0014	0.0862	0.0039	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	0.0322	-----	-----	-----	0.0142	0.0044
ECARBON:	-----	-----	-----	-----	-----	0.0960	0.0211	0.1060	-----	0.0092
OCARBON:	-----	-----	-----	-----	-----	0.0271	0.0304	0.0530	-----	0.0046
SO4:	0.0003	0.0005	0.0005	0.0005	0.0016	0.0002	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0040	0.0041	0.0041	0.0041	0.0338	0.1233	0.0518	0.1599	0.0143	0.0188
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	0.0020	0.0010	0.0024
Total PM:	0.0114	0.0114	0.0114	0.0114	0.0413	0.1306	0.0592	0.1714	0.0206	0.0265
SO2:	0.0068	0.0088	0.0115	0.0095	0.0163	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1016	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* #####  
 \* 2009 Idle Scenario - Summer (multiply g/mi by 2.5 mph to get g/hr), with PM2.5  
 \* File 1, Run 1, Scenario 2.  
 \* #####

Calendar Year: 2009										
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	LDLT	HDDV	MC	All Veh
GVWR:	<6000	<6000	>6000	(All)						
VMT Distribution:	0.3386	0.3823	0.1504		0.0368	0.0004	0.0014	0.0862	0.0039	1.0000
-----										
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	-----	-----	-----	0.0000	0.0000
GASPM:	0.0036	0.0036	0.0035	0.0036	0.0324	-----	-----	-----	0.0142	0.0044
ECARBON:	-----	-----	-----	-----	-----	0.0960	0.0211	0.1060	-----	0.0092
OCARBON:	-----	-----	-----	-----	-----	0.0271	0.0304	0.0530	-----	0.0046
SO4:	0.0005	0.0006	0.0006	0.0006	0.0012	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0041	0.0042	0.0041	0.0042	0.0336	0.1233	0.0518	0.1599	0.0144	0.0188
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	0.0020	0.0010	0.0024
Total PM:	0.0115	0.0115	0.0115	0.0115	0.0411	0.1306	0.0592	0.1714	0.0207	0.0265
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* #####  
 \* 2009 10 mph Scenario - Summer, with PM2.5  
 \* File 1, Run 1, Scenario 3.  
 \* #####

Calendar Year: 2009										
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	LDLT	HDDV	MC	All Veh
GVWR:	<6000	<6000	>6000	(All)						
VMT Distribution:	0.3386	0.3823	0.1504		0.0368	0.0004	0.0014	0.0862	0.0039	1.0000
-----										
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	-----	-----	-----	0.0000	0.0000
GASPM:	0.0036	0.0036	0.0035	0.0036	0.0324	-----	-----	-----	0.0142	0.0044
ECARBON:	-----	-----	-----	-----	-----	0.0960	0.0211	0.1060	-----	0.0092
OCARBON:	-----	-----	-----	-----	-----	0.0271	0.0304	0.0530	-----	0.0046
SO4:	0.0005	0.0006	0.0006	0.0006	0.0012	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0041	0.0042	0.0041	0.0042	0.0336	0.1233	0.0518	0.1599	0.0144	0.0188
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	0.0020	0.0010	0.0024
Total PM:	0.0115	0.0115	0.0115	0.0115	0.0411	0.1306	0.0592	0.1714	0.0207	0.0265
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* #####  
 \* 2009 15 mph Scenario - Summer, with PM2.5

\* File 1, Run 1, Scenario 4.  
 \* #####

Calendar Year: 2009										
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:	0.3386	0.3823	0.1504		0.0368	0.0004	0.0014	0.0862	0.0039	1.0000
-----										
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	-----	-----	-----	0.0000	0.0000
GASPM:	0.0036	0.0036	0.0035	0.0036	0.0324	-----	-----	-----	0.0142	0.0044
ECARBON:	-----	-----	-----	-----	-----	0.0960	0.0211	0.1060	-----	0.0092
OCARBON:	-----	-----	-----	-----	-----	0.0271	0.0304	0.0530	-----	0.0046
SO4:	0.0005	0.0006	0.0006	0.0006	0.0012	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0041	0.0042	0.0041	0.0042	0.0336	0.1233	0.0518	0.1599	0.0144	0.0188
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	0.0020	0.0062	0.0010
Total PM:	0.0115	0.0115	0.0115	0.0115	0.0411	0.1306	0.0592	0.1714	0.0207	0.0265
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* #####  
 \* 2009 30 mph Scenario - Summer, with PM2.5  
 \* File 1, Run 1, Scenario 5.  
 \* #####

Calendar Year: 2009										
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:	0.3386	0.3823	0.1504		0.0368	0.0004	0.0014	0.0862	0.0039	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	0.0322	-----	-----	-----	0.0142	0.0044
ECARBON:	-----	-----	-----	-----	-----	0.0960	0.0211	0.1060	-----	0.0092
OCARBON:	-----	-----	-----	-----	-----	0.0271	0.0304	0.0530	-----	0.0046
SO4:	0.0003	0.0005	0.0005	0.0005	0.0016	0.0002	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0040	0.0041	0.0041	0.0041	0.0338	0.1233	0.0518	0.1599	0.0143	0.0188
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	0.0020	0.0062	0.0010
Total PM:	0.0114	0.0114	0.0114	0.0114	0.0413	0.1306	0.0592	0.1714	0.0206	0.0265
SO2:	0.0067	0.0088	0.0115	0.0095	0.0163	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* #####  
 \* 2009 Idle Scenario - Summer (multiply g/mi by 2.5 mph to get g/hr), with PM10  
 \* File 1, Run 1, Scenario 6.  
 \* #####

Calendar Year: 2009										
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:	0.3386	0.3823	0.1504		0.0368	0.0004	0.0014	0.0862	0.0039	1.0000
-----										
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	-----	-----	-----	0.0000	0.0000
GASPM:	0.0039	0.0039	0.0038	0.0039	0.0362	-----	-----	-----	0.0205	0.0048
ECARBON:	-----	-----	-----	-----	-----	0.1044	0.0230	0.1152	-----	0.0100
OCARBON:	-----	-----	-----	-----	-----	0.0294	0.0331	0.0576	-----	0.0050
SO4:	0.0005	0.0006	0.0006	0.0006	0.0012	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0044	0.0045	0.0045	0.0045	0.0374	0.1340	0.0563	0.1737	0.0207	0.0205
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	0.0080	0.0248	0.0040
Total PM:	0.0250	0.0250	0.0250	0.0250	0.0585	0.1545	0.0769	0.2110	0.0372	0.0425
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* #####  
 \* 2009 10 mph Scenario - Summer, with PM10  
 \* File 1, Run 1, Scenario 7.  
 \* #####

Calendar Year: 2009										
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:	0.3386	0.3823	0.1504		0.0368	0.0004	0.0014	0.0862	0.0039	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
GASPM:	0.0039	0.0039	0.0038	0.0039	0.0362				0.0205	0.0048
ECARBON:						0.1044	0.0230	0.1152		0.0100
OCARBON:						0.0294	0.0331	0.0576		0.0050
SO4:	0.0005	0.0006	0.0006	0.0006	0.0012	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0044	0.0045	0.0045	0.0045	0.0374	0.1340	0.0563	0.1737	0.0207	0.0205
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:	0.0250	0.0250	0.0250	0.0250	0.0585	0.1545	0.0769	0.2110	0.0372	0.0425
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* # # # # #  
\* 2009 15 mph Scenario - Summer, with PM10  
\* File 1, Run 1, Scenario 8.  
\* # # # # #

Calendar Year: 2009  
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:	0.3386	0.3823	0.1504		0.0368	0.0004	0.0014	0.0862	0.0039	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
GASPM:	0.0039	0.0039	0.0038	0.0039	0.0362				0.0205	0.0048
ECARBON:						0.1044	0.0230	0.1152		0.0100
OCARBON:						0.0294	0.0331	0.0576		0.0050
SO4:	0.0005	0.0006	0.0006	0.0006	0.0012	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0044	0.0045	0.0045	0.0045	0.0374	0.1340	0.0563	0.1737	0.0207	0.0205
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:	0.0250	0.0250	0.0250	0.0250	0.0585	0.1545	0.0769	0.2110	0.0372	0.0425
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* # # # # #  
\* 2009 30 mph Scenario - Summer, with PM10  
\* File 1, Run 1, Scenario 9.  
\* # # # # #

Calendar Year: 2009  
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:	0.3386	0.3823	0.1504		0.0368	0.0004	0.0014	0.0862	0.0039	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	0.0359				0.0205	0.0049
ECARBON:						0.1044	0.0230	0.1152		0.0100
OCARBON:						0.0294	0.0331	0.0576		0.0050
SO4:	0.0003	0.0005	0.0005	0.0005	0.0016	0.0002	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0044	0.0044	0.0044	0.0044	0.0376	0.1340	0.0563	0.1737	0.0206	0.0204
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:	0.0249	0.0250	0.0250	0.0250	0.0586	0.1545	0.0769	0.2110	0.0371	0.0424
SO2:	0.0067	0.0088	0.0115	0.0095	0.0163	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\*\*\*\*\*  
\* MOBILE6.2.03 (24-Sep-2003) \*  
\* Input file: MA09\_ALL.INP (file 1, run 2). \*  
\*\*\*\*\*

\* # # # # #  
\* 2009 DEFAULT SPEED - Winter, with PM2.5  
\* File 1, Run 2, Scenario 1.  
\* # # # # #

Calendar Year: 2009  
Month: Jan.  
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	LDLT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)							
VMT Distribution:	0.3454	0.3784	0.1486		0.0363	0.0005	0.0014	0.0856	0.0039	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	0.0354	-----	-----	-----	0.0142	0.0045
ECARBON:	-----	-----	-----	-----	-----	0.0960	0.0227	0.1148	-----	0.0099
OCARBON:	-----	-----	-----	-----	-----	0.0271	0.0327	0.0575	-----	0.0050
SO4:	0.0003	0.0005	0.0005	0.0005	0.0016	0.0002	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0040	0.0041	0.0041	0.0041	0.0371	0.1233	0.0556	0.1732	0.0143	0.0199
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:	0.0114	0.0115	0.0115	0.0115	0.0445	0.1306	0.0630	0.1848	0.0206	0.0276
SO2:	0.0068	0.0088	0.0115	0.0095	0.0163	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1016	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0926

\* #####  
\* 2009 Idle Scenario - Winter (multiply g/mi by 2.5 mph to get g/hr), with PM2.5  
\* File 1, Run 2, Scenario 2.  
\* #####

Calendar Year: 2009										
Month: Jan.										
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	LDLT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)							
VMT Distribution:	0.3454	0.3784	0.1486		0.0363	0.0005	0.0014	0.0856	0.0039	1.0000
-----										
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	-----	-----	-----	0.0000	0.0000
GASPM:	0.0036	0.0036	0.0036	0.0036	0.0356	-----	-----	-----	0.0142	0.0045
ECARBON:	-----	-----	-----	-----	-----	0.0960	0.0227	0.1148	-----	0.0099
OCARBON:	-----	-----	-----	-----	-----	0.0271	0.0327	0.0575	-----	0.0050
SO4:	0.0005	0.0006	0.0006	0.0006	0.0012	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0041	0.0042	0.0042	0.0042	0.0368	0.1233	0.0556	0.1732	0.0144	0.0200
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	0.0115	0.0115	0.0115	0.0443	0.1306	0.0630	0.1848	0.0207	0.0277
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* #####  
\* 2009 10 mph Scenario - Winter, with PM2.5  
\* File 1, Run 2, Scenario 3.  
\* #####

Calendar Year: 2009										
Month: Jan.										
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	LDLT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)							
VMT Distribution:	0.3454	0.3784	0.1486		0.0363	0.0005	0.0014	0.0856	0.0039	1.0000
-----										
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	-----	-----	-----	0.0000	0.0000
GASPM:	0.0036	0.0036	0.0036	0.0036	0.0356	-----	-----	-----	0.0142	0.0045
ECARBON:	-----	-----	-----	-----	-----	0.0960	0.0227	0.1148	-----	0.0099
OCARBON:	-----	-----	-----	-----	-----	0.0271	0.0327	0.0575	-----	0.0050
SO4:	0.0005	0.0006	0.0006	0.0006	0.0012	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0041	0.0042	0.0042	0.0042	0.0368	0.1233	0.0556	0.1732	0.0144	0.0200
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	0.0115	0.0115	0.0115	0.0443	0.1306	0.0630	0.1848	0.0207	0.0277
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\* #####  
\* 2009 15 mph Scenario - Winter, with PM2.5  
\* File 1, Run 2, Scenario 4.  
\* #####

Calendar Year: 2009										
Month: Jan.										
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	LDLT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)							
VMT Distribution:	0.3454	0.3784	0.1486		0.0363	0.0005	0.0014	0.0856	0.0039	1.0000
-----										
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	-----	-----	-----	0.0000	0.0000



Total PM:	0.0250	0.0250	0.0250	0.0250	0.0620	0.1545	0.0810	0.2256	0.0372	0.0437
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\*\*\*\*\*  
 \* 2009 15 mph Scenario - Winter, with PM10  
 \* File 1, Run 2, Scenario 8.  
 \* \*\*\*\*\*

Calendar Year: 2009  
 Month: Jan.  
 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:	0.3454	0.3784	0.1486		0.0363	0.0005	0.0014	0.0856	0.0039	1.0000

Composite Emission Factors (g/mi):

Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	-----	-----	-----	0.0000	0.0000
GASPM:	0.0039	0.0039	0.0039	0.0039	0.0397	-----	-----	-----	0.0205	0.0049
ECARBON:	-----	-----	-----	-----	-----	0.1044	0.0247	0.1248	-----	0.0108
OCARBON:	-----	-----	-----	-----	-----	0.0294	0.0355	0.0625	-----	0.0054
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	0.0409	0.1340	0.0604	0.1882	0.0207	0.0217
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:	0.0250	0.0250	0.0250	0.0250	0.0620	0.1545	0.0810	0.2256	0.0372	0.0437
SO2:	0.0067	0.0087	0.0115	0.0095	0.0164	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\*\*\*\*\*  
 \* 2009 30 mph Scenario - Winter, with PM10  
 \* File 1, Run 2, Scenario 9.  
 \* \*\*\*\*\*

Calendar Year: 2009  
 Month: Jan.  
 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:	0.3454	0.3784	0.1486		0.0363	0.0005	0.0014	0.0856	0.0039	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	0.0040	0.0039	0.0040	0.0396	-----	-----	-----	0.0205	0.0050
ECARBON:	-----	-----	-----	-----	-----	0.1044	0.0247	0.1248	-----	0.0108
OCARBON:	-----	-----	-----	-----	-----	0.0294	0.0355	0.0625	-----	0.0054
SO4:	0.0003	0.0005	0.0005	0.0005	0.0016	0.0002	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0044	0.0044	0.0044	0.0044	0.0411	0.1340	0.0604	0.1882	0.0206	0.0217
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:	0.0249	0.0250	0.0250	0.0250	0.0622	0.1545	0.0810	0.2256	0.0371	0.0437
SO2:	0.0068	0.0088	0.0115	0.0095	0.0163	0.0030	0.0052	0.0131	0.0033	0.0091
NH3:	0.1014	0.1015	0.1016	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0925

\*\*\*\*\*
\* MOBI LE6.2.03 (24-Sep-2003)
\* Input file: MA09\_ALL.INP (file 1, run 1).
\*\*\*\*\*
\* \*\* Summer 2009 \*\* \*

\* Reading Registration Distributions from the following external

\* data file: 2005\_REG.D

- M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.999 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.999 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)

\* Reading I/M program description records from the following external

\* data file: 09NEWIM.D

- \* 15 Year Exemption Age
\* New Annual OBD Exhaust I/M program for Light Duty MY 1996 through 2007 vehicles <=8,500 lb GVWR
\* New Annual OBD Exhaust I/M program for Light Duty and Medium duty MY 2008 and later <=14,000 lb GVWR
\* New Annual OBD Evap I/M program for Light Duty MY 1996 through 2007 vehicles <=8,500 lb GVWR
\* New Annual OBD Evap I/M program for Light Duty and Medium duty MY 2008 and later <=14,000 lb GVWR
M601 Comment:
User has enabled STAGE II REFUELING.

\* Reading 94+ LEV IMPLEMENTATION SCHEDULE from the following external

\* data file: MA\_LEV2.D

Reading User Supplied Tier2 Exhaust bin phase-in fractions

Data read from file: LEV2EXH.D

Reading User Supplied Tier2 EVAP phase-in fractions

Data read from file: LEV2EVAP.D

Reading User Supplied Tier2 50K certification standards

Data read from file: LEV2CERT.D

M616 Comment:
User has supplied post-1999 sulfur levels.

M614 Comment:
User supplied diesel sale fractions.

\* #####
\* 2009 DEFAULT SPEED - Summer, with PM2.5
\* File 1, Run 1, Scenario 1.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

\*\*\* I/M credits for Tech1&2 vehicles were read from the following external
data file: TECH12.D

M 48 Warning:
there are no sales for vehicle class HDGV8b
HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

\* Reading Ammonia (NH3) Basic Emission Rates
\* from the external data file PMNH3BER.D

\* Reading Ammonia (NH3) Sulfur Deterioration Rates
\* from the external data file PMNH3SDR.D

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2009
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3386	0.3823	0.1504	0.0368	0.0004	0.0014	0.0862	0.0039	1.0000	16.4
Fuel Economy (mpg):	24.1	18.6	14.2	17.1	9.9	31.5	18.3	7.3	50.0	16.4
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	0.527	0.387	0.465	0.409	0.542	0.409	0.328	0.404	3.79	0.467
Composite CO :	5.77	5.35	6.14	5.57	7.02	1.527	0.655	1.906	17.10	5.414
Composite NOX :	0.442	0.466	0.717	0.537	1.982	0.772	0.549	7.752	1.26	1.183
Composite CO2 :	368.2	478.1	623.0	519.0	896.3	323.2	554.7	1403.4	177.4	556.70

\* #####  
 \* 2009 Idle Scenario - Summer (multiply g/mi by 2.5 mph to get g/hr), with PM2.5  
 \* File 1, Run 1, Scenario 2.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 2.5  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M 48 Warning:  
 there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
 Calendar Year: 2009  
 Month: July  
 Altitude: Low  
 Minimum Temperature: 70.4 (F)  
 Maximum Temperature: 93.7 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3386	0.3823	0.1504	0.0368	0.0004	0.0014	0.0862	0.0039	1.0000	16.4
Fuel Economy (mpg):	24.1	18.6	14.2	17.1	9.9	31.5	18.3	7.3	50.0	16.4
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	3.914	2.571	2.788	2.632	3.912	0.888	0.776	1.250	12.19	3.028
Composite CO :	16.94	12.98	15.27	13.63	32.53	4.327	2.018	8.453	120.29	15.395
Composite NOX :	1.006	0.911	1.380	1.044	1.450	1.240	0.887	12.077	1.12	1.998
Composite CO2 :	368.2	478.0	622.9	518.9	896.2	323.2	554.6	1403.2	177.4	556.65

\* #####  
 \* 2009 10 mph Scenario - Summer, with PM2.5  
 \* File 1, Run 1, Scenario 3.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 10.0  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M 48 Warning:  
 there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
 Calendar Year: 2009  
 Month: July  
 Altitude: Low  
 Minimum Temperature: 70.4 (F)  
 Maximum Temperature: 93.7 (F)

Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOx, and CO2.

\* #####
\* 2009 15 mph Scenario - Summer, with PM2.5
\* File 1, Run 1, Scenario 4.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 15.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2009
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOx, and CO2.

\* #####
\* 2009 30 mph Scenario - Summer, with PM2.5
\* File 1, Run 1, Scenario 5.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 30.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2009
Month: July
Altitude: Low

Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* \* \* \* \*
\* 2009 Idle Scenario - Summer (multiply g/mi by 2.5 mph to get g/hr), with PM10
\* File 1, Run 1, Scenario 6.
\* \* \* \* \*

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 2.5
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8B

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2009
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* \* \* \* \*
\* 2009 10 mph Scenario - Summer, with PM10
\* File 1, Run 1, Scenario 7.
\* \* \* \* \*

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 10.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8B

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2009

Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* #####
\* 2009 15 mph Scenario - Summer, with PM10
\* File 1, Run 1, Scenario 8.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 15.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D
Calendar Year: 2009
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOX, and CO2.

\* #####
\* 2009 30 mph Scenario - Summer, with PM10
\* File 1, Run 1, Scenario 9.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 30.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2009
Month: July
Altitude: Low
Minimum Temperature: 70.4 (F)
Maximum Temperature: 93.7 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy (mpg), Composite Emission Factors (g/mi) for VOC, CO, NOx, CO2.

\*\*\*\*\*
\* MOBILE6.2.03 (24-Sep-2003)
\* Input file: MAO9\_ALL.INP (file 1, run 2).
\* \*\*\* Winter 2009 \*\*\*

\* Reading Registration Distributions from the following external

\* data file: 2005\_REG.D

- M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.999 MYR sum not = 1. (will normalize)
M 49 Warning: 0.998 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 0.999 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)
M 49 Warning: 1.00 MYR sum not = 1. (will normalize)

\* Reading I/M program description records from the following external

\* data file: 09NEWIM.D

- \* 15 Year Exemption Age
\* New Annual OBD Exhaust I/M program for Light Duty MY 1996 through 2007 vehicles <=8,500 lb GVWR
\* New Annual OBD Exhaust I/M program for Light Duty and Medium duty MY 2008 and later <=14,000 lb GVWR
\* New Annual OBD Evap I/M program for Light Duty MY 1996 through 2007 vehicles <=8,500 lb GVWR
\* New Annual OBD Evap I/M program for Light Duty and Medium duty MY 2008 and later <=14,000 lb GVWR
M601 Comment:
User has enabled STAGE II REFUELING.

\* Reading 94+ LEV IMPLEMENTATION SCHEDULE from the following external

\* data file: MA\_LEV2.D

Reading User Supplied Tier2 Exhaust bin phase-in fractions

Data read from file: LEV2EXH.D

Reading User Supplied Tier2 EVAP phase-in fractions

Data read from file: LEV2EVAP.D

Reading User Supplied Tier2 50K certification standards

Data read from file: LEV2CERT.D

M616 Comment:
User has supplied post-1999 sulfur levels.
M614 Comment:
User supplied diesel sale fractions.

\* #####
\* 2009 DEFAULT SPEED - Winter, with PM2.5
\* File 1, Run 2, Scenario 1.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

\*\*\* I/M credits for Tech1&2 vehicles were read from the following external data file: TECH12.D

M 48 Warning:  
 there are no sales for vehicle class HDGV8b

HDDV DEFEAT DEVICE EFFECTS ARE PRESENT. THE REBUILD FRACTION IS 0.10.

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2009  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3454	0.3784	0.1486	17.1	0.0363	0.0005	0.0014	0.0856	0.0039	1.0000
Fuel Economy (mpg):	24.1	18.6	14.2	17.1	9.9	31.5	18.3	7.2	50.0	16.4
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	0.564	0.518	0.700	0.569	0.521	0.399	0.341	0.417	3.28	0.563
Composite CO :	16.26	15.94	16.72	16.16	9.21	1.496	0.673	2.052	16.82	14.710
Composite NOX :	0.606	0.715	1.063	0.813	2.362	0.765	0.586	8.197	1.76	1.433
Composite CO2 :	368.2	478.0	622.8	518.8	896.6	323.2	554.8	1404.7	177.4	555.00

\* #####  
 \* 2009 Idle Scenario - Winter (multiply g/mi by 2.5 mph to get g/hr), with PM2.5  
 \* File 1, Run 2, Scenario 2.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 2.5 will be used for all hours of the day. 100% of VMT has been assigned to the arterial/collector roadway type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning:  
 there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2009  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type: GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3454	0.3784	0.1486	17.1	0.0363	0.0005	0.0014	0.0856	0.0039	1.0000
Fuel Economy (mpg):	24.1	18.6	14.2	17.1	9.9	31.5	18.3	7.2	50.0	16.4
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	3.876	2.890	3.412	3.037	4.165	0.873	0.811	1.291	11.37	3.246
Composite CO :	38.34	35.13	39.29	36.30	42.71	4.268	2.084	9.100	104.23	35.111
Composite NOX :	1.116	1.311	1.935	1.487	1.728	1.229	0.947	12.747	1.56	2.331
Composite CO2 :	368.2	477.9	622.8	518.8	896.5	323.2	554.7	1404.6	177.4	554.95

\* #####  
 \* 2009 10 mph Scenario - Winter, with PM2.5  
 \* File 1, Run 2, Scenario 3.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels

\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
\* from the external data file PMDDR2.CSV

M583 Warning:  
The user supplied arterial average speed of 10.0 will be used for all hours of the day. 100% of VMT has been assigned to the arterial/collector roadway type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
Calendar Year: 2009  
Month: Jan.  
Altitude: Low  
Minimum Temperature: 22.8 (F)  
Maximum Temperature: 38.3 (F)  
Absolute Humidity: 75. grains/lb  
Fuel Sulfur Content: 30. ppm  
Exhaust I/M Program: Yes  
Evap I/M Program: Yes  
ATP Program: No  
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3454	0.3784	0.1486	17.1	0.0363	0.0005	0.0014	0.0856	0.0039	1.0000
Fuel Economy (mpg):	24.1	18.6	14.2	17.1	9.9	31.5	18.3	7.2	50.0	16.4
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	0.878	0.785	1.072	0.866	1.361	0.656	0.595	0.891	4.98	0.906
Composite CO :	18.59	18.06	19.20	18.38	22.71	2.703	1.288	5.122	33.28	17.500
Composite NOX :	0.808	0.949	1.396	1.075	1.863	0.927	0.712	9.619	1.38	1.744
Composite CO2 :	368.2	477.9	622.8	518.8	896.5	323.2	554.7	1404.6	177.4	554.95

\* #####  
\* 2009 15 mph Scenario - Winter, with PM2.5  
\* File 1, Run 2, Scenario 4.  
\* #####

\* Reading PM Gas Carbon ZML Levels  
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
\* from the external data file PMDDR2.CSV

M583 Warning:  
The user supplied arterial average speed of 15.0 will be used for all hours of the day. 100% of VMT has been assigned to the arterial/collector roadway type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
Calendar Year: 2009  
Month: Jan.  
Altitude: Low  
Minimum Temperature: 22.8 (F)  
Maximum Temperature: 38.3 (F)  
Absolute Humidity: 75. grains/lb  
Fuel Sulfur Content: 30. ppm  
Exhaust I/M Program: Yes  
Evap I/M Program: Yes  
ATP Program: No  
Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3454	0.3784	0.1486	17.1	0.0363	0.0005	0.0014	0.0856	0.0039	1.0000
Fuel Economy (mpg):	24.1	18.6	14.2	17.1	9.9	31.5	18.3	7.2	50.0	16.4
-----										
Composite Emission Factors (g/mi):										
Composite VOC :	0.705	0.638	0.871	0.704	0.964	0.561	0.501	0.715	4.03	0.727
Composite CO :	16.73	16.33	17.21	16.58	15.96	2.142	1.003	3.696	23.77	15.504
Composite NOX :	0.695	0.818	1.213	0.930	1.953	0.803	0.615	8.331	1.40	1.521
Composite CO2 :	368.2	477.9	622.8	518.8	896.5	323.2	554.7	1404.6	177.4	554.95

\* #####  
\* 2009 30 mph Scenario - Winter, with PM2.5  
\* File 1, Run 2, Scenario 5.  
\* #####

\* Reading PM Gas Carbon ZML Levels

\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 30.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M112 Warning:
Wintertime Reformulated Gasoline Rules Apply

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2009
Month: Jan.
Altitude: Low
Minimum Temperature: 22.8 (F)
Maximum Temperature: 38.3 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12, LDGT34, LDGT, HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy, Composite Emission Factors, and VOC, CO, NOX, CO2.

\* #####
\* 2009 Idle Scenario - Winter (multiply g/mi by 2.5 mph to get g/hr), with PM10
\* File 1, Run 2, Scenario 6.
\* #####

\* Reading PM Gas Carbon ZML Levels
\* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels
\* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels
\* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels
\* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates
\* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates
\* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 2.5
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M112 Warning:
Wintertime Reformulated Gasoline Rules Apply

M 48 Warning:
there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2009
Month: Jan.
Altitude: Low
Minimum Temperature: 22.8 (F)
Maximum Temperature: 38.3 (F)
Absolute Humidity: 75. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: No
Reformulated Gas: Yes

Table with 11 columns: Vehicle Type, LDGV, LDGT12, LDGT34, LDGT, HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Fuel Economy, Composite Emission Factors, and VOC, CO, NOX, CO2.

\* #####  
 \* 2009 10 mph Scenario - Winter, with PM10  
 \* File 1, Run 2, Scenario 7.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 10.0  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2009  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm  
 Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3454	0.3784	0.1486	0.0363	0.0005	0.0014	0.0856	0.0039	1.0000	
Fuel Economy (mpg):	24.1	18.6	14.2	17.1	9.9	31.5	18.3	7.2	50.0	16.4

-----

Composite Emission Factors (g/mi):	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
Composite VOC :	0.878	0.785	1.072	0.866	1.361	0.656	0.595	0.891	4.98	0.906
Composite CO :	18.59	18.06	19.20	18.38	22.71	2.703	1.288	5.122	33.28	17.500
Composite NOX :	0.808	0.949	1.396	1.075	1.863	0.927	0.712	9.619	1.38	1.744
Composite CO2 :	368.2	477.9	622.8	518.8	896.5	323.2	554.7	1404.6	177.4	554.95

-----

\* #####  
 \* 2009 15 mph Scenario - Winter, with PM10  
 \* File 1, Run 2, Scenario 8.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 15.0  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning: there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D

Calendar Year: 2009  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm  
 Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3454	0.3784	0.1486	0.0363	0.0005	0.0014	0.0856	0.0039	1.0000	
Fuel Economy (mpg):	24.1	18.6	14.2	17.1	9.9	31.5	18.3	7.2	50.0	16.4

-----

Composite Emission Factors (g/mi):

	MA09_MES.TXT									
Composite VOC :	0.705	0.638	0.871	0.704	0.964	0.561	0.501	0.715	4.03	0.727
Composite CO :	16.73	16.33	17.21	16.58	15.96	2.142	1.003	3.696	23.77	15.504
Composite NOX :	0.695	0.818	1.213	0.930	1.953	0.803	0.615	8.331	1.40	1.521
Composite CO2 :	368.2	477.9	622.8	518.8	896.5	323.2	554.7	1404.6	177.4	554.95

\* #####  
 \* 2009 30 mph Scenario - Winter, with PM10  
 \* File 1, Run 2, Scenario 9.  
 \* #####

\* Reading PM Gas Carbon ZML Levels  
 \* from the external data file PMGZML.CSV

\* Reading PM Gas Carbon DR1 Levels  
 \* from the external data file PMGDR1.CSV

\* Reading PM Gas Carbon DR2 Levels  
 \* from the external data file PMGDR2.CSV

\* Reading PM Diesel Zero Mile Levels  
 \* from the external data file PMDZML.CSV

\* Reading the First PM Deterioration Rates  
 \* from the external data file PMDDR1.CSV

\* Reading the Second PM Deterioration Rates  
 \* from the external data file PMDDR2.CSV

M583 Warning:  
 The user supplied arterial average speed of 30.0  
 will be used for all hours of the day. 100% of VMT  
 has been assigned to the arterial/collector roadway  
 type for all hours of the day and all vehicle types.

M112 Warning: Wintertime Reformulated Gasoline Rules Apply

M 48 Warning:  
 there are no sales for vehicle class HDGV8b

LEV phase-in data read from file MA\_LEV2.D  
 Calendar Year: 2009  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 22.8 (F)  
 Maximum Temperature: 38.3 (F)  
 Absolute Humidity: 75. grains/lb  
 Fuel Sulfur Content: 30. ppm  
 Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: No  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3454	0.3784	0.1486	0.0363	0.0005	0.0014	0.0856	0.0039	1.0000	
Fuel Economy (mpg):	24.1	18.6	14.2	17.1	9.9	31.5	18.3	7.2	50.0	16.4

Composite Emission Factors (g/mi):										
Composite VOC :	0.537	0.495	0.679	0.547	0.475	0.402	0.343	0.422	3.13	0.540
Composite CO :	15.08	14.80	15.46	14.99	7.71	1.407	0.628	1.825	14.76	13.601
Composite NOX :	0.581	0.688	1.029	0.784	2.223	0.640	0.488	6.644	1.64	1.271
Composite CO2 :	368.2	477.9	622.8	518.8	896.5	323.2	554.7	1404.6	177.4	554.95

\*\*\*\*\*  
 \* MOBILE6.2.03 (24-Sep-2003) \*  
 \* Input file: MA15\_ALL.INP (file 1, run 1). \*  
 \*\*\*\*\*

\* #####  
 \* 2015 DEFAULT SPEED - Summer, with PM2.5  
 \* File 1, Run 1, Scenario 1.  
 \* #####

Calendar Year: 2015										
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	LDLT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2837	0.4219	0.1659		0.0367	0.0004	0.0016	0.0861	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:	0.0036	0.0035	0.0035	0.0035	0.0130	-----	-----	-----	0.0142	0.0036
ECARBON:	-----	-----	-----	-----	-----	0.0350	0.0090	0.0348	-----	0.0030
OCARBON:	-----	-----	-----	-----	-----	0.0099	0.0130	0.0177	-----	0.0015
SO4:	0.0003	0.0005	0.0005	0.0005	0.0018	0.0002	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0149	0.0450	0.0222	0.0534	0.0143	0.0087
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	0.0223	0.0523	0.0296	0.0650	0.0206	0.0164
SO2:	0.0067	0.0088	0.0115	0.0096	0.0162	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1015	0.0451	0.0068	0.0068	0.0270	0.0113	0.0923
-----										

\* #####  
 \* 2015 Idle Scenario - Summer (multiply g/mi by 2.5 mph to get g/hr), with PM2.5  
 \* File 1, Run 1, Scenario 2.  
 \* #####

Calendar Year: 2015										
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	LDLT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2837	0.4219	0.1659		0.0367	0.0004	0.0016	0.0861	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	0.0033	0.0034	0.0134	-----	-----	-----	0.0142	0.0035
ECARBON:	-----	-----	-----	-----	-----	0.0350	0.0090	0.0348	-----	0.0030
OCARBON:	-----	-----	-----	-----	-----	0.0099	0.0130	0.0177	-----	0.0015
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0040	0.0040	0.0040	0.0040	0.0148	0.0450	0.0222	0.0534	0.0144	0.0087
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	0.0222	0.0523	0.0296	0.0650	0.0207	0.0164
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1015	0.0451	0.0068	0.0068	0.0270	0.0113	0.0923
-----										

\* #####  
 \* 2015 10 mph Scenario - Summer, with PM2.5  
 \* File 1, Run 1, Scenario 3.  
 \* #####

Calendar Year: 2015										
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	LDLT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2837	0.4219	0.1659		0.0367	0.0004	0.0016	0.0861	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	0.0033	0.0034	0.0134	-----	-----	-----	0.0142	0.0035
ECARBON:	-----	-----	-----	-----	-----	0.0350	0.0090	0.0348	-----	0.0030
OCARBON:	-----	-----	-----	-----	-----	0.0099	0.0130	0.0177	-----	0.0015
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0040	0.0040	0.0040	0.0040	0.0148	0.0450	0.0222	0.0534	0.0144	0.0087
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	0.0222	0.0523	0.0296	0.0650	0.0207	0.0164
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1015	0.0451	0.0068	0.0068	0.0270	0.0113	0.0923
-----										

\* #####  
 \* 2015 15 mph Scenario - Summer, with PM2.5

\* File 1, Run 1, Scenario 4.  
 \* #####

Calendar Year: 2015  
 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:	0.2837	0.4219	0.1659		0.0367	0.0004	0.0016	0.0861	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	0.0033	0.0034	0.0134	-----	-----	-----	0.0142	0.0035
ECARBON:	-----	-----	-----	-----	-----	0.0350	0.0090	0.0348	-----	0.0030
OCARBON:	-----	-----	-----	-----	-----	0.0099	0.0130	0.0177	-----	0.0015
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0040	0.0040	0.0040	0.0040	0.0148	0.0450	0.0222	0.0534	0.0144	0.0087
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	0.0020	0.0062	0.0010
Total PM:	0.0113	0.0113	0.0113	0.0113	0.0222	0.0523	0.0296	0.0650	0.0207	0.0164
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1015	0.0451	0.0068	0.0068	0.0270	0.0113	0.0923

\* #####  
 \* 2015 30 mph Scenario - Summer, with PM2.5  
 \* File 1, Run 1, Scenario 5.  
 \* #####

Calendar Year: 2015  
 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:	0.2837	0.4219	0.1659		0.0367	0.0004	0.0016	0.0861	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:	0.0036	0.0035	0.0034	0.0034	0.0131	-----	-----	-----	0.0142	0.0036
ECARBON:	-----	-----	-----	-----	-----	0.0350	0.0090	0.0348	-----	0.0030
OCARBON:	-----	-----	-----	-----	-----	0.0099	0.0130	0.0177	-----	0.0015
SO4:	0.0003	0.0005	0.0005	0.0005	0.0018	0.0002	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0149	0.0450	0.0222	0.0534	0.0143	0.0087
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	0.0020	0.0062	0.0010
Total PM:	0.0113	0.0113	0.0113	0.0113	0.0223	0.0523	0.0296	0.0650	0.0206	0.0164
SO2:	0.0067	0.0088	0.0115	0.0096	0.0162	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1015	0.0451	0.0068	0.0068	0.0270	0.0113	0.0923

\* #####  
 \* 2015 Idle Scenario - Summer (multiply g/mi by 2.5 mph to get g/hr), with PM10  
 \* File 1, Run 1, Scenario 6.  
 \* #####

Calendar Year: 2015  
 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:	0.2837	0.4219	0.1659		0.0367	0.0004	0.0016	0.0861	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	0.0148	-----	-----	-----	0.0205	0.0038
ECARBON:	-----	-----	-----	-----	-----	0.0380	0.0098	0.0379	-----	0.0033
OCARBON:	-----	-----	-----	-----	-----	0.0107	0.0141	0.0192	-----	0.0017
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	0.0162	0.0489	0.0241	0.0580	0.0207	0.0094
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	0.0080	0.0248	0.0040
Total PM:	0.0248	0.0248	0.0248	0.0248	0.0372	0.0694	0.0447	0.0953	0.0372	0.0314
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1015	0.0451	0.0068	0.0068	0.0270	0.0113	0.0923

\* #####  
 \* 2015 10 mph Scenario - Summer, with PM10  
 \* File 1, Run 1, Scenario 7.  
 \* #####

Calendar Year: 2015  
 Month: July  
 Gasoline Fuel Sulfur Content: 30. ppm  
 Diesel Fuel Sulfur Content: 15. ppm



Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)							
VMT Distribution:	0.2873	0.4202	0.1650		0.0363	0.0004	0.0016	0.0856	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:	0.0036	0.0035	0.0035	0.0035	0.0137	-----	-----	-----	0.0142	0.0036
ECARBON:	-----	-----	-----	-----	-----	0.0350	0.0095	0.0369	-----	0.0032
OCARBON:	-----	-----	-----	-----	-----	0.0099	0.0137	0.0187	-----	0.0016
SO4:	0.0003	0.0005	0.0005	0.0005	0.0018	0.0002	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0039	0.0039	0.0039	0.0039	0.0156	0.0450	0.0234	0.0565	0.0143	0.0089
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	0.0231	0.0523	0.0308	0.0680	0.0206	0.0166
SO2:	0.0067	0.0088	0.0115	0.0096	0.0162	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0924

\* #####  
\* 2015 Idle Scenario - Winter (multiply g/mi by 2.5 mph to get g/hr), with PM2.5  
\* File 1, Run 2, Scenario 2.  
\* #####

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)							
VMT Distribution:	0.2873	0.4202	0.1650		0.0363	0.0004	0.0016	0.0856	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	0.0033	0.0034	0.0142	-----	-----	-----	0.0142	0.0035
ECARBON:	-----	-----	-----	-----	-----	0.0350	0.0095	0.0369	-----	0.0032
OCARBON:	-----	-----	-----	-----	-----	0.0099	0.0137	0.0187	-----	0.0016
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0040	0.0040	0.0040	0.0040	0.0155	0.0450	0.0234	0.0565	0.0144	0.0090
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	0.0229	0.0523	0.0308	0.0680	0.0207	0.0167
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0924

\* #####  
\* 2015 10 mph Scenario - Winter, with PM2.5  
\* File 1, Run 2, Scenario 3.  
\* #####

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)							
VMT Distribution:	0.2873	0.4202	0.1650		0.0363	0.0004	0.0016	0.0856	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	0.0033	0.0034	0.0142	-----	-----	-----	0.0142	0.0035
ECARBON:	-----	-----	-----	-----	-----	0.0350	0.0095	0.0369	-----	0.0032
OCARBON:	-----	-----	-----	-----	-----	0.0099	0.0137	0.0187	-----	0.0016
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0040	0.0040	0.0040	0.0040	0.0155	0.0450	0.0234	0.0565	0.0144	0.0090
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	0.0229	0.0523	0.0308	0.0680	0.0207	0.0167
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0924

\* #####  
\* 2015 15 mph Scenario - Winter, with PM2.5  
\* File 1, Run 2, Scenario 4.  
\* #####

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:	<6000	>6000	(All)							
VMT Distribution:	0.2873	0.4202	0.1650		0.0363	0.0004	0.0016	0.0856	0.0037	1.0000
-----										
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	-----	-----	-----	0.0000	0.0000



Total PM:	0.0248	0.0248	0.0248	0.0248	0.0380	0.0694	0.0460	0.0987	0.0372	0.0317
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0924

\* #####  
 \* 2015 15 mph Scenario - Winter, with PM10  
 \* File 1, Run 2, Scenario 8.  
 \* #####

Calendar Year: 2015  
 Month: Jan.  
 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 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:										
VMT Distribution:	0.2873	0.4202	0.1650		0.0363	0.0004	0.0016	0.0856	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	0.0156	-----	-----	-----	0.0205	0.0038
ECARBON:	-----	-----	-----	-----	-----	0.0380	0.0103	0.0401	-----	0.0035
OCARBON:	-----	-----	-----	-----	-----	0.0107	0.0149	0.0204	-----	0.0018
SO4:	0.0005	0.0006	0.0006	0.0006	0.0013	0.0002	0.0003	0.0009	0.0002	0.0006
Total Exhaust PM:	0.0043	0.0042	0.0042	0.0042	0.0170	0.0489	0.0254	0.0613	0.0207	0.0097
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	0.0380	0.0694	0.0460	0.0987	0.0372	0.0317
SO2:	0.0066	0.0087	0.0115	0.0095	0.0163	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0924

\* #####  
 \* 2015 30 mph Scenario - Winter, with PM10  
 \* File 1, Run 2, Scenario 9.  
 \* #####

Calendar Year: 2015  
 Month: Jan.  
 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 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:										
VMT Distribution:	0.2873	0.4202	0.1650		0.0363	0.0004	0.0016	0.0856	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:	0.0039	0.0037	0.0037	0.0037	0.0152	-----	-----	-----	0.0205	0.0039
ECARBON:	-----	-----	-----	-----	-----	0.0380	0.0103	0.0401	-----	0.0035
OCARBON:	-----	-----	-----	-----	-----	0.0107	0.0149	0.0204	-----	0.0018
SO4:	0.0003	0.0005	0.0005	0.0005	0.0018	0.0002	0.0003	0.0009	0.0001	0.0005
Total Exhaust PM:	0.0042	0.0042	0.0042	0.0042	0.0170	0.0489	0.0254	0.0613	0.0206	0.0097
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	0.0381	0.0694	0.0460	0.0987	0.0371	0.0317
SO2:	0.0067	0.0088	0.0115	0.0096	0.0162	0.0029	0.0052	0.0130	0.0033	0.0092
NH3:	0.1008	0.1015	0.1017	0.1016	0.0451	0.0068	0.0068	0.0270	0.0113	0.0924

## Mesoscale Analysis Calculations

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## Emissions Summary

### Roads

	VOC lbs/day	VOC tons/yr	NOx lbs/day	NOx tons/yr	CO2 lbs/day	CO2 tons/yr
2009 Existing	160.6	29	378.0	69	165535.5	30210.2
2015 No-Build	98.8	18	181.9	33	215444.0	39318.5
delta	6.0	1	11.1	2	13096.7	2390.2
2015 Build	104.8	19	193.0	35	228540.8	41708.7
delta	0.0	0	0.0	0	0.0	0.0
2015 Build with Mitigation	104.8	19	193.0	35	228540.8	41708.7

### Intersections

	VOC lbs/day	VOC tons/yr	NOx lbs/day	NOx tons/yr	CO2 lbs/day	CO2 tons/yr
2009 Existing	83.6	15	211.0	39	14336.1	2616.3
2015 No-Build	93.9	17	48.1	9	31214.7	5696.7
delta	14.3	3	7.3	1	4743.5	865.7
2015 Build	108.2	20	55.4	10	35958.1	6562.4
delta	-24.8	-5	-12.7	-2	-8226.4	-1501.3
2015 Build with Mitigation	83.4	15	42.7	8	27731.7	5061.0

### Total

Pollutant	VOC lbs/day	VOC tons/yr	NOx lbs/day	NOx tons/yr	CO2 lbs/day	CO2 tons/yr
2009 Existing	244.2	45	589.0	107	179871.6	32827
2015 No-Build	192.7	35	230.0	42	246658.7	45015
2015 Build	213.0	39	248.3	45	264498.9	48271
2015 Build minus No-Build	20.3	4	18.4	3	17840.2	3256
Difference (%)	11%	11%	8%	8%	7%	7%
2015 Build with Mitigation	188.2	34	235.7	43	256272.4	46770
2015 Build with Mitigation minus No Build	-4.5	-1	5.7	1	9613.8	1755
Difference (%)	-2%	-2%	2%	2%	4%	4%

LOS-VOLs

Intersection	2009 AM Peak			2009 PM Peak		
	LOS	Delay (Sec)	Traffic Volume	LOS	Delay (Sec)	Traffic Volume
Seaport Boulevard/Atlantic Avenue	D	45.5	2568	E	62.9	2813
Seaport Boulevard/Sleeper Street	C	21.7	1800	B	16.1	1732
Seaport Boulevard/Boston Wharf Road	B	14.2	1452	C	22.9	1421
Seaport Boulevard/East Service Road/Old Northern Avenue	C	32.8	1861	C	26.9	1590
Seaport Boulevard/B Street	F	80.0	1561	C	29.3	1604
Seaport Boulevard/Northern Avenue/D Street (southbound)/Fish Pier Street	B	10.9	1025	C	22.9	1299
Northern Avenue/D Street (northbound)	C	20.2	863	B	15.7	865
Congress Street/Dorchester Avenue	C	20.4	964	C	23.9	1061
Congress Street/A Street/Thomson Place	C	26.3	1129	B	19.4	1136
Congress Street/West Service Road/Boston Wharf Road	C	31.6	1113	D	41.0	1217
Congress Street/Off-Ramp C/Off-Ramp I/East Service Road	E	77.7	1837	D	37.9	1056
Congress Street/On-Ramp D/Off-Ramp F/B Street	E	64.4	1997	C	34.5	2028
Congress Street/D Street	D	51.4	1441	D	47.0	1750
D Street/Silver Line Way	A	7.6	1073	A	6.7	1408
Summer Street/Dorchester Avenue	C	34.0	1576	C	31.7	1900
Summer Street/Melcher Street	B	19.1	1448	C	20.1	1513
Summer Street/World Trade Center Avenue/Convention Center Drive	A	9.6	1176	B	16.2	1285
Summer Street/D Street	D	37.9	2044	C	26.3	1977
Summer Street/Dry Dock Avenue/Pappas Way	C	28.8	1898	E	76.2	1936
Dorchester Avenue/West Broadway	D	36.4	2051	D	44.1	2046
Dorchester Avenue/West Fourth Street	B	19.6	1957	B	13.6	1840
Dorchester Avenue/A Street	B	10.3	1799	B	15.0	1827
Dorchester Avenue/Old Colony Avenue	B	16.4	1949	B	12.2	1995
A Street/West Broadway	C	24.5	1404	C	24.1	1500
A Street/West Second Street	B	18.8	1036	B	17.0	1182
West Broadway/D Street	C	27.0	1304	C	32.8	1341
West Broadway/East Broadway/Dorchester Street	F	80.0	1508	F	80.0	1632
Summer Street/East First Street	E	58.2	1782	C	22.3	1709
L Street/East Broadway	E	72.0	1721	F	80.0	1752
A Street/Melcher Street	—	7.2	864	—	11.2	949
Seaport Blvd/Thomson St.	—	—	—	—	—	—
L Street/William J. Day Boulevard	—	5.9	1108	—	6.9	1151

LOS-VOLs

Intersection	Mid-Term (2015) No-Build AM Peak			Mid-Term (2015) No-Build PM Peak		
	LOS	Delay (Sec)	Traffic Volume	LOS	Delay (Sec)	Traffic Volume
Seaport Boulevard/Atlantic Avenue	E	62.8	3099	F	80.0	3503
Seaport Boulevard/Sleeper Street	F	80.0	2326	C	27.0	2441
Seaport Boulevard/Boston Wharf Road	A	4.7	1737	A	4.9	1541
Seaport Boulevard/East Service Road/Old Northern Avenue	E	59.0	2616	D	50.0	2282
Seaport Boulevard/B Street	F	80.0	2092	E	58.7	2203
Seaport Boulevard/Northern Avenue/D Street (southbound)/Fish Pier Street	C	23.1	1835	C	32.5	1726
Northern Avenue/D Street (northbound)	C	34.3	1229	C	25.6	1163
Congress Street/Dorchester Avenue	F	80.0	1295	D	45.4	1421
Congress Street/A Street/Thomson Place	D	38.3	1666	F	80.0	1832
Congress Street/West Service Road/Boston Wharf Road	F	80.0	1802	E	74.2	2122
Congress Street/Off-Ramp C/Off-Ramp I/East Service Road	F	80.0	2709	D	44.2	1932
Congress Street/On-Ramp D/Off-Ramp F/B Street	F	80.0	2913	E	74.8	3302
Congress Street/D Street	E	59.5	2116	F	80.0	2713
D Street/Silver Line Way	A	8.2	1379	A	8.2	1839
Summer Street/Dorchester Avenue	F	80.0	2509	F	80.0	2300
Summer Street/Melcher Street	F	80.0	2120	F	80.0	2310
Summer Street/World Trade Center Avenue/Convention Center Drive	B	12.7	1766	C	22.1	2121
Summer Street/D Street	E	57.4	2830	E	65.1	2948
Summer Street/Dry Dock Avenue/Pappas Way	E	73.8	2363	E	72.0	2495
Dorchester Avenue/West Broadway	D	35.9	2327	E	63.6	2218
Dorchester Avenue/West Fourth Street	C	23.8	2089	C	23.4	2057
Dorchester Avenue/A Street	B	14.2	2125	B	17.7	2240
Dorchester Avenue/Old Colony Avenue	C	25.3	2323	B	19.5	2432
A Street/West Broadway	E	72.1	1834	F	80.0	2158
A Street/West Second Street	B	16.3	1618	B	11.9	1926
West Broadway/D Street	C	33.9	1446	D	50.8	1467
West Broadway/East Broadway/Dorchester Street	E	61.6	1470	F	80.0	1701
Summer Street/East First Street	D	52.5	2141	D	46.6	2156
L Street/East Broadway	E	75.2	1961	F	80.0	2067
A Street/Melcher Street	E	75.7	1469	F	80	1697
Seaport Blvd/Thomson St.	A	9.5	1741	B	19.9	1616
L Street/William J. Day Boulevard	—	6.1	1156	—	7.8	1217

LOS-VOLs

Intersection	(2015) Build AM Peak				(2015) Build PM Peak			
	LOS	Delay (Sec)	Traffic Volume	No-Build to Build Volume % Increase	LOS	Delay (Sec)	Traffic Volume	No-Build to Build Volume % Increase
Seaport Boulevard/Atlantic Avenue	E	68.8	3155	2%	F	80.0	3623	3%
Seaport Boulevard/Sleeper Street	D	36.6	2457	6%	C	30.3	2646	8%
Seaport Boulevard/Boston Wharf Road	A	7.5	2036	17%	A	9.3	1988	29%
Seaport Boulevard/East Service Road/Old Northern Avenue	F	80.0	2905	11%	F	80.0	2767	21%
Seaport Boulevard/B Street	F	80.0	2269	8%	F	80.0	2474	12%
Seaport Boulevard/Northern Avenue/D Street (southbound)/Fish Pier Street	E	73.0	2093	14%	E	72.8	1915	11%
Northern Avenue/D Street (northbound)	F	80.0	1350	10%	F	80.0	1381	19%
Congress Street/Dorchester Avenue	F	80.0	1292	0%	C	28.2	1412	-1%
Congress Street/A Street/Thomson Place	E	69.8	1817	9%	F	80.0	2264	24%
Congress Street/West Service Road/Boston Wharf Road	F	80.0	2059	14%	F	80.0	2524	19%
Congress Street/Off-Ramp C/Off-Ramp I/East Service Road	F	80.0	2737	1%	D	43.3	2479	28%
Congress Street/On-Ramp D/Off-Ramp F/B Street	F	80.0	3033	4%	F	80.0	3658	11%
Congress Street/D Street	E	76.4	2296	9%	F	80.0	3099	14%
D Street/Silver Line Way	A	8.0	1450	5%	A	8.5	2028	10%
Summer Street/Dorchester Avenue	F	80.0	2242	-11%	F	80.0	1772	-23%
Summer Street/Melcher Street	F	80.0	2168	2%	F	80.0	2433	5%
Summer Street/World Trade Center Avenue/Convention Center Drive	B	13.0	1769	0%	C	22.2	2126	0%
Summer Street/D Street	E	61.5	2889	2%	E	69.7	3384	15%
Summer Street/Dry Dock Avenue/Pappas Way	E	62.3	2356	0%	E	76.4	2530	1%
Dorchester Avenue/West Broadway	D	38.3	2366	2%	E	76.3	2307	4%
Dorchester Avenue/West Fourth Street	C	21.3	2102	1%	C	22.5	2084	1%
Dorchester Avenue/A Street	B	14.6	2150	1%	B	17.1	2289	2%
Dorchester Avenue/Old Colony Avenue	C	25.0	2344	1%	B	19.8	2479	2%
A Street/West Broadway	E	75.5	1877	2%	F	80.0	2253	4%
A Street/West Second Street	B	16.2	1662	3%	B	11.8	2020	5%
West Broadway/D Street	C	28.4	1321	-9%	D	48.6	1453	-1%
West Broadway/East Broadway/Dorchester Street	E	61.6	1568	7%	F	80.0	1680	-1%
Summer Street/East First Street	D	49.3	2133	0%	E	60.4	2193	2%
L Street/East Broadway	E	58.7	1952	0%	F	80.0	2093	1%
A Street/Melcher Street	F	80.0	1541	5%	F	80.0	1856	9%
Seaport Blvd/Thomson St.	B	15.9	2044	N/A	C	20.6	2006	N/A
L Street/William J. Day Boulevard	—	6.1	1150	-1%	—	7.6	1235	1%

LOS-VOLs

Intersection	(2015) Build W/MIT AM Peak				(2015) Build W/MIT PM Peak			
	LOS	Delay (Sec)	Traffic Volume	No-Build to Build Volume % Increase	LOS	Delay (Sec)	Traffic Volume	No-Build to Build Volume % Increase
Seaport Boulevard/Atlantic Avenue	E	67.2	3155	2%	F	80.0	3623	3%
Seaport Boulevard/Sleeper Street	C	33.1	2457	6%	C	27.9	2646	8%
Seaport Boulevard/Boston Wharf Road	A	8.0	2036	17%	A	10.0	1988	29%
Seaport Boulevard/East Service Road/Old Northern Avenue	C	26.4	2905	11%	C	27.4	2767	21%
Seaport Boulevard/B Street	C	22.8	2269	8%	D	36.9	2474	12%
Seaport Boulevard/Northern Avenue/D Street (southbound)/Fish Pier Street	C	21.7	2093	14%	C	23.7	1915	11%
Northern Avenue/D Street (northbound)	D	38.1	1350	10%	D	42.0	1381	19%
Congress Street/Dorchester Avenue	C	32.0	1292	0%	B	18.9	1412	-1%
Congress Street/A Street/Thomson Place	D	41.6	1817	9%	E	77.0	2264	24%
Congress Street/West Service Road/Boston Wharf Road	C	33.2	2059	14%	D	44.5	2524	19%
Congress Street/Off-Ramp C/Off-Ramp I/East Service Road	D	41.8	2737	1%	C	27.6	2479	28%
Congress Street/On-Ramp D/Off-Ramp F/B Street	F	80.0	3033	4%	F	80.0	3658	11%
Congress Street/D Street	C	31.2	2296	9%	E	78.1	3099	14%
D Street/Silver Line Way	A	8.4	1450	5%	A	8.8	2028	10%
Summer Street/Dorchester Avenue	F	80.0	2242	-11%	F	80.0	1772	-23%
Summer Street/Melcher Street	D	44.5	2168	2%	F	80.0	2433	5%
Summer Street/World Trade Center Avenue/Convention Center Drive	B	15.4	1769	0%	B	12.9	2126	0%
Summer Street/D Street	E	68.2	2889	2%	E	66.8	3384	15%
Summer Street/Dry Dock Avenue/Pappas Way	E	55.4	2356	0%	D	44.2	2530	1%
Dorchester Avenue/West Broadway	D	46.3	2366	2%	D	43.8	2307	4%
Dorchester Avenue/West Fourth Street	B	18.9	2102	1%	B	16.1	2084	1%
Dorchester Avenue/A Street	A	8.8	2150	1%	C	23.0	2289	2%
Dorchester Avenue/Old Colony Avenue	C	25.8	2344	1%	B	17.9	2479	2%
A Street/West Broadway	C	25.0	1877	2%	F	80.0	2253	4%
A Street/West Second Street	B	15.6	1662	3%	B	12.0	2020	5%
West Broadway/D Street	C	31.1	1321	-9%	D	48.6	1453	-1%
West Broadway/East Broadway/Dorchester Street	E	59.7	1568	7%	F	80.0	1680	-1%
Summer Street/East First Street	E	58.3	2133	0%	D	37.0	2193	2%
L Street/East Broadway	E	58.7	1952	0%	F	80.0	2093	1%
A Street/Melcher Street	F	80.0	1541	5%	F	80.0	1856	9%
Seaport Blvd/Thomson St.	B	16.4	2044	N/A	C	25.2	2006	N/A
L Street/William J. Day Boulevard	—	6.1	1150	-1%	—	7.6	1235	1%

## Existing

K Factor

10%

Intersection	Average Delay time (s)	Traffic Volume (adt)	Idle MOBILE6 VOC (g/hr)	VOC (lb/day)	VOC (tpy)	Idle MOBILE6 NOX (g/hr)	NOX (lb/day)	NOX (tpy)	Idle MOBILE6 CO2 (g/hr)	CO2 (lb/day)	CO2 (tpy)
Seaport Boulevard/Atlantic Avenue	54.2	28130	8.115	7.58	1.38	5.828	5.44	0.993	1391.625	1299.35	237.131
Seaport Boulevard/Sleeper Street	18.9	18000	8.115	1.69	0.31	6.828	1.42	0.260	1391.625	289.93	52.912
Seaport Boulevard/Boston Wharf Road	18.55	14520	8.115	1.34	0.24	7.828	1.29	0.236	1391.625	229.54	41.892
Seaport Boulevard/East Service Road/Old Northern Avenue	29.85	18610	8.115	2.76	0.50	8.828	3.00	0.548	1391.625	473.42	86.399
Seaport Boulevard/B Street	54.65	16040	8.115	4.36	0.80	9.828	5.28	0.963	1391.625	747.05	136.337
Seaport Boulevard/Northern Avenue/D Street (southbound)/Fish Pier Street	16.9	12990	8.115	1.09	0.20	10.828	1.46	0.266	1391.625	187.09	34.144
Northern Avenue/D Street (northbound)	17.95	8650	8.115	0.77	0.14	11.828	1.12	0.205	1391.625	132.32	24.149
Congress Street/Dorchester Avenue	22.15	10610	8.115	1.17	0.21	12.828	1.85	0.337	1391.625	200.28	36.552
Congress Street/A Street/Thomson Place	22.85	11360	8.115	1.29	0.24	13.828	2.20	0.401	1391.625	221.22	40.372
Congress Street/West Service Road/Boston Wharf Road	36.3	12170	8.115	2.20	0.40	14.828	4.01	0.732	1391.625	376.49	68.709
Congress Street/Off-Ramp C/Off-Ramp I/East Service Road	57.8	18370	8.115	5.28	0.96	15.828	10.29	1.878	1391.625	904.88	165.141
Congress Street/On-Ramp D/Off-Ramp F/B Street	49.45	20280	8.115	4.98	0.91	16.828	10.33	1.886	1391.625	854.65	155.974
Congress Street/D Street	49.2	17500	8.115	4.28	0.78	17.828	9.40	1.715	1391.625	733.77	133.913
D Street/Silver Line Way	7.15	14080	8.115	0.50	0.09	18.828	1.16	0.212	1391.625	85.80	15.658
Summer Street/Dorchester Avenue	32.85	19000	8.115	3.10	0.57	19.828	7.58	1.383	1391.625	531.92	97.075
Summer Street/Melcher Street	19.6	15130	8.115	1.47	0.27	20.828	3.78	0.690	1391.625	252.73	46.123
Summer Street/World Trade Center Avenue/Convention Center Drive	12.9	12850	8.115	0.82	0.15	21.828	2.22	0.404	1391.625	141.27	25.782
Summer Street/D Street	32.1	20440	8.115	3.26	0.60	22.828	9.17	1.674	1391.625	559.17	102.048
Summer Street/Dry Dock Avenue/Pappas Way	52.5	19360	8.115	5.05	0.92	23.828	14.83	2.707	1391.625	866.21	158.082
Dorchester Avenue/West Broadway	40.25	20510	8.115	4.10	0.75	24.828	12.55	2.291	1391.625	703.54	128.396
Dorchester Avenue/West Fourth Street	16.6	19570	8.115	1.61	0.29	25.828	5.14	0.938	1391.625	276.86	50.526
Dorchester Avenue/A Street	12.65	18270	8.115	1.15	0.21	26.828	3.80	0.693	1391.625	196.96	35.946
Dorchester Avenue/Old Colony Avenue	14.3	19950	8.115	1.42	0.26	27.828	4.86	0.887	1391.625	243.13	44.371
A Street/West Broadway	24.3	15000	8.115	1.81	0.33	28.828	6.43	1.174	1391.625	310.64	56.691
A Street/West Second Street	17.9	11820	8.115	1.05	0.19	29.828	3.86	0.705	1391.625	180.31	32.907
West Broadway/D Street	29.9	13410	8.115	1.99	0.36	30.828	7.57	1.381	1391.625	341.71	62.362
West Broadway/East Broadway/Dorchester Street	80	16320	8.115	6.49	1.18	31.828	25.45	4.644	1391.625	1112.67	203.062
Summer Street/East First Street	40.25	17820	8.115	3.56	0.65	32.828	14.42	2.632	1391.625	611.27	111.556
L Street/East Broadway	76	17520	8.115	6.62	1.21	33.828	27.58	5.034	1391.625	1134.76	207.094
A Street/Melcher Street	9.2	9490	8.115	0.43	0.08	34.828	1.86	0.340	1391.625	74.41	13.579
Seaport Blvd/Thomson St.	0	0	8.115	0.00	0.00	35.828	0.00	0.000	1391.625	0.00	0.000
L Street/William J. Day Boulevard	6.4	11510	8.115	0.37	0.07	36.828	1.66	0.303	1391.625	62.78	11.457
Totals	hrs	4672.752		83.60	15.26		211.03	38.51		14336.12	2616.34

MidT NB

K Factor

10%

Intersection	Average Delay time (s)	Traffic Volume (adt)	Idle MOBILE6 VOC (g/hr)	VOC (lb/day)	VOC (tpy)	Idle MOBILE6 NOX (g/hr)	NOX (lb/day)	NOX (tpy)	Idle MOBILE6 CO2 (g/hr)	CO2 (lb/day)	CO2 (tpy)
Seaport Boulevard/Atlantic Avenue	71.4	35030	4.25	6.51	1.19	2.175	3.33	0.608	1412.425	2163.40	394.821
Seaport Boulevard/Sleeper Street	53.5	24410	4.25	3.40	0.62	2.175	1.74	0.317	1412.425	1129.59	206.150
Seaport Boulevard/Boston Wharf Road	4.8	17370	4.25	0.22	0.04	2.175	0.11	0.020	1412.425	72.12	13.161
Seaport Boulevard/East Service Road/Old Northern Avenue	54.5	26160	4.25	3.71	0.68	2.175	1.90	0.347	1412.425	1233.20	225.059
Seaport Boulevard/B Street	69.35	22030	4.25	3.98	0.73	2.175	2.03	0.371	1412.425	1321.48	241.170
Seaport Boulevard/Northern Avenue/D Street (southbound)/Fish Pier Street	27.8	18350	4.25	1.33	0.24	2.175	0.68	0.124	1412.425	441.25	80.527
Northern Avenue/D Street (northbound)	29.95	12290	4.25	0.96	0.17	2.175	0.49	0.089	1412.425	318.38	58.105
Congress Street/Dorchester Avenue	62.7	14210	4.25	2.32	0.42	2.175	1.19	0.217	1412.425	770.66	140.645
Congress Street/A Street/Thomson Place	59.15	18320	4.25	2.82	0.51	2.175	1.44	0.263	1412.425	937.30	171.058
Congress Street/West Service Road/Boston Wharf Road	77.1	21220	4.25	4.26	0.78	2.175	2.18	0.398	1412.425	1415.14	258.263
Congress Street/Off-Ramp C/Off-Ramp I/East Service Road	62.1	27090	4.25	4.38	0.80	2.175	2.24	0.409	1412.425	1455.12	265.560
Congress Street/On-Ramp D/Off-Ramp F/B Street	77.4	33020	4.25	6.65	1.21	2.175	3.40	0.621	1412.425	2210.64	403.441
Congress Street/D Street	69.75	27130	4.25	4.93	0.90	2.175	2.52	0.460	1412.425	1636.79	298.714
D Street/Silver Line Way	8.2	18390	4.25	0.39	0.07	2.175	0.20	0.037	1412.425	130.44	23.804
Summer Street/Dorchester Avenue	80	25090	4.25	5.22	0.95	2.175	2.67	0.488	1412.425	1736.16	316.849
Summer Street/Melcher Street	80	23100	4.25	4.81	0.88	2.175	2.46	0.449	1412.425	1598.46	291.719
Summer Street/World Trade Center Avenue/Convention Center Drive	17.4	21210	4.25	0.96	0.18	2.175	0.49	0.090	1412.425	319.22	58.258
Summer Street/D Street	61.25	29480	4.25	4.70	0.86	2.175	2.41	0.439	1412.425	1561.83	285.033
Summer Street/Dry Dock Avenue/Pappas Way	72.9	24950	4.25	4.73	0.86	2.175	2.42	0.442	1412.425	1573.25	287.118
Dorchester Avenue/West Broadway	49.75	23270	4.25	3.01	0.55	2.175	1.54	0.281	1412.425	1001.36	182.748
Dorchester Avenue/West Fourth Street	23.6	20890	4.25	1.28	0.23	2.175	0.66	0.120	1412.425	426.43	77.824
Dorchester Avenue/A Street	15.95	22400	4.25	0.93	0.17	2.175	0.48	0.087	1412.425	309.04	56.399
Dorchester Avenue/Old Colony Avenue	22.4	24320	4.25	1.42	0.26	2.175	0.73	0.132	1412.425	471.21	85.995
A Street/West Broadway	76.05	21580	4.25	4.27	0.78	2.175	2.19	0.399	1412.425	1419.55	259.068
A Street/West Second Street	14.1	19260	4.25	0.71	0.13	2.175	0.36	0.066	1412.425	234.90	42.868
West Broadway/D Street	42.35	14670	4.25	1.62	0.30	2.175	0.83	0.151	1412.425	537.38	98.072
West Broadway/East Broadway/Dorchester Street	70.8	17010	4.25	3.13	0.57	2.175	1.60	0.293	1412.425	1041.69	190.108
Summer Street/East First Street	49.55	21560	4.25	2.78	0.51	2.175	1.42	0.260	1412.425	924.04	168.638
L Street/East Broadway	77.6	20670	4.25	4.17	0.76	2.175	2.14	0.390	1412.425	1387.40	253.200
A Street/Melcher Street	77.85	16970	4.25	3.44	0.63	2.175	1.76	0.321	1412.425	1142.72	208.546
Seaport Blvd/Thomson St.	14.7	17410	4.25	0.67	0.12	2.175	0.34	0.062	1412.425	221.37	40.400
L Street/William J. Day Boulevard	6.95	12170	4.25	0.22	0.04	2.175	0.11	0.021	1412.425	73.16	13.352
Totals	hrs	10024.36		93.93	17.14		48.07	8.77		31214.65	5696.67

MidT Build

K Factor

10%

Intersection	Average Delay time (s)	Traffic Volume (adt)	Idle MOBILE6 VOC (g/hr)	VOC (lb/day)	VOC (tpy)	Idle MOBILE6 NOX (g/hr)	NOX (lb/day)	NOX (tpy)	Idle MOBILE6 CO2 (g/hr)	CO2 (lb/day)	CO2 (tpy)
Seaport Boulevard/Atlantic Avenue	74.4	36230	4.25	7.02	1.28	2.175	3.59	0.655	1412.425	2331.53	425.504
Seaport Boulevard/Sleeper Street	33.45	26460	4.25	2.30	0.42	2.175	1.18	0.215	1412.425	765.57	139.717
Seaport Boulevard/Boston Wharf Road	8.4	20360	4.25	0.45	0.08	2.175	0.23	0.042	1412.425	147.93	26.997
Seaport Boulevard/East Service Road/Old Northern Avenue	80	29050	4.25	6.05	1.10	2.175	3.10	0.565	1412.425	2010.18	366.858
Seaport Boulevard/B Street	80	24740	4.25	5.15	0.94	2.175	2.64	0.481	1412.425	1711.94	312.429
Seaport Boulevard/Northern Avenue/D Street (southbound)/Fish Pier Street	72.9	20930	4.25	3.97	0.72	2.175	2.03	0.371	1412.425	1319.76	240.857
Northern Avenue/D Street (northbound)	80	13810	4.25	2.88	0.52	2.175	1.47	0.269	1412.425	955.62	174.400
Congress Street/Dorchester Avenue	54.1	14120	4.25	1.99	0.36	2.175	1.02	0.186	1412.425	660.74	120.585
Congress Street/A Street/Thomson Place	74.9	22640	4.25	4.41	0.81	2.175	2.26	0.412	1412.425	1466.76	267.683
Congress Street/West Service Road/Boston Wharf Road	80	25240	4.25	5.26	0.96	2.175	2.69	0.491	1412.425	1746.54	318.744
Congress Street/Off-Ramp C/Off-Ramp I/East Service Road	61.65	27370	4.25	4.39	0.80	2.175	2.25	0.410	1412.425	1459.51	266.361
Congress Street/On-Ramp D/Off-Ramp F/B Street	80	36580	4.25	7.62	1.39	2.175	3.90	0.711	1412.425	2531.24	461.951
Congress Street/D Street	78.2	30990	4.25	6.31	1.15	2.175	3.23	0.589	1412.425	2096.18	382.552
D Street/Silver Line Way	8.25	20280	4.25	0.44	0.08	2.175	0.22	0.041	1412.425	144.72	26.411
Summer Street/Dorchester Avenue	80	22420	4.25	4.67	0.85	2.175	2.39	0.436	1412.425	1551.40	283.131
Summer Street/Melcher Street	80	24330	4.25	5.07	0.92	2.175	2.59	0.473	1412.425	1683.57	307.252
Summer Street/World Trade Center Avenue/Convention Center Drive	17.6	21260	4.25	0.97	0.18	2.175	0.50	0.091	1412.425	323.65	59.066
Summer Street/D Street	65.6	33840	4.25	5.78	1.05	2.175	2.96	0.540	1412.425	1920.14	350.426
Summer Street/Dry Dock Avenue/Pappas Way	69.35	25300	4.25	4.57	0.83	2.175	2.34	0.427	1412.425	1517.63	276.968
Dorchester Avenue/West Broadway	57.3	23660	4.25	3.53	0.64	2.175	1.81	0.330	1412.425	1172.65	214.009
Dorchester Avenue/West Fourth Street	21.9	21020	4.25	1.20	0.22	2.175	0.61	0.112	1412.425	398.18	72.667
Dorchester Avenue/A Street	15.85	22890	4.25	0.94	0.17	2.175	0.48	0.088	1412.425	313.82	57.271
Dorchester Avenue/Old Colony Avenue	22.4	24790	4.25	1.45	0.26	2.175	0.74	0.135	1412.425	480.31	87.657
A Street/West Broadway	77.75	22530	4.25	4.56	0.83	2.175	2.33	0.426	1412.425	1515.17	276.518
A Street/West Second Street	14	20200	4.25	0.74	0.13	2.175	0.38	0.069	1412.425	244.61	44.642
West Broadway/D Street	38.5	14530	4.25	1.46	0.27	2.175	0.75	0.136	1412.425	483.87	88.306
West Broadway/East Broadway/Dorchester Street	70.8	16800	4.25	3.10	0.56	2.175	1.58	0.289	1412.425	1028.83	187.761
Summer Street/East First Street	54.85	21930	4.25	3.13	0.57	2.175	1.60	0.292	1412.425	1040.43	189.879
L Street/East Broadway	69.35	20930	4.25	3.78	0.69	2.175	1.93	0.353	1412.425	1255.50	229.128
A Street/Melcher Street	80	18560	4.25	3.86	0.71	2.175	1.98	0.361	1412.425	1284.30	234.385
Seaport Blvd/Thomson St.	18.25	20440	4.25	0.97	0.18	2.175	0.50	0.091	1412.425	322.66	58.885
L Street/William J. Day Boulevard	6.85	12350	4.25	0.22	0.04	2.175	0.11	0.021	1412.425	73.17	13.354
Totals	hrs	11547.69		108.20	19.75		55.37	10.11		35958.11	6562.36

Build wmit

K Factor

10%

Intersection	Average Delay time (s)	Traffic Volume (adt)	Idle MOBILE6 VOC (g/hr)	VOC (lb/day)	VOC (tpy)	Idle MOBILE6 NOX (g/hr)	NOX (lb/day)	NOX (tpy)	Idle MOBILE6 CO2 (g/hr)	CO2 (lb/day)	CO2 (tpy)
Seaport Boulevard/Atlantic Avenue	80	36230	4.25	7.54	1.38	2.175	3.86	0.705	1412.425	2507.02	457.531
Seaport Boulevard/Sleeper Street	30.5	26460	4.25	2.10	0.38	2.175	1.07	0.196	1412.425	698.05	127.395
Seaport Boulevard/Boston Wharf Road	9	20360	4.25	0.48	0.09	2.175	0.24	0.045	1412.425	158.50	28.926
Seaport Boulevard/East Service Road/Old Northern Avenue	26.9	29050	4.25	2.03	0.37	2.175	1.04	0.190	1412.425	675.92	123.356
Seaport Boulevard/B Street	29.85	24740	4.25	1.92	0.35	2.175	0.98	0.180	1412.425	638.77	116.575
Seaport Boulevard/Northern Avenue/D Street (southbound)/Fish Pier Street	22.7	20930	4.25	1.24	0.23	2.175	0.63	0.115	1412.425	410.96	74.999
Northern Avenue/D Street (northbound)	40.05	13810	4.25	1.44	0.26	2.175	0.74	0.134	1412.425	478.40	87.309
Congress Street/Dorchester Avenue	25.45	14120	4.25	0.94	0.17	2.175	0.48	0.087	1412.425	310.83	56.726
Congress Street/A Street/Thomson Place	59.3	22640	4.25	3.49	0.64	2.175	1.79	0.326	1412.425	1161.26	211.930
Congress Street/West Service Road/Boston Wharf Road	38.85	25240	4.25	2.55	0.47	2.175	1.31	0.238	1412.425	848.16	154.790
Congress Street/Off-Ramp C/Off-Ramp I/East Service Road	34.7	27370	4.25	2.47	0.45	2.175	1.27	0.231	1412.425	821.49	149.922
Congress Street/On-Ramp D/Off-Ramp F/B Street	80	36580	4.25	7.62	1.39	2.175	3.90	0.711	1412.425	2531.24	461.951
Congress Street/D Street	54.65	30990	4.25	4.41	0.80	2.175	2.26	0.412	1412.425	1464.91	267.346
D Street/Silver Line Way	8.6	20280	4.25	0.45	0.08	2.175	0.23	0.042	1412.425	150.86	27.531
Summer Street/Dorchester Avenue	80	22420	4.25	4.67	0.85	2.175	2.39	0.436	1412.425	1551.40	283.131
Summer Street/Melcher Street	62.25	24330	4.25	3.94	0.72	2.175	2.02	0.368	1412.425	1310.03	239.080
Summer Street/World Trade Center Avenue/Convention Center Drive	14.15	21260	4.25	0.78	0.14	2.175	0.40	0.073	1412.425	260.21	47.488
Summer Street/D Street	67.5	33840	4.25	5.95	1.08	2.175	3.04	0.555	1412.425	1975.76	360.576
Summer Street/Dry Dock Avenue/Pappas Way	49.8	25300	4.25	3.28	0.60	2.175	1.68	0.306	1412.425	1089.81	198.890
Dorchester Avenue/West Broadway	45.05	23660	4.25	2.77	0.51	2.175	1.42	0.259	1412.425	921.95	168.256
Dorchester Avenue/West Fourth Street	17.5	21020	4.25	0.96	0.17	2.175	0.49	0.089	1412.425	318.18	58.067
Dorchester Avenue/A Street	15.9	22890	4.25	0.95	0.17	2.175	0.48	0.088	1412.425	314.81	57.452
Dorchester Avenue/Old Colony Avenue	21.85	24790	4.25	1.41	0.26	2.175	0.72	0.132	1412.425	468.52	85.505
A Street/West Broadway	52.5	22530	4.25	3.08	0.56	2.175	1.58	0.288	1412.425	1023.10	186.717
A Street/West Second Street	13.8	20200	4.25	0.73	0.13	2.175	0.37	0.068	1412.425	241.12	44.004
West Broadway/D Street	39.85	14530	4.25	1.51	0.28	2.175	0.77	0.141	1412.425	500.83	91.402
West Broadway/East Broadway/Dorchester Street	69.85	16800	4.25	3.05	0.56	2.175	1.56	0.285	1412.425	1015.02	185.241
Summer Street/East First Street	47.65	21930	4.25	2.72	0.50	2.175	1.39	0.254	1412.425	903.86	164.954
L Street/East Broadway	69.35	20930	4.25	3.78	0.69	2.175	1.93	0.353	1412.425	1255.50	229.128
A Street/Melcher Street	80	18560	4.25	3.86	0.71	2.175	1.98	0.361	1412.425	1284.30	234.385
Seaport Blvd/Thomson St.	20.8	20440	4.25	1.11	0.20	2.175	0.57	0.103	1412.425	367.74	67.113
L Street/William J. Day Boulevard	6.85	12350	4.25	0.22	0.04	2.175	0.11	0.021	1412.425	73.17	13.354
Totals	hrs	8905.83		83.44	15.23		42.70	7.79		27731.69	5061.03

Link Number	Roadway Segment	Link Distance (miles)	Average Speed Limit (mph)	AM Peak Hour Volume <sup>1</sup>				PM Peak Hour Volume <sup>1</sup>				K-factor	Daily Traffic Volume				
				Existing (2009)	Midterm (2015) No Build	Net Project Traffic	Build (2015)	Existing (2009)	Midterm (2015) No Build	Net Project Traffic	Build (2015)		Existing (2009)	Midterm (2015) No Build	Net Project Traffic	Build (2015)	Mitigated Build (2015)
N1	Atlantic Ave, North of Moakley Bridge	0.14	30	831	952	25	977	721	933	15	948	10.0%	8,310	9,520	250	9,770	9,770
N2	Oliver St, West of Moakley Bridge	0.13	30	1,208	1,523	5	1,528	724	934	89	1,023	10.0%	12,080	15,230	890	15,280	15,280
N3	Atlantic Ave, South of Moakley Bridge	0.14	30	1,026	1,145	3	1,148	1,270	1,422	8	1,430	10.0%	12,700	14,220	80	14,300	14,300
N4	Moakley Bridge, Atlantic Ave to Sleeper St.	0.19	30	1,694	2,120	72	2,192	1,631	2,176	112	2,288	10.0%	16,940	21,760	1,120	22,880	22,880
N5	Old Northern Ave, Sleeper St to East Service Road	0.36	30	713	1,302	-428	874	344	1,320	-386	934	10.0%	7,130	13,200	-3,860	9,340	9,340
N6	Seaport Blvd, Moakley Bridge to Boston Wharf Rd.	0.21	30	1,361	1,635	242	1,877	1,275	1,725	128	1,853	10.0%	13,610	17,250	2,420	18,770	18,770
N7	Seaport Blvd, Boston Wharf Rd. to East Service Rd.	0.10	30	1,226	1,505	242	1,747	1,224	1,467	312	1,779	10.0%	12,260	15,050	3,120	17,790	17,790
N8	Seaport Blvd, East Service Rd. to B. St	0.07	30	1,356	1,906	250	2,156	1,428	1,985	267	2,252	10.0%	14,280	19,850	2,670	22,520	22,520
N9	Seaport Blvd, B St. to D St. SB	0.19	30	1,220	1,195	586	1,781	1,179	1,573	183	1,756	10.0%	12,200	15,730	5,860	17,810	17,810
N10	Northern Ave, East of D St.	0.21	30	771	1,046	68	1,114	793	1,022	84	1,106	10.0%	7,930	10,460	840	11,140	11,140
N11	Congress St., Atlantic Ave to Dorchester Ave.	0.12	30	885	1,058	25	1,083	937	1,145	164	1,309	10.0%	9,370	11,450	1,640	13,090	13,090
N12	Congress St., Dorchester Ave to A St.	0.24	30	496	801	162	963	626	1,067	242	1,309	10.0%	6,260	10,670	2,420	13,090	13,090
N13	Congress St., A St./Thompson Pl. to West Service Rd/Boston Wharf Rd.	0.09	30	856	1,181	10	1,191	963	1,148	252	1,400	10.0%	9,630	11,810	2,520	14,000	14,000
N14	Congress St., West Service Rd/Boston Wharf Rd. to Offramps/East Service Rd.	0.10	30	660	1,079	290	1,369	633	1,237	308	1,545	10.0%	6,600	12,370	3,080	15,450	15,450
N15	Congress St., Offramps/East Service Rd. to B St./Onramps	0.09	30	962	1,564	121	1,685	856	1,589	268	1,857	10.0%	9,620	15,890	2,680	18,570	18,570
N16	Congress St., B St./Onramps to D St.	0.19	30	1,106	1,484	130	1,614	1,258	2,009	159	2,168	10.0%	12,580	20,090	1,590	21,680	21,680
N17	Congress St., East of D St.	0.13	30	417	672	69	741	358	724	93	817	10.0%	4,170	7,240	930	8,170	8,170
N18	Silver Line, West of D St	0.09	30	59	67	13	80	51	56	0	56	10.0%	590	670	130	800	800
N19	Silver Line, East of D St.	0.11	30	72	80	-13	67	59	64	0	64	10.0%	720	800	0	670	670
N20	Summer St., Atlantic Ave to Dorchester Ave.	0.15	30	1,094	1,589	33	1,622	1,092	1,713	72	1,785	10.0%	10,940	17,130	720	17,850	17,850
N21	Summer St., Dorchester Ave. to Melcher St.	0.12	30	1,480	1,861	61	1,922	1,415	1,917	137	2,054	10.0%	14,800	19,170	1,370	20,540	20,540
N22	Summer St., Melcher St. to East Side Dr.	0.44	30	1,050	1,560	29	1,589	1,160	1,810	61	1,871	10.0%	11,600	18,100	610	18,710	18,710
N23	Summer St., East Side Dr. to D St.	0.10	30	1,088	1,586	43	1,629	1,161	1,886	80	1,966	10.0%	11,610	18,860	800	19,660	19,660
N24	Summer St., D St. to Pappas Way/Drydock Ave.	0.22	30	1,232	1,630	197	1,827	1,324	1,891	-164	1,727	10.0%	13,240	18,910	-190	18,270	18,270
N25	Summer St., East of Pappas Way/Drydock Ave.	0.25	30	1,421	1,860	-41	1,819	1,464	1,971	-9	1,962	10.0%	14,640	19,710	-90	19,620	19,620
N26	Melcher St., Summer St. to A St.	0.14	30	247	646	603	1,249	488	970	127	1,097	10.0%	4,880	9,700	6,030	12,490	12,490
N27	Melcher St., East of A. St.	0.05	30	59	143	0	143	50	91	0	91	10.0%	590	1,430	0	1,430	1,430
N28	Dorchester Ave., South of Summer St.	0.34	30	140	270	0	270	187	220	0	220	10.0%	1,870	2,700	0	2,700	2,700
N29	Dorchester Ave., Summer St. to Congress St.	0.08	30	525	707	-41	666	635	823	-64	759	10.0%	6,350	8,230	-410	7,590	7,590
N30	Sleeper St., Congress St. to Seaport Blvd.	0.15	30	233	296	26	322	234	399	71	470	10.0%	2,340	3,990	710	4,700	4,700
N31	A St., South of Melcher St.	0.25	30	692	1,189	44	1,233	787	1,453	95	1,548	10.0%	7,870	14,530	950	15,480	15,480
N32	A St., Melcher St. to Congress St.	0.11	30	648	905	163	1,068	709	1,035	279	1,314	10.0%	7,090	10,350	2,790	13,140	13,140
N33	Thomson Pl., Congress St. to Seaport Blvd.	0.17	30	41	363	128	491	46	352	153	505	10.0%	460	3,630	1,530	5,050	5,050
N34	West Service Rd., South of Congress St.	0.25	30	294	916	147	1,063	556	1,335	198	1,533	10.0%	5,560	13,350	1,980	15,330	15,330
N35	Boston Wharf Rd, Congress St. to Seaport Blvd.	0.18	30	158	250	354	604	499	523	237	760	10.0%	4,990	5,230	3,540	7,600	7,600
N36	Offramp C (from I-90 EB)	0.18	30	719	834	-2	832	276	366	84	450	10.0%	7,190	8,340	840	8,320	8,320
N37	Offramp I (from I-93 NB)	0.11	30	588	782	-13	769	158	289	151	440	10.0%	5,880	7,820	1,510	7,690	7,690
N38	East Service Rd, Congress St. to Seaport Blvd.	0.15	30	619	831	197	1,028	248	376	368	744	10.0%	6,190	8,310	3,680	10,280	10,280
N39	Onramp D (to I-93)	0.11	30	355	417	87	504	928	1,389	51	1,440	10.0%	9,280	13,890	870	14,400	14,400
N40	Offramp F (from I-90 WB)	0.08	30	924	1,455	7	1,462	488	799	142	941	10.0%	9,240	14,550	1,420	14,620	14,620
N41	B St., Congress St. to Seaport Blvd.	0.09	30	496	603	231	834	670	929	-2	927	10.0%	6,700	9,290	2,310	9,270	9,270
N42	East Side Dr., South of Summer St.	0.09	30	153	167	0	167	189	205	0	205	10.0%	1,890	2,050	0	2,050	2,050
N43	World Trade Center Ave, North of Summer St.	0.24	30	64	152	0	152	82	285	0	285	10.0%	820	2,850	0	2,850	2,850
N44	D St., South of Summer St.	0.45	30	640	886	67	953	631	946	131	1,077	10.0%	6,400	9,460	1,310	10,770	10,770
N45	D St., Summer St to Silver Line	0.12	30	925	1,248	237	1,485	1,354	1,225	768	1,993	10.0%	13,540	12,480	7,680	19,930	19,930
N46	D St., Silver Line to Congress St.	0.04	30	998	1,299	127	1,426	1,352	1,778	189	1,967	10.0%	13,520	17,780	1,890	19,670	19,670
N47	D St., SB Congress St to Seaport Blvd.	0.09	30	184	351	116	467	516	900	20	920	10.0%	5,160	9,000	1,160	9,200	9,200
N48	D St., NB Congress St to Seaport Blvd.	0.09	30	166	206	245	451	190	187	471	658	10.0%	1,900	2,060	4,710	6,580	6,580
N49	D St., North from Seaport Blvd. (Fish Pier St. E)	0.06	30	140	152	0	152	123	134	0	134	10.0%	1,400	1,520	0	1,520	1,520
N50	Pappas Way, South of Summer St.	0.29	30	249	254	17	271	223	250	22	272	10.0%	2,490	2,540	220	2,720	2,720
N51	Drydock Ave, North of Summer St.	0.12	30	712	778	17	795	707	775	22	797	10.0%	7,120	7,780	220	7,970	7,970
N52	Onramp to I-93 NB from Atlantic Ave/Seaport Blvd.	0.09	30	377	458	26	484	1,290	1,552	16	1,568	10.0%	12,900	15,520	260	15,680	15,680

Link Number	Roadway Segment	Link Distance (miles)	Average Speed Limit (mph)	AM Peak Hour Volume <sup>1</sup>				PM Peak Hour Volume <sup>1</sup>				K-factor	Daily Traffic Volume				
				Existing (2009)	Midterm (2015) No Build	Net Project Traffic	Build (2015)	Existing (2009)	Midterm (2015) No Build	Net Project Traffic	Build (2015)		Existing (2009)	Midterm (2015) No Build	Net Project Traffic	Build (2015)	Mitigated Build (2015)
				S1	West Second St, Dorchester Ave. to A St.	0.15	30	322	390	0	390		305	370	0	370	10.0%
S2	West Second St., A St. to Dorchester St.	0.68	30	355	475	0	475	259	338	0	338	10.0%	3,550	4,750	0	4,750	4,750
S3	West Broadway, West of Dorchester Ave	0.19	30	1,643	1,858	14	1,872	1,539	1,753	42	1,795	10.0%	16,430	18,580	420	18,720	18,720
S4	West Broadway, Dorchester Ave. to A St.	0.11	30	767	899	10	909	647	705	134	839	10.0%	7,670	8,990	1,340	9,090	9,090
S5	West Broadway, A St. to D St.	0.31	30	1,025	926	163	1,089	888	857	97	954	10.0%	10,250	9,260	1,630	10,890	10,890
S6	West Broadway, D St. to Dorchester St.	0.34	30	928	1,053	-76	977	877	1,089	-152	937	10.0%	9,280	10,890	-760	9,770	9,770
S7	East Broadway, Dorchester St. to L St.	0.51	30	850	790	91	881	906	650	264	914	10.0%	9,060	7,900	2,640	9,140	9,140
S8	East Broadway, East of L St.	0.10	30	465	541	5	546	447	527	12	539	10.0%	4,650	5,410	120	5,460	5,460
S9	East First St., West of L St.	0.39	30	217	221	0	221	269	275	0	275	10.0%	2,690	2,750	0	2,750	2,750
S10	East First St., East of L St.	0.10	30	591	688	-1	687	497	613	13	626	10.0%	5,910	6,880	130	6,870	6,870
S11	West Fourth St., West of Dorchester Ave.	0.22	30	1,119	1,190	-22	1,168	970	1,070	-20	1,050	10.0%	11,190	11,900	-200	11,680	11,680
S12	West Fourth St., Dorchester Ave to Dorchester St.	0.69	30	312	344	-22	322	353	403	-20	383	10.0%	3,530	4,030	-200	3,830	3,830
S13	West Seventh St., West of Dorchester Ave.	0.01	30	2	4	0	4	2	4	0	4	10.0%	20	40	0	40	40
S14	West Seventh St., East of Dorchester Ave.	0.20	30	180	158	0	158	98	67	0	67	10.0%	1,800	1,580	0	1,580	1,580
S15	Old Colony Road, B St. to Dorchester St.	0.46	30	1,225	1,010	0	1,010	1,359	670	0	670	10.0%	13,590	10,100	0	10,100	10,100
S16	W. J. Day Blvd, West of L St.	0.46	30	1,098	1,146	-6	1,140	1,138	1,204	18	1,222	10.0%	11,380	12,040	180	12,220	12,220
S17	W. J. Day Blvd, East of L St.	0.10	30	497	506	0	506	600	611	0	611	10.0%	6,000	6,110	0	6,110	6,110
S18	Dorchester Ave, North of West Broadway	0.13	30	577	659	25	684	688	669	47	716	10.0%	6,880	6,690	470	7,160	7,160
S19	Dorchester Ave, West Fourth St. to West Broadway	0.08	30	1,139	1,283	-16	1,267	1,218	1,274	62	1,336	10.0%	12,180	12,830	620	13,360	13,360
S20	Dorchester Ave., A St. to West Fourth St.	0.06	30	1,352	1,423	101	1,524	1,232	1,352	60	1,412	10.0%	13,520	14,230	1,010	15,240	15,240
S21	Dorchester Ave., B St. to A St.	0.17	30	1,752	2,057	44	2,101	1,809	2,162	135	2,297	10.0%	18,090	21,620	1,350	22,970	22,970
S22	Dorchester Ave., D St. to B St./W. Seventh St./Old Colony Rd.	0.31	30	549	1,179	21	1,200	543	1,720	47	1,767	10.0%	5,490	17,200	470	17,670	17,670
S23	A St., Dorchester Ave. to West Broadway	0.10	30	657	676	238	914	807	938	285	1,223	10.0%	8,070	9,380	2,850	12,230	12,230
S24	A St., West Broadway to West Second St.	0.10	30	676	1,088	38	1,126	867	1,496	76	1,572	10.0%	8,670	14,960	760	15,720	15,720
S25	A St., North of West Second St.	0.29	30	719	1,289	44	1,333	933	1,668	94	1,762	10.0%	9,330	16,680	940	17,620	17,620
S26	B St., North of West Seventh St/Dorchester Ave/Old Colony Rd.	0.41	30	193	163	60	223	186	153	0	153	10.0%	1,930	1,630	600	2,230	2,230
S27	D St., South of West Broadway	0.48	30	374	467	-125	342	581	649	-14	635	10.0%	5,810	6,490	-140	6,350	6,350
S28	D St., North of West Broadway	0.23	30	281	359	-125	234	336	407	-14	393	10.0%	3,360	4,070	-140	3,930	3,930
S29	Dorchester St., South of West Broadway/East Broadway	0.46	30	905	939	0	939	1,063	1,109	0	1,109	10.0%	10,630	11,090	0	11,090	11,090
S30	Dorchester St., North of West Broadway/East Broadway	0.16	30	444	457	0	457	513	537	0	537	10.0%	5,130	5,370	0	5,370	5,370
S31	L St, North of East First St	0.24	30	1,606	1,962	-8	1,954	1,506	1,949	37	1,986	10.0%	16,060	19,620	370	19,860	19,860
S32	L St., East Broadway to East First St.	0.17	30	1,160	1,429	-25	1,404	1,219	1,454	97	1,551	10.0%	12,190	14,540	970	15,510	15,510
S33	L St., W.J. Day Blvd to East Broadway	0.43	30	1,028	969	150	1,119	1,086	814	415	1,229	10.0%	10,860	9,690	4,150	12,290	12,290

Notes

1. Where link volumes are unbalanced between intersections, the higher volume was used to provide a conservative analysis.



Seaport Square

Mesoscale Analysis  
2009 Existing Case

	Link	Daily Average Volumes	Miles Per Link	Miles Traveled	Vehicle Speed (mph)	MOBILE6 vehicle class	MOBILE6 VOC (g/mile)	lbs/day	tons/year	MOBILE6 NOX (g/mile)	lbs/day	tons/year	MOBILE6 CO2 (g/mile)	lbs/day	tons/year
S1	West Second St, Dorchester Ave. to A St.	3,220	0.15	483.0	30	Composite	0.540	0.575	0.105	1.271	1.353	0.247	556.650	592.742	108.175
S2	West Second St., A St. to Dorchester St.	3,550	0.68	2414.0	30	Composite	0.540	2.874	0.524	1.271	6.764	1.234	556.650	2962.484	540.653
S3	West Broadway, West of Dorchester Ave	16,430	0.19	3121.7	30	Composite	0.540	3.716	0.678	1.271	8.747	1.596	556.650	3830.980	699.154
S4	West Broadway, Dorchester Ave. to A St.	7,670	0.11	843.7	30	Composite	0.540	1.004	0.183	1.271	2.364	0.431	556.650	1035.397	188.960
S5	West Broadway, A St. to D St.	10,250	0.31	3177.5	30	Composite	0.540	3.783	0.690	1.271	8.904	1.625	556.650	3899.458	711.651
S6	West Broadway, D St. to Dorchester St.	9,280	0.34	3155.2	30	Composite	0.540	3.756	0.686	1.271	8.841	1.614	556.650	3872.092	706.657
S7	East Broadway, Dorchester St. to L St.	9,060	0.51	4620.6	30	Composite	0.540	5.501	1.004	1.271	12.947	2.363	556.650	5670.445	1034.856
S8	East Broadway, East of L St.	4,650	0.10	465.0	30	Composite	0.540	0.554	0.101	1.271	1.303	0.238	556.650	570.652	104.144
S9	East First St., West of L St.	2,690	0.39	1049.1	30	Composite	0.540	1.249	0.228	1.271	2.940	0.536	556.650	1287.466	234.962
S10	East First St., East of L St.	5,910	0.10	591.0	30	Composite	0.540	0.704	0.128	1.271	1.656	0.302	556.650	725.281	132.364
S11	West Fourth St., West of Dorchester Ave.	11,190	0.22	2461.8	30	Composite	0.540	2.931	0.535	1.271	6.898	1.259	556.650	3021.145	551.359
S12	West Fourth St., Dorchester Ave to Dorchester St.	3,530	0.69	2435.7	30	Composite	0.540	2.900	0.529	1.271	6.825	1.246	556.650	2989.114	545.513
S13	West Seventh St., West of Dorchester Ave.	20	0.01	0.2	30	Composite	0.540	0.000	0.000	1.271	0.001	0.000	556.650	0.245	0.045
S14	West Seventh St., East of Dorchester Ave.	1,800	0.20	360.0	30	Composite	0.540	0.429	0.078	1.271	1.009	0.184	556.650	441.795	80.628
S15	Old Colony Road, B St. to Dorchester St.	13,590	0.46	6251.4	30	Composite	0.540	7.442	1.358	1.271	17.517	3.197	556.650	7671.778	1400.099
S16	W. J. Day Blvd, West of L St.	11,380	0.46	5234.8	30	Composite	0.540	6.232	1.137	1.271	14.668	2.677	556.650	6424.197	1172.416
S17	W. J. Day Blvd, East of L St.	6,000	0.10	600.0	30	Composite	0.540	0.714	0.130	1.271	1.681	0.307	556.650	736.326	134.379
S18	Dorchester Ave, North of West Broadway	6,880	0.13	894.4	30	Composite	0.540	1.065	0.194	1.271	2.506	0.457	556.650	1097.616	200.315
S19	Dorchester Ave, West Fourth St. to West Broadway	12,180	0.08	974.4	30	Composite	0.540	1.160	0.212	1.271	2.730	0.498	556.650	1195.793	218.232
S20	Dorchester Ave., A St. to West Fourth St.	13,520	0.06	811.2	30	Composite	0.540	0.966	0.176	1.271	2.273	0.415	556.650	995.512	181.681
S21	Dorchester Ave., B St. to A St.	18,090	0.17	3075.3	30	Composite	0.540	3.661	0.668	1.271	8.617	1.573	556.650	3774.038	688.762
S22	Dorchester Ave., D St. to B St./W. Seventh St./Old Colony Rd.	5,490	0.31	1701.9	30	Composite	0.540	2.026	0.370	1.271	4.769	0.870	556.650	2088.588	381.167
S23	A St., Dorchester Ave. to West Broadway	8,070	0.10	807.0	30	Composite	0.540	0.961	0.175	1.271	2.261	0.413	556.650	990.358	180.740
S24	A St., West Broadway to West Second St.	8,670	0.10	867.0	30	Composite	0.540	1.032	0.188	1.271	2.429	0.443	556.650	1063.991	194.178
S25	A St., North of West Second St.	9,330	0.29	2705.7	30	Composite	0.540	3.221	0.588	1.271	7.582	1.384	556.650	3320.461	605.984
S26	B St., North of West Seventh St./Dorchester Ave/Old Colony Rd.	1,930	0.41	791.3	30	Composite	0.540	0.942	0.172	1.271	2.217	0.405	556.650	971.091	177.224
S27	D St., South of West Broadway	5,810	0.48	2788.8	30	Composite	0.540	3.320	0.606	1.271	7.814	1.426	556.650	3422.442	624.596
S28	D St., North of West Broadway	3,360	0.23	772.8	30	Composite	0.540	0.920	0.168	1.271	2.165	0.395	556.650	948.388	173.081
S29	Dorchester St., South of West Broadway/East Broadway	10,630	0.46	4889.8	30	Composite	0.540	5.821	1.062	1.271	13.702	2.501	556.650	6000.809	1095.148
S30	Dorchester St., North of West Broadway/East Broadway	5,130	0.16	820.8	30	Composite	0.540	0.977	0.178	1.271	2.300	0.420	556.650	1007.294	183.831
S31	L St, North of East First St	16,060	0.24	3854.4	30	Composite	0.540	4.589	0.837	1.271	10.800	1.971	556.650	4730.157	863.254
S32	L St., East Broadway to East First St.	12,190	0.17	2072.3	30	Composite	0.540	2.467	0.450	1.271	5.807	1.060	556.650	2543.146	464.124
S33	L St., W. J. Day Blvd to East Broadway	10,860	0.43	4669.8	30	Composite	0.540	5.559	1.015	1.271	13.085	2.388	556.650	5730.823	1045.875
Total		675850.000	17.140	134887.700				160.584	29.307		377.967	68.979		165535.460	30210.225

Notes:



Seaport Square

Mesoscale Analysis  
2015 Mid Term No Build Case

Link	Daily Average Volumes	Miles Per Link	Miles Traveled	Vehicle Speed (mph)	MOBILE6 vehicle class	MOBILE6 VOC (g/mile)	lbs/day	tons/year	MOBILE6 NOX (g/mile)	lbs/day	tons/year	MOBILE6 CO2 (g/mile)	lbs/day	tons/year
S1 West Second St, Dorchester Ave. to A St.	3,900	0.15	585.0	30	Composite	0.259	0.334	0.061	0.477	0.615	0.112	564.970	728.648	132.978
S2 West Second St., A St. to Dorchester St.	4,750	0.68	3230.0	30	Composite	0.259	1.844	0.337	0.477	3.397	0.620	564.970	4023.133	734.222
S3 West Broadway, West of Dorchester Ave	18,580	0.19	3530.2	30	Composite	0.259	2.016	0.368	0.477	3.712	0.678	564.970	4397.048	802.461
S4 West Broadway, Dorchester Ave. to A St.	8,990	0.11	988.9	30	Composite	0.259	0.565	0.103	0.477	1.040	0.190	564.970	1231.727	224.790
S5 West Broadway, A St. to D St.	9,260	0.31	2870.6	30	Composite	0.259	1.639	0.299	0.477	3.019	0.551	564.970	3575.482	652.525
S6 West Broadway, D St. to Dorchester St.	10,890	0.34	3702.6	30	Composite	0.259	2.114	0.386	0.477	3.894	0.711	564.970	4611.781	841.650
S7 East Broadway, Dorchester St. to L St.	7,900	0.51	4029.0	30	Composite	0.259	2.301	0.420	0.477	4.237	0.773	564.970	5018.330	915.845
S8 East Broadway, East of L St.	5,410	0.10	541.0	30	Composite	0.259	0.309	0.056	0.477	0.569	0.104	564.970	673.844	122.976
S9 East First St., West of L St.	2,750	0.39	1072.5	30	Composite	0.259	0.612	0.112	0.477	1.128	0.206	564.970	1335.855	243.793
S10 East First St., East of L St.	6,880	0.10	688.0	30	Composite	0.259	0.393	0.072	0.477	0.724	0.132	564.970	856.940	156.392
S11 West Fourth St., West of Dorchester Ave.	11,900	0.22	2618.0	30	Composite	0.259	1.495	0.273	0.477	2.753	0.502	564.970	3260.856	595.106
S12 West Fourth St., Dorchester Ave to Dorchester St.	4,030	0.69	2780.7	30	Composite	0.259	1.588	0.290	0.477	2.924	0.534	564.970	3463.507	632.090
S13 West Seventh St., West of Dorchester Ave.	40	0.01	0.4	30	Composite	0.259	0.000	0.000	0.477	0.000	0.000	564.970	0.498	0.091
S14 West Seventh St., East of Dorchester Ave.	1,580	0.20	316.0	30	Composite	0.259	0.180	0.033	0.477	0.332	0.061	564.970	393.594	71.831
S15 Old Colony Road, B St. to Dorchester St.	10,100	0.46	4646.0	30	Composite	0.259	2.653	0.484	0.477	4.886	0.892	564.970	5786.835	1056.097
S16 W. J. Day Blvd, West of L St.	12,040	0.46	5538.4	30	Composite	0.259	3.162	0.577	0.477	5.824	1.063	564.970	6898.366	1258.952
S17 W. J. Day Blvd, East of L St.	6,110	0.10	611.0	30	Composite	0.259	0.349	0.064	0.477	0.643	0.117	564.970	761.032	138.888
S18 Dorchester Ave, North of West Broadway	6,690	0.13	869.7	30	Composite	0.259	0.497	0.091	0.477	0.915	0.167	564.970	1083.257	197.694
S19 Dorchester Ave, West Fourth St. to West Broadway	12,830	0.08	1026.4	30	Composite	0.259	0.586	0.107	0.477	1.079	0.197	564.970	1278.435	233.314
S20 Dorchester Ave., A St. to West Fourth St.	14,230	0.06	853.8	30	Composite	0.259	0.488	0.089	0.477	0.898	0.164	564.970	1063.452	194.080
S21 Dorchester Ave., B St. to A St.	21,620	0.17	3675.4	30	Composite	0.259	2.099	0.383	0.477	3.865	0.705	564.970	4577.902	835.467
S22 Dorchester Ave., D St. to B St./W. Seventh St./Old Colony Rd.	17,200	0.31	5332.0	30	Composite	0.259	3.045	0.556	0.477	5.607	1.023	564.970	6641.284	1212.034
S23 A St., Dorchester Ave. to West Broadway	9,380	0.10	938.0	30	Composite	0.259	0.536	0.098	0.477	0.986	0.180	564.970	1168.328	213.220
S24 A St., West Broadway to West Second St.	14,960	0.10	1496.0	30	Composite	0.259	0.854	0.156	0.477	1.573	0.287	564.970	1863.346	340.061
S25 A St., North of West Second St.	16,680	0.29	4837.2	30	Composite	0.259	2.762	0.504	0.477	5.087	0.928	564.970	6024.985	1099.560
S26 B St., North of West Seventh St./Dorchester Ave/Old Colony Rd.	1,630	0.41	668.3	30	Composite	0.259	0.382	0.070	0.477	0.703	0.128	564.970	832.403	151.913
S27 D St., South of West Broadway	6,490	0.48	3115.2	30	Composite	0.259	1.779	0.325	0.477	3.276	0.598	564.970	3880.144	708.126
S28 D St., North of West Broadway	4,070	0.23	936.1	30	Composite	0.259	0.535	0.098	0.477	0.984	0.180	564.970	1165.961	212.788
S29 Dorchester St., South of West Broadway/East Broadway	11,090	0.46	5101.4	30	Composite	0.259	2.913	0.532	0.477	5.365	0.979	564.970	6354.060	1159.616
S30 Dorchester St., North of West Broadway/East Broadway	5,370	0.16	859.2	30	Composite	0.259	0.491	0.090	0.477	0.904	0.165	564.970	1070.178	195.308
S31 L St, North of East First St	19,620	0.24	4708.8	30	Composite	0.259	2.689	0.491	0.477	4.952	0.904	564.970	5865.056	1070.373
S32 L St., East Broadway to East First St.	14,540	0.17	2471.8	30	Composite	0.259	1.411	0.258	0.477	2.599	0.474	564.970	3078.756	561.873
S33 L St., W.J. Day Blvd to East Broadway	9,690	0.43	4166.7	30	Composite	0.259	2.379	0.434	0.477	4.382	0.800	564.970	5189.842	947.146
<b>Total</b>	<b>884720.000</b>	<b>17.140</b>	<b>172970.700</b>				<b>98.766</b>	<b>18.025</b>		<b>181.898</b>	<b>33.196</b>		<b>215444.027</b>	<b>39318.535</b>

Notes:



Seaport Square

Mesoscale Analysis  
2015 Build Case

	Link	Daily Average Volumes	Miles Per Link	Miles Traveled	Vehicle Speed (mph)	MOBILE6 vehicle class	MOBILE6 VOC (g/mile)	lbs/day	tons/year	MOBILE6 NOX (g/mile)	lbs/day	tons/year	MOBILE6 CO2 (g/mile)	lbs/day	tons/year
S1	West Second St, Dorchester Ave. to A St.	3,900	0.15	585.0	30	Composite	0.259	0.334	0.061	0.477	0.615	0.112	564.970	728.648	132.978
S2	West Second St., A St. to Dorchester St.	4,750	0.68	3230.0	30	Composite	0.259	1.844	0.337	0.477	3.397	0.620	564.970	4023.133	734.222
S3	West Broadway, West of Dorchester Ave	18,720	0.19	3556.8	30	Composite	0.259	2.031	0.371	0.477	3.740	0.683	564.970	4430.180	808.508
S4	West Broadway, Dorchester Ave. to A St.	9,090	0.11	999.9	30	Composite	0.259	0.571	0.104	0.477	1.052	0.192	564.970	1245.428	227.291
S5	West Broadway, A St. to D St.	10,890	0.31	3375.9	30	Composite	0.259	1.928	0.352	0.477	3.550	0.648	564.970	4204.860	767.387
S6	West Broadway, D St. to Dorchester St.	9,770	0.34	3321.8	30	Composite	0.259	1.897	0.346	0.477	3.493	0.638	564.970	4137.475	755.089
S7	East Broadway, Dorchester St. to L St.	9,140	0.51	4661.4	30	Composite	0.259	2.662	0.486	0.477	4.902	0.895	564.970	5806.017	1059.598
S8	East Broadway, East of L St.	5,460	0.10	546.0	30	Composite	0.259	0.312	0.057	0.477	0.574	0.105	564.970	680.071	124.113
S9	East First St., West of L St.	2,750	0.39	1072.5	30	Composite	0.259	0.612	0.112	0.477	1.128	0.206	564.970	1335.855	243.793
S10	East First St., East of L St.	6,870	0.10	687.0	30	Composite	0.259	0.392	0.072	0.477	0.722	0.132	564.970	855.694	156.164
S11	West Fourth St., West of Dorchester Ave.	11,680	0.22	2569.6	30	Composite	0.259	1.467	0.268	0.477	2.702	0.493	564.970	3200.571	584.104
S12	West Fourth St., Dorchester Ave to Dorchester St.	3,830	0.69	2642.7	30	Composite	0.259	1.509	0.275	0.477	2.779	0.507	564.970	3291.621	600.721
S13	West Seventh St., West of Dorchester Ave.	40	0.01	0.4	30	Composite	0.259	0.000	0.000	0.477	0.000	0.000	564.970	0.498	0.091
S14	West Seventh St., East of Dorchester Ave.	1,580	0.20	316.0	30	Composite	0.259	0.180	0.033	0.477	0.332	0.061	564.970	393.594	71.831
S15	Old Colony Road, B St. to Dorchester St.	10,100	0.46	4646.0	30	Composite	0.259	2.653	0.484	0.477	4.886	0.892	564.970	5786.835	1056.097
S16	W. J. Day Blvd, West of L St.	12,220	0.46	5621.2	30	Composite	0.259	3.210	0.586	0.477	5.911	1.079	564.970	7001.498	1277.773
S17	W. J. Day Blvd, East of L St.	6,110	0.10	611.0	30	Composite	0.259	0.349	0.064	0.477	0.643	0.117	564.970	761.032	138.888
S18	Dorchester Ave, North of West Broadway	7,160	0.13	930.8	30	Composite	0.259	0.531	0.097	0.477	0.979	0.179	564.970	1159.360	211.583
S19	Dorchester Ave, West Fourth St. to West Broadway	13,360	0.08	1068.8	30	Composite	0.259	0.610	0.111	0.477	1.124	0.205	564.970	1331.246	242.952
S20	Dorchester Ave., A St. to West Fourth St.	15,240	0.06	914.4	30	Composite	0.259	0.522	0.095	0.477	0.962	0.175	564.970	1138.933	207.855
S21	Dorchester Ave., B St. to A St.	22,970	0.17	3904.9	30	Composite	0.259	2.230	0.407	0.477	4.106	0.749	564.970	4863.757	887.636
S22	Dorchester Ave., D St. to B St./W. Seventh St./Old Colony Rd.	17,670	0.31	5477.7	30	Composite	0.259	3.128	0.571	0.477	5.760	1.051	564.970	6822.761	1245.154
S23	A St., Dorchester Ave. to West Broadway	12,230	0.10	1223.0	30	Composite	0.259	0.698	0.127	0.477	1.286	0.235	564.970	1523.310	278.004
S24	A St., West Broadway to West Second St.	15,720	0.10	1572.0	30	Composite	0.259	0.898	0.164	0.477	1.653	0.302	564.970	1958.008	357.336
S25	A St., North of West Second St.	17,620	0.29	5109.8	30	Composite	0.259	2.918	0.532	0.477	5.374	0.981	564.970	6364.522	1161.525
S26	B St., North of West Seventh St./Dorchester Ave/Old Colony Rd.	2,230	0.41	914.3	30	Composite	0.259	0.522	0.095	0.477	0.961	0.175	564.970	1138.808	207.833
S27	D St., South of West Broadway	6,350	0.48	3048.0	30	Composite	0.259	1.740	0.318	0.477	3.205	0.585	564.970	3796.443	692.851
S28	D St., North of West Broadway	3,930	0.23	903.9	30	Composite	0.259	0.516	0.094	0.477	0.951	0.173	564.970	1125.855	205.468
S29	Dorchester St., South of West Broadway/East Broadway	11,090	0.46	5101.4	30	Composite	0.259	2.913	0.532	0.477	5.365	0.979	564.970	6354.060	1159.616
S30	Dorchester St., North of West Broadway/East Broadway	5,370	0.16	859.2	30	Composite	0.259	0.491	0.090	0.477	0.904	0.165	564.970	1070.178	195.308
S31	L St, North of East First St	19,860	0.24	4766.4	30	Composite	0.259	2.722	0.497	0.477	5.012	0.915	564.970	5936.800	1083.466
S32	L St., East Broadway to East First St.	15,510	0.17	2636.7	30	Composite	0.259	1.506	0.275	0.477	2.773	0.506	564.970	3284.147	599.357
S33	L St., W.J. Day Blvd to East Broadway	12,290	0.43	5284.7	30	Composite	0.259	3.018	0.551	0.477	5.557	1.014	564.970	6582.369	1201.282
Total		954300.000	17.140	183485.500				104.770	19.121		192.955	35.214		228540.759	41708.689

Notes:



### Seaport Square

Mesoscale Analysis  
2015 Build with Mitigation Case

	Link	Daily Average Volumes	Miles Per Link	Miles Traveled	Vehicle Speed (mph)	MOBILE6 vehicle class	MOBILE6 VOC (g/mile)	lbs/day	tons/year	MOBILE6 NOX (g/mile)	lbs/day	tons/year	MOBILE6 CO2 (g/mile)	lbs/day	tons/year
S1	West Second St, Dorchester Ave. to A St.	3,900	0.15	585.0	30	Composite	0.259	0.334	0.061	0.477	0.615	0.112	564.970	728.648	132.978
S2	West Second St., A St. to Dorchester St.	4,750	0.68	3230.0	30	Composite	0.259	1.844	0.337	0.477	3.397	0.620	564.970	4023.133	734.222
S3	West Broadway, West of Dorchester Ave	18,720	0.19	3556.8	30	Composite	0.259	2.031	0.371	0.477	3.740	0.683	564.970	4430.180	808.508
S4	West Broadway, Dorchester Ave. to A St.	9,090	0.11	999.9	30	Composite	0.259	0.571	0.104	0.477	1.052	0.192	564.970	1245.428	227.291
S5	West Broadway, A St. to D St.	10,890	0.31	3375.9	30	Composite	0.259	1.928	0.352	0.477	3.550	0.648	564.970	4204.860	767.387
S6	West Broadway, D St. to Dorchester St.	9,770	0.34	3321.8	30	Composite	0.259	1.897	0.346	0.477	3.493	0.638	564.970	4137.475	755.089
S7	East Broadway, Dorchester St. to L St.	9,140	0.51	4661.4	30	Composite	0.259	2.662	0.486	0.477	4.902	0.895	564.970	5806.017	1059.598
S8	East Broadway, East of L St.	5,460	0.10	546.0	30	Composite	0.259	0.312	0.057	0.477	0.574	0.105	564.970	680.071	124.113
S9	East First St., West of L St.	2,750	0.39	1072.5	30	Composite	0.259	0.612	0.112	0.477	1.128	0.206	564.970	1335.855	243.793
S10	East First St., East of L St.	6,870	0.10	687.0	30	Composite	0.259	0.392	0.072	0.477	0.722	0.132	564.970	855.694	156.164
S11	West Fourth St., West of Dorchester Ave.	11,680	0.22	2569.6	30	Composite	0.259	1.467	0.268	0.477	2.702	0.493	564.970	3200.571	584.104
S12	West Fourth St., Dorchester Ave to Dorchester St.	3,830	0.69	2642.7	30	Composite	0.259	1.509	0.275	0.477	2.779	0.507	564.970	3291.621	600.721
S13	West Seventh St., West of Dorchester Ave.	40	0.01	0.4	30	Composite	0.259	0.000	0.000	0.477	0.000	0.000	564.970	0.498	0.091
S14	West Seventh St., East of Dorchester Ave.	1,580	0.20	316.0	30	Composite	0.259	0.180	0.033	0.477	0.332	0.061	564.970	393.594	71.831
S15	Old Colony Road, B St. to Dorchester St.	10,100	0.46	4646.0	30	Composite	0.259	2.653	0.484	0.477	4.886	0.892	564.970	5786.835	1056.097
S16	W. J. Day Blvd, West of L St.	12,220	0.46	5621.2	30	Composite	0.259	3.210	0.586	0.477	5.911	1.079	564.970	7001.498	1277.773
S17	W. J. Day Blvd, East of L St.	6,110	0.10	611.0	30	Composite	0.259	0.349	0.064	0.477	0.643	0.117	564.970	761.032	138.888
S18	Dorchester Ave, North of West Broadway	7,160	0.13	930.8	30	Composite	0.259	0.531	0.097	0.477	0.979	0.179	564.970	1159.360	211.583
S19	Dorchester Ave, West Fourth St. to West Broadway	13,360	0.08	1068.8	30	Composite	0.259	0.610	0.111	0.477	1.124	0.205	564.970	1331.246	242.952
S20	Dorchester Ave., A St. to West Fourth St.	15,240	0.06	914.4	30	Composite	0.259	0.522	0.095	0.477	0.962	0.175	564.970	1138.933	207.855
S21	Dorchester Ave., B St. to A St.	22,970	0.17	3904.9	30	Composite	0.259	2.230	0.407	0.477	4.106	0.749	564.970	4863.757	887.636
S22	Dorchester Ave., D St. to B St./W. Seventh St./Old Colony Rd.	17,670	0.31	5477.7	30	Composite	0.259	3.128	0.571	0.477	5.760	1.051	564.970	6822.761	1245.154
S23	A St., Dorchester Ave. to West Broadway	12,230	0.10	1223.0	30	Composite	0.259	0.698	0.127	0.477	1.286	0.235	564.970	1523.310	278.004
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S32	L St., East Broadway to East First St.	15,510	0.17	2636.7	30	Composite	0.259	1.506	0.275	0.477	2.773	0.506	564.970	3284.147	599.357
S33	L St., W. J. Day Blvd to East Broadway	12,290	0.43	5284.7	30	Composite	0.259	3.018	0.551	0.477	5.557	1.014	564.970	6582.369	1201.282
Total		954300.000	17.140	183485.500				104.770	19.121		192.955	35.214		228540.759	41708.689

Notes:

## Dispersion Modeling Input/Output

Available on digital media upon request.