LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

TDM PHASE II PROGRAM

PART III-B
TECHNICAL APPENDIX
AIR QUALITY IMPACTS

PREPARED BY:

SARAH J. SIWEK

HASAN M. IKHRATA

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EMISSION MODEL LACMTA

INPUT ASSUMPTIONS

PEAK SPEEDS

FREEWAY AM PEAK VMT	11,909,631
ARTERIAL AM PEAK VMT	11,299,332
FREEWAY AM PEAK SPEED	33.30
ARTERIAL AM PEAK SPEED	21.39
AVERAGE AM PEAK SPEED	25.90
FREEWAY PM PEAK VMT	22,391,380
ARTERIAL PM PEAK VMT	23,848,732
FREEWAY PM PEAK SPEED	32.40
ARTERIAL PM PEAK SPEED	18.70
AVERAGE PM PEAK SPEED	22.80
TOTAL FREEWAY PEAK VMT	34,301,011
TOTAL ARTERIAL PEAK VMT	35,148,064
AVERAGE PEAK SPEED	23.84

OFF–PEAK PERIOD SPEED

FREEWAY VMT	47,600,458
ARTERIAL VMT	50,013,099
FREEWAY SPEED	52.79
ARTERIAL SPEED	27.61
AVERAGE SPEED	34.30

POLLUTANTS TEMPRATURES

TEMPRATURES FOR EACH AREA WERE SELECTED USING WORST–CASE SCENARIO. THE TEN HIGHEST EXCEEDANCE DAYS EXPERIENCED, IN THE COUNTY WERE EXAMINED TO DETERMINE THE WORST CASE TEMPRATURE. THE LOWEST TEMPRATURES WERE SELECTED FOR CARBON MONOXIDE (CO) AND OXIDES OF NITROGEN (NOx), BECAUSE AT LOWER TEMPRATURE INCOMPLETE CPMBUSTION OCCURS THAT LEAD TO HIGH CO AND NOx EMISSIONS.

POLLUTANT	TEMPRATURE (F)
CO	60
NOx	75
ROC	85

VEHICLE FLEET

	NCAT	CAT	DIESEL
PERCENT VMT	6.78	91.04	2.18
PERCENT TRIPS	6.78	91.04	2.18
PERCENT VEHICLES	12.14	85.86	2

EMISSION MODEL LACMTA

EMISSION FACTORS (PEAK PERIOD)

CO AND NOx EMISSION WERE TAKEN FOR THE WINTER TIME (WOREST CASE SCENARIO.
ROC EMISSION FACTOR WERE TAKEN FOR SUMMER TIME

POLLUTANTS	RUNING EXHAUST AND EVAPORATIVE EMISSIONS (GRAMS/MILE)		
CO	10.50	0.91	9.60
ROG	0.93	1.09	1.01
ROG EVAPORATIVE	0.42	N/A	1.43
NOX	0.97	0.79	0.76
PM	0.02	N/A	0.02
TIRE WEAR	0.2		0.2
COLD STARTS			
CO	163.86		
ROG	5.75		
NOx	3.98		
PM	N/A		
TIRE WEAR	N/A		
HOT STARTS			
CO	16.19		
ROG	1.59		
NOx	2.89		
PM	N/A		
TIRE WEAR	N/A		
HOT SOAK			
CO	N/A		
ROG	1.78		
NOx			
PM	N/A		
TIRE WEAR	N/A		

DIURNAL EMISSION AND RESTING LOSSES RATE (GRAMS/VEHICLE/DAY)	
CO	N/A
ROG	5.34
NOx	N/A
PM	N/A
TIRE WEAR	N/A

EMISSION MODEL LACMTA

EMISSION FACTORS (OFF–PEAK PERIOD)

CO AND NOx EMISSION WERE TAKEN FOR THE WINTER TIME (WOREST CASE SCENARIO.
ROC EMISSION FACTOR WERE TAKEN FOR SUMMER TIME

POLLUTANTS	RUNNING EXHAUST AND EVAPORATIVE EMISSIONS (GRAMMS/MILE)		
CO	7.49	0.91	6.85
ROG	0.72	1.09	0.79
ROG EVAPORATIVE	0.17	N/A	0.96
NOX	0.93	0.79	0.73
PM	0.02	N/A	0.02
TIRE WEAR	0.2		0.2
COLD STARTS			
CO	163.86		
ROG	5.75		
NOx	3.98		
PM	N/A		
TIRE WEAR	N/A		
HOT STARTS			
CO	16.19		
ROG	1.59		
NOx	2.89		
PM	N/A		
TIRE WEAR	N/A		
HOT SOAK			
CO	N/A		
ROG	1.78		
NOx			
PM	N/A		
TIRE WEAR	N/A		
DIURNAL EMISSION AND RESTING LOSSES RATE (GRAMS/VEHICLE/DAY)			
CO	N/A		
ROG	5.34		
NOx	N/A		
PM	N/A		
TIRE WEAR	N/A		

EMISSION FACTORS
RUNING EXHAUST AND EVAPORATIVE EMISSIONS (GRAMS/MILE)

POLLUTANTS	PEAK PERIOD	OFF–PEAK PERIOD
CO	9.6	7.49
ROG	1.43	1.17
NOx	0.76	0.93
PM	0.02	0.02
TIRE WEAR	0.2	0.2

EMISSION MODEL LACMTA

COLD STARTS (GRAMS/TRIP)

CO	163.86	163.86
ROG	5.75	5.75
NOx	3.98	3.98
PM	N/A	N/A
TIRE WEAR	N/A	N/A

HOT STARTS (GRAMS/TRIP)

CO	16.19	16.19
ROG	1.59	1.59
NOx	2.89	2.89
PM	N/A	N/A
TIRE WEAR	N/A	N/A

HOT SOAK (GRAMS/TRIP)

CO	N/A	N/A
ROG	1.78	1.78
NOx	N/A	N/A
PM	N/A	N/A
TIRE WEAR	N/A	N/A

DIURNAL AND RUNNING LOSS EMISSION (GRAMS/VEHICLE/DAY)

CO	N/A	N/A
ROG	5.34	5.34
NOx	N/A	N/A
PM	N/A	N/A
TIRE WEAR	N/A	N/A

TCM # 1 TRIP REDUCTION PROGRAM FOR EMPLOYERS WITH 25–99 EMPLOYEES

DESCRIPTION OF MEASURE

FORMAL TRIP REDUCTION PROGRAM FOR SMALL EMPLOYERS INCLUDING MARKETING AND PROMOTIONAL INCENTIVES FOR COMMUTERS WORKING FOR EMPLOYERS WITH 25–99 EMPLOYEES

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

EMISSION MODEL LACMTA

TCM#4 EMPLOYER–BASED STAGGERED
AND FLEXIBLE WORK HOURS

DESCRIPTION OF MEASURE

EMPLOYEES ARE ASSIGNED OR SELECT ARRIVAL AND DEPARTURE TIMES AT WORK BY THEIR EMPLOYERS THAT ARE OUTSIDE THE PEAK PERIODS. THIS STRATEGY DOES NOT AFFECT THE TOTAL TRIPS OR TOTAL VMT. INSTEAD, IT SHIFTS THE TRIPS FROM PEAK TO OFF–PEAK PERIOD EFFECTING THE SPEED WHICH IN TURN AFFECTS POSITIVELY CONGESTION AND AIR QUALITY.

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM–OPTOGEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;
PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM – OFCOEPM)
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;
PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM – OPNOxEPM)
PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM – OFPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM – OPTWEPM) WHERE;
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	0
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	0
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	74,876
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	124,794
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	74,876
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	124,794
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	853,591
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,422,652
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	853,591
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	1,422,652
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	0
18	REDUCTIONS IN TOTAL VMT (HIGH)	0
19	PEAK SPEED CHANGE	
20	PERCENT CHANGE IN PEAK SPEEDS (STANDARD)	0.86%
21	PERCENT CHANGE IN PEAK SPEEDS (HIGH)	1.43%
22	OFF–PEAK SPEED CHANGE	
23	PERCENT CHANGE IN OFF–PEAK SPEEDS (STANDARD)	−0.17%
24	PERCENT CHANGE IN OFF–PEAK SPEEDS (HIGH)	−0.29%

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	1,801,077	1.985
2	DAILY PEAK CO REDUCTIONS (HIGH)	3,001,795	3.309
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	0	0.000
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	0	0.000
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	1,801,077	1.985
6	TOTAL DAILY CO REDUCTIONS (HIGH)	3,001,795	3.309
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	221,934	0.245
9	DAILY PEAK TOG REDUCTIONS (HIGH)	369,889	0.408
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	0	0.000
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	0	0.000
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	221,934	0.245
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	369,889	0.408
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	0	0.000
16	DAILY PEAK NOx REDUCTIONS (HIGH)	0	0.000
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	0	0.000
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	0	0.000
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	0	0.000
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	0	0.000
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	0	0.000
23	DAILY PEAK PM REDUCTIONS (HIGH)	0	0.000
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	0	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	0	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	0	0.000
27	TOTAL DAILY PM REDUCTIONS (HIGH)	0	0.000
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	0	0.000
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	0	0.000
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	0	0.000
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	0	0.000
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	0	0.000
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	0	0.000

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	7,227
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	11,563
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	4,517
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	7,227
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,710
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	4,336
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	59,990
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	95,984
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	35,994
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	57,591
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	95,984
18	REDUCTIONS IN TOTAL VMT (HIGH)	153,575

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	1,316,059	1.451
2	DAILY PEAK CO REDUCTIONS (HIGH)	2,105,695	2.321
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	613,634	0.676
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	981,815	1.082
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	1,929,694	2.127
6	TOTAL DAILY CO REDUCTIONS (HIGH)	3,087,510	3.403
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	127,839	0.141
9	DAILY PEAK TOG REDUCTIONS (HIGH)	204,543	0.225
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	64,526	0.071
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	103,242	0.114
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	192,365	0.212
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	307,785	0.339
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	63,570	0.070
16	DAILY PEAK NOx REDUCTIONS (HIGH)	101,712	0.112
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	43,523	0.048
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	69,636	0.077
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	107,093	0.118
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	171,348	0.189
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	1,200	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	1,920	0.002
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	720	0.001
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	1,152	0.001
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	1,920	0.002
27	TOTAL DAILY PM REDUCTIONS (HIGH)	3,071	0.003
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	11,998	0.013
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	19,197	0.021
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	7,199	0.008
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	11,518	0.013
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	19,197	0.021
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	30,715	0.034

TCM # 6 COUNTY WIDE VANPOOL PROGRAM

DESCRIPTION OF MEASURE

VANPOOL PROGRAM PROMOTING AND PROVIDING
MATCHLIST FOR COMMUTERS TO VANPOOL

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;
PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;
PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS
;WPRQ

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;
PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	5,233
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	15,699
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	3,271
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	9,812
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,962
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	5,887
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	115,997
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	347,992
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	69,598
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	208,795
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	185,596
18	REDUCTIONS IN TOTAL VMT (HIGH)	556,787

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	1,649,494	1.818
2	DAILY PEAK CO REDUCTIONS (HIGH)	4,948,481	5.455
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	770,398	0.849
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	2,311,195	2.548
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	2,419,892	2.667
6	TOTAL DAILY CO REDUCTIONS (HIGH)	7,259,676	8.002
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	196,325	0.216
9	DAILY PEAK TOG REDUCTIONS (HIGH)	588,976	0.649
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	97,659	0.108
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	292,976	0.323
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	293,984	0.324
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	881,952	0.972
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	101,175	0.112
16	DAILY PEAK NOx REDUCTIONS (HIGH)	303,525	0.335
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	72,002	0.079
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	216,006	0.238
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	173,177	0.191
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	519,530	0.573
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	2,320	0.003
23	DAILY PEAK PM REDUCTIONS (HIGH)	6,960	0.008
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	1,392	0.002
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	4,176	0.005
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	3,712	0.004
27	TOTAL DAILY PM REDUCTIONS (HIGH)	11,136	0.012
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	23,199	0.026
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	69,598	0.077
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	13,920	0.015
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	41,759	0.046
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	37,119	0.041
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	111,357	0.123

TCM #7 INFORMAL RIDESHARING PROGRAM – CARPOOL AND VANPOOL ONLY

DESCRIPTION OF MEASURE

RIDESHARING INVOLVES PROGRAMS THAT PROMOTE AND PROVIDE INCENTIVES FOR COMMUTERS TO SHARE RIDES IN CARPOOLS, VANPOOLS, AND SUBSCRIPTION BUS SERVICES. THIS TCM AFFECTS WORK COMMUTE TRIPS. THE HIGH END CORRESPONDS TO HAVING PARKING MANAGEMENT STRATEGIES, AN INCREASE IN BUS SERVICES AND A FORM OF SUBSIDY TO RIDESHARERS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF-PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF-PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF-PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF-PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF-PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF-PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF-PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF-PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF-PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF-PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF-PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	13,828
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	27,656
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	8,642
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	17,285
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	5,185
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	10,371
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	111,383
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	222,767
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	66,830
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	133,660
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	178,213
18	REDUCTIONS IN TOTAL VMT (HIGH)	356,426

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	2,485,423	2.740
2	DAILY PEAK CO REDUCTIONS (HIGH)	4,970,847	5.479
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	1,158,809	1.277
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	2,317,619	2.555
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	3,644,233	4.017
6	TOTAL DAILY CO REDUCTIONS (HIGH)	7,288,465	8.034
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	239,739	0.264
9	DAILY PEAK TOG REDUCTIONS (HIGH)	479,478	0.529
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	121,075	0.133
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	242,149	0.267
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	360,813	0.398
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	721,627	0.795
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	119,048	0.131
16	DAILY PEAK NOx REDUCTIONS (HIGH)	238,096	0.262
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	81,377	0.090
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	162,754	0.179
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	200,425	0.221
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	400,850	0.442
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	2,228	0.002
23	DAILY PEAK PM REDUCTIONS (HIGH)	4,455	0.005
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	1,337	0.001
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	2,673	0.003
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	3,564	0.004
27	TOTAL DAILY PM REDUCTIONS (HIGH)	7,129	0.008
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	22,277	0.025
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	44,553	0.049
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	13,366	0.015
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	26,732	0.029
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	35,643	0.039
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	71,285	0.079

TCM# 8 RIDESHARING PASSENGER LOADING AREA

DESCRIPTIONS OF MEASURE

PROVIDE RIDESHARING LOADING AREA CLOSE TO THE BUILDING ENTRANCE TO PROVIDE SAFE AND CONVENIENT LOADING AND UNLOADING FOR RIDESHARERS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF-PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF-PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF-PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF-PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF-PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF-PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF-PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF-PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF-PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF-PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF-PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	3,319
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	6,637
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,074
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	4,148
7	**OFF-PEAK TRIP REDUCTIONS**	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,245
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	2,489
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	27,547
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	55,094
13	**OFF-PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	16,528
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	33,057
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	44,075
18	REDUCTIONS IN TOTAL VMT (HIGH)	88,151

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	604,327	0.666
2	DAILY PEAK CO REDUCTIONS (HIGH)	1,208,654	1.332
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	281,778	0.311
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	563,555	0.621
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	886,105	0.977
6	TOTAL DAILY CO REDUCTIONS (HIGH)	1,772,209	1.953
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	58,703	0.065
9	DAILY PEAK TOG REDUCTIONS (HIGH)	117,406	0.129
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	29,630	0.033
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	59,260	0.065
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	88,333	0.097
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	176,666	0.195
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	29,191	0.032
16	DAILY PEAK NOx REDUCTIONS (HIGH)	58,382	0.064
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	19,985	0.022
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	39,971	0.044
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	49,176	0.054
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	98,353	0.108
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	551	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	1,102	0.001
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	331	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	661	0.001
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	882	0.001
27	TOTAL DAILY PM REDUCTIONS (HIGH)	1,763	0.002
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	5,509	0.006
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	11,019	0.012
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	3,306	0.004
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	6,611	0.007
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	8,815	0.010
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	17,630	0.019

TCM#9 CHILDECARE CENTERS

DESCRIPTION OF MEASURE

PROVIDE A CHILDCARE CENTERS AT MULTIMODAL TRANSIT FACILITIES AND PARK–AND–RIDE LOTS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF-PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF-PEAK CO EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF-PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF-PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF-PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF-PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF-PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF-PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF-PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF-PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF-PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF-PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF-PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF-PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF-PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF-PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	0
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	0
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	0
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	0
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	0
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	0
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	27,896
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	37,194
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	16,737
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	22,317
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	44,633
18	REDUCTIONS IN TOTAL VMT (HIGH)	59,511

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	267,800	0.295
2	DAILY PEAK CO REDUCTIONS (HIGH)	357,066	0.394
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	125,364	0.138
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	167,152	0.184
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	393,164	0.433
6	TOTAL DAILY CO REDUCTIONS (HIGH)	524,218	0.578
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	39,891	0.044
9	DAILY PEAK TOG REDUCTIONS (HIGH)	53,188	0.059
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	19,583	0.022
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	26,110	0.029
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	59,474	0.066
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	79,299	0.087
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	21,201	0.023
16	DAILY PEAK NOx REDUCTIONS (HIGH)	28,268	0.031
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	15,566	0.017
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	20,754	0.023
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	36,767	0.041
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	49,022	0.054
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	558	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	744	0.001
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	335	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	446	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	893	0.001
27	TOTAL DAILY PM REDUCTIONS (HIGH)	1,190	0.001
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	5,579	0.006
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	7,439	0.008
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	3,347	0.004
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	4,463	0.005
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	8,927	0.010
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	11,902	0.013

TCM#10 BICYCLE IMPROVEMENTS

DESCRIPTION OF MEASURE

PROVIDE BICYCLE AND PEDESTRIAN IMPROVEMENTS
SUCH AS BIKE LOCKERS, BIKE LANES AND
SHOWER FACILITIES TO ENCOURAGE MORE PEOPLE
TO USE WALKING AND BICYCLING AS THEIR
MODE OF TRAVEL

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF-PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF-PEAK CO EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF-PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF-PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF-PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	4,346
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	8,692
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,738
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	3,477
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,608
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	5,215
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	5,215
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	10,430
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	7,823
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	15,645
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	13,038
18	REDUCTIONS IN TOTAL VMT (HIGH)	26,075

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	334,853	0.369
2	DAILY PEAK CO REDUCTIONS (HIGH)	669,869	0.738
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	389,660	0.430
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	779,186	0.859
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	724,513	0.799
6	TOTAL DAILY CO REDUCTIONS (HIGH)	1,449,055	1.597
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	23,638	0.026
9	DAILY PEAK TOG REDUCTIONS (HIGH)	47,286	0.052
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	30,721	0.034
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	61,433	0.068
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	54,359	0.060
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	108,718	0.120
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	10,881	0.012
16	DAILY PEAK NOx REDUCTIONS (HIGH)	21,765	0.024
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	16,945	0.019
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	33,884	0.037
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	27,825	0.031
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	55,650	0.061
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	104	0.000
23	DAILY PEAK PM REDUCTIONS (HIGH)	209	0.000
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	156	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	313	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	261	0.000
27	TOTAL DAILY PM REDUCTIONS (HIGH)	522	0.001
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	1,043	0.001
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	2,086	0.002
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	1,565	0.002
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	3,129	0.003
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	2,608	0.003
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	5,215	0.006

TCM # 11 EMPLOYEE TRANSIT SUBSIDY

DESCRIPTION OF MEASURE

SUBSIDIES FOR TRANSIT PASSES GIVEN BY AN EMPLOYER TO THEIR EMPLOYEES TO ENCOURAGE THE USE OF PUBLIC TRANSPORTATION.

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	50,023
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	75,035
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	31,265
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	46,897
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	18,759
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	28,138
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	427,700
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	641,550
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	256,620
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	384,930
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	684,320
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,026,480

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	9,228,940	10.173
2	DAILY PEAK CO REDUCTIONS (HIGH)	13,843,409	15.259
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	4,303,369	4.744
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	6,455,053	7.115
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	13,532,308	14.917
6	TOTAL DAILY CO REDUCTIONS (HIGH)	20,298,462	22.375
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	902,685	0.995
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,354,027	1.493
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	455,380	0.502
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	683,071	0.753
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,358,065	1.497
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	2,037,097	2.245
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	449,485	0.495
16	DAILY PEAK NOx REDUCTIONS (HIGH)	674,228	0.743
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	308,205	0.340
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	462,307	0.510
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	757,690	0.835
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,136,535	1.253
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	8,554	0.009
23	DAILY PEAK PM REDUCTIONS (HIGH)	12,831	0.014
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	5,132	0.006
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	7,699	0.008
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	13,686	0.015
27	TOTAL DAILY PM REDUCTIONS (HIGH)	20,530	0.023
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	85,540	0.094
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	128,310	0.141
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	51,324	0.057
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	76,986	0.085
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	136,864	0.151
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	205,296	0.226

TCM#12 VANPOOL SUBSIDEY

DESCRIPTION OF MEASURE
A $1 PER COMMUTE TRIP PER
DAY SUBSIDY FOR VANPOOLERS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;
PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF-PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF-PEAK CO EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF-PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF-PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF-PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	32,357
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	48,536
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	20,223
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	30,335
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	12,134
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	18,201
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	752,304
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,128,456
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	451,382
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	677,073
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	1,203,686
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,805,529

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	10,535,859	11.614
2	DAILY PEAK CO REDUCTIONS (HIGH)	15,803,871	17.420
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	4,921,171	5.425
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	7,381,757	8.137
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	15,457,031	17.038
6	TOTAL DAILY CO REDUCTIONS (HIGH)	23,185,628	25.557
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,264,071	1.393
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,896,111	2.090
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	628,465	0.693
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	942,698	1.039
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,892,536	2.086
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	2,838,809	3.129
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	652,239	0.719
16	DAILY PEAK NOx REDUCTIONS (HIGH)	978,360	1.078
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	464,772	0.512
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	697,158	0.768
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	1,117,011	1.231
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,675,518	1.847
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	15,046	0.017
23	DAILY PEAK PM REDUCTIONS (HIGH)	22,569	0.025
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	9,028	0.010
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	13,541	0.015
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	24,074	0.027
27	TOTAL DAILY PM REDUCTIONS (HIGH)	36,111	0.040
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	150,461	0.166
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	225,691	0.249
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	90,276	0.100
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	135,415	0.149
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	240,737	0.265
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	361,106	0.398

TCM#13 CARPOOL SUBSIDY

DESCRIPTION OF MEASURE

A $1 PER COMMUTE TRIP PER DAY
SUBSIDY FOR CARPOOLERS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	44,447
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	66,670
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	27,779
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	41,669
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	16,667
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	25,001
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	361,129
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	541,693
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	216,677
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	325,016
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	577,806
18	REDUCTIONS IN TOTAL VMT (HIGH)	866,709

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	8,018,705	8.839
2	DAILY PEAK CO REDUCTIONS (HIGH)	12,028,135	13.259
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	3,738,661	4.121
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	5,608,059	6.182
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	11,757,367	12.960
6	TOTAL DAILY CO REDUCTIONS (HIGH)	17,636,194	19.440
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	775,037	0.854
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,162,559	1.281
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	391,348	0.431
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	587,027	0.647
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,166,385	1.286
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	1,749,586	1.929
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	385,018	0.424
16	DAILY PEAK NOx REDUCTIONS (HIGH)	577,529	0.637
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	263,303	0.290
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	394,956	0.435
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	648,321	0.715
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	972,485	1.072
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	7,223	0.008
23	DAILY PEAK PM REDUCTIONS (HIGH)	10,834	0.012
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	4,334	0.005
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	6,500	0.007
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	11,556	0.013
27	TOTAL DAILY PM REDUCTIONS (HIGH)	17,334	0.019
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	72,226	0.080
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	108,339	0.119
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	43,335	0.048
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	65,003	0.072
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	115,561	0.127
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	173,342	0.191

TCM#14 BICYCLE SUBSIDY

DESCRIPTION OF MEASURE

A $1 PER COMMUTE TRIP PER DAY
SUBSIDY FOR BICYCLIST

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;

PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;

PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;

OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	8,692
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	17,384
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	5,432
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	10,865
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	3,259
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	6,519
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	16,297
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	32,594
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	9,778
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	19,557
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	26,075
18	REDUCTIONS IN TOTAL VMT (HIGH)	52,151

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	1,046,539	1.154
2	DAILY PEAK CO REDUCTIONS (HIGH)	2,093,241	2.307
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	486,943	0.537
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	974,020	1.074
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	1,533,482	1.690
6	TOTAL DAILY CO REDUCTIONS (HIGH)	3,067,261	3.381
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	73,877	0.081
9	DAILY PEAK TOG REDUCTIONS (HIGH)	147,763	0.163
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	38,392	0.042
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	76,794	0.085
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	112,269	0.124
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	224,556	0.248
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	34,005	0.037
16	DAILY PEAK NOx REDUCTIONS (HIGH)	68,014	0.075
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	21,176	0.023
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	42,357	0.047
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	55,181	0.061
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	110,371	0.122
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	326	0.000
23	DAILY PEAK PM REDUCTIONS (HIGH)	652	0.001
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	196	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	391	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	522	0.001
27	TOTAL DAILY PM REDUCTIONS (HIGH)	1,043	0.001
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	3,259	0.004
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	6,519	0.007
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	1,956	0.002
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	3,911	0.004
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	5,215	0.006
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	10,430	0.011

TCM#15 WALKING SUBSIDY

DESCRIPTION OF MEASURE

A $1 PER COMMUTE TRIP PER DAY
SUBSIDY FOR WALKERS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	8,692
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	17,384
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	5,432
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	10,865
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	3,259
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	6,519
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	10,865
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	21,729
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	6,519
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	13,038
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	17,384
18	REDUCTIONS IN TOTAL VMT (HIGH)	34,767

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	994,392	1.096
2	DAILY PEAK CO REDUCTIONS (HIGH)	1,988,937	2.192
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	462,533	0.510
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	925,193	1.020
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	1,456,924	1.606
6	TOTAL DAILY CO REDUCTIONS (HIGH)	2,914,130	3.212
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	66,109	0.073
9	DAILY PEAK TOG REDUCTIONS (HIGH)	132,226	0.146
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	34,579	0.038
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	69,167	0.076
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	100,688	0.111
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	201,392	0.222
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	29,877	0.033
16	DAILY PEAK NOx REDUCTIONS (HIGH)	59,757	0.066
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	18,145	0.020
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	36,295	0.040
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	48,022	0.053
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	96,051	0.106
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	217	0.000
23	DAILY PEAK PM REDUCTIONS (HIGH)	435	0.000
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	130	0.000
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	261	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	348	0.000
27	TOTAL DAILY PM REDUCTIONS (HIGH)	695	0.001
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	2,173	0.002
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	4,346	0.005
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	1,304	0.001
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	2,608	0.003
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	3,477	0.004
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	6,953	0.008

TCM#16 BUSPOOL SUBSIDY

DESCRIPTION OF MEASURE

PROVIDE $1 SUBSIDY FOR BUSPOOLERS PER TRIP PER DAY

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF-PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF-PEAK CO EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF-PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF-PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF-PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	20,965
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	31,448
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	13,103
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	19,655
7	OFF-PEAK TRIP REDUCTIONS	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	7,862
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	11,793
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	305,309
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	457,963
13	OFF-PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	183,185
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	274,778
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	488,494
18	REDUCTIONS IN TOTAL VMT (HIGH)	732,741

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	5,078,081	5.598
2	DAILY PEAK CO REDUCTIONS (HIGH)	7,617,121	8.396
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	2,370,082	2.613
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	3,555,122	3.919
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	7,448,162	8.210
6	TOTAL DAILY CO REDUCTIONS (HIGH)	11,172,244	12.315
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	558,584	0.616
9	DAILY PEAK TOG REDUCTIONS (HIGH)	837,875	0.924
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	279,346	0.308
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	419,018	0.462
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	837,929	0.924
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	1,256,894	1.385
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	284,186	0.313
16	DAILY PEAK NOx REDUCTIONS (HIGH)	426,279	0.470
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	199,511	0.220
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	299,266	0.330
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	483,697	0.533
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	725,545	0.800
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	6,106	0.007
23	DAILY PEAK PM REDUCTIONS (HIGH)	9,159	0.010
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	3,664	0.004
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	5,496	0.006
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	9,770	0.011
27	TOTAL DAILY PM REDUCTIONS (HIGH)	14,655	0.016
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	61,062	0.067
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	91,593	0.101
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	36,637	0.040
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	54,956	0.061
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	97,699	0.108
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	146,548	0.162

IV) TRANSIT IMPROVEMENTS

TCM #17– TRANSIT SERVICE INCREASE

DESCRIPTION OF MEASURE

Improvements to the transit systems in terms of an increase in route miles or decrease headways. Changes in route miles can be implemented individually or in combination.

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT)
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	3,802
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	7,604
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,723
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	3,445
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,079
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	4,158
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	19,102
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	38,204
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	28,443
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	56,886
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	47,545
18	REDUCTIONS IN TOTAL VMT (HIGH)	95,090

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	465,666	0.5133
2	DAILY PEAK CO REDUCTIONS (HIGH)	931,331	1.0266
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	476,974	0.5258
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	953,948	1.0515
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	942,640	1.0391
6	TOTAL DAILY CO REDUCTIONS (HIGH)	1,885,279	2.0781
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	43,354	0.0478
9	DAILY PEAK TOG REDUCTIONS (HIGH)	86,709	0.0956
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	50,473	0.0556
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	100,946	0.1113
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	93,827	0.1034
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	187,655	0.2069
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	21,374	0.0236
16	DAILY PEAK NOx REDUCTIONS (HIGH)	42,748	0.0471
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	34,161	0.0377
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	68,321	0.0753
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	55,534	0.0612
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	111,069	0.1224
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	382	0.0004
23	DAILY PEAK PM REDUCTIONS (HIGH)	764	0.0008
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	569	0.0006
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	1,138	0.0013
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	951	0.0010
27	TOTAL DAILY PM REDUCTIONS (HIGH)	1,902	0.0021
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	3,820	0.0042
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	7,641	0.0084
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	5,689	0.0063
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	11,377	0.0125
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	9,509	0.0105
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	19,018	0.0210

TCM #18 FEEDER SERVICES TO OR FROM FIXED ROUTE RAIL TRANSIT

DESCRIPTION OF MEASURE

IN THE CASE OF LIMITED PARK–AND RIDE LOTS
FEEDER SERVICES TO AND FROM FIXED ROUTE RAIL AND TRANSIT
COULD RESULT IN ELIMINATION OF SHORT TRIPS MADE
BY COMMUTERS TO A PARK–AND–RIDE LOTS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;
PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	1,852
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	3,704
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,157
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	2,315
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	694
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	1,389
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	5,787
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	11,575
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	3,472
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	6,945
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	9,260
18	REDUCTIONS IN TOTAL VMT (HIGH)	18,519

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	245,220	0.270
2	DAILY PEAK CO REDUCTIONS (HIGH)	490,441	0.541
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	114,167	0.126
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	228,334	0.252
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	359,388	0.396
6	TOTAL DAILY CO REDUCTIONS (HIGH)	718,775	0.792
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	19,052	0.021
9	DAILY PEAK TOG REDUCTIONS (HIGH)	38,104	0.042
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	9,806	0.011
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	19,612	0.022
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	28,858	0.032
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	57,716	0.064
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	9,005	0.010
16	DAILY PEAK NOx REDUCTIONS (HIGH)	18,010	0.020
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	5,804	0.006
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	11,608	0.013
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	14,809	0.016
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	29,618	0.033
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	116	0.000
23	DAILY PEAK PM REDUCTIONS (HIGH)	231	0.000
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	69	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	139	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	185	0.000
27	TOTAL DAILY PM REDUCTIONS (HIGH)	370	0.000
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	1,157	0.001
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	2,315	0.003
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	694	0.001
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	1,389	0.002
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	1,852	0.002
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	3,704	0.004

TCM#19 SUBSCRIPTION SERVICES FOR LONG COMMUTE

DESCRIPTION OF MEASURE

PROVIDE MATCHLIST AND BUSPOOLS FOR COMMUTERS OF 15 OR MORE MILES OF ONE WAY COMMUTE

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	3,494
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	6,988
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,184
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	4,368
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,310
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	2,621
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	43,764
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	87,529
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	26,259
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	52,517
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	70,023
18	REDUCTIONS IN TOTAL VMT (HIGH)	140,046

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	777,991	0.858
2	DAILY PEAK CO REDUCTIONS (HIGH)	1,555,982	1.715
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	363,015	0.400
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	726,029	0.800
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	1,141,006	1.258
6	TOTAL DAILY CO REDUCTIONS (HIGH)	2,282,012	2.515
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	82,915	0.091
9	DAILY PEAK TOG REDUCTIONS (HIGH)	165,830	0.183
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	41,559	0.046
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	83,118	0.092
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	124,474	0.137
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	248,948	0.274
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	41,953	0.046
16	DAILY PEAK NOx REDUCTIONS (HIGH)	83,906	0.092
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	29,279	0.032
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	58,557	0.065
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	71,231	0.079
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	142,463	0.157
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	875	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	1,751	0.002
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	525	0.001
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	1,050	0.001
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	1,400	0.002
27	TOTAL DAILY PM REDUCTIONS (HIGH)	2,801	0.003
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	8,753	0.010
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	17,506	0.019
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	5,252	0.006
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	10,503	0.012
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	14,005	0.015
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	28,009	0.031

TCM#20 PARK–AND–RIDE LOTS

DESCRIPTION OF MEASURE

PARK–AND–RIDE LOTS TO ACCOMODATE
CARPOOLERS, VANPOOLERS AND TRANSIT RIDERS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	1,215
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	1,620
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	759
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	1,013
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	456
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	608
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	16,031
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	21,375
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	9,619
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	12,825
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	25,650
18	REDUCTIONS IN TOTAL VMT (HIGH)	34,200

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	278,267	0.307
2	DAILY PEAK CO REDUCTIONS (HIGH)	371,190	0.409
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	129,932	0.143
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	173,240	0.191
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	408,199	0.450
6	TOTAL DAILY CO REDUCTIONS (HIGH)	544,430	0.600
7	**TOTAL ORGANIC GASES REDUCTIONS**		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	29,991	0.033
9	DAILY PEAK TOG REDUCTIONS (HIGH)	39,997	0.044
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	15,025	0.017
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	20,033	0.022
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	45,016	0.050
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	60,031	0.066
14	**OXIDES OF NITROGEN**		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	15,204	0.017
16	DAILY PEAK NOx REDUCTIONS (HIGH)	20,277	0.022
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	10,636	0.012
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	14,181	0.016
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	25,841	0.028
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	34,458	0.038
21	**EXHAUST PARTICULATES**		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	321	0.000
23	DAILY PEAK PM REDUCTIONS (HIGH)	428	0.000
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	192	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	257	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	513	0.001
27	TOTAL DAILY PM REDUCTIONS (HIGH)	684	0.001
28	**TIRE WEAR**		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	3,206	0.004
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	4,275	0.005
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	1,924	0.002
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	2,565	0.003
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	5,130	0.006
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	6,840	0.008

TCM#21 PREFERENTIAL PARKING FOR CARPOOLS AND VANPOOLS

DESCRIPTION OF MEASURE

PROVIDE PREFERENTIAL PARKING SPACES
FOR CARPOOLERS AND VANPOOLERS
THAT IS CLOSE TO THE BUILDING
ENTRANCE

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	2,222
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	4,444
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	1,400
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	2,800
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	822
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	1,644
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	15,960
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	31,920
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	9,371
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	18,741
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	25,331
18	REDUCTIONS IN TOTAL VMT (HIGH)	50,662

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	382,620	0.422
2	DAILY PEAK CO REDUCTIONS (HIGH)	765,240	0.844
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	174,536	0.192
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	349,064	0.385
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	557,156	0.614
6	TOTAL DAILY CO REDUCTIONS (HIGH)	1,114,304	1.228
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	35,857	0.040
9	DAILY PEAK TOG REDUCTIONS (HIGH)	71,714	0.079
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	17,762	0.020
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	35,523	0.039
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	53,619	0.059
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	107,236	0.118
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	17,702	0.020
16	DAILY PEAK NOx REDUCTIONS (HIGH)	35,403	0.039
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	11,763	0.013
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	23,524	0.026
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	29,464	0.032
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	58,927	0.065
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	319	0.000
23	DAILY PEAK PM REDUCTIONS (HIGH)	638	0.001
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	187	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	375	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	507	0.001
27	TOTAL DAILY PM REDUCTIONS (HIGH)	1,013	0.001
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	3,192	0.004
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	6,384	0.007
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	1,874	0.002
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	3,748	0.004
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	5,066	0.006
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	10,132	0.011

TCM#22 FREE AND PREFERENTIAL PARKING FOR CARPOOLS AND VANPOOLS

DESCRIPTION OF MEASURE

PROVIDE FREE PREFERENTIAL PARKING SPACES
FOR CARPOOLERS AND VANPOOLERS
THAT IS CLOSE TO THE BUILDING
ENTRANCE

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	5,885
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	7,847
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	3,678
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	4,905
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	2,207
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	2,943
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	47,819
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	63,759
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	28,691
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	38,255
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	76,510
18	REDUCTIONS IN TOTAL VMT (HIGH)	102,014

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

		GRAMS/DAY	TONS/DAY
	CARBON MONOXIDE REDUCTIONS		
1	DAILY PEAK CO REDUCTIONS (STANDARD)	1,061,739	1.170
2	DAILY PEAK CO REDUCTIONS (HIGH)	1,415,820	1.561
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	495,058	0.546
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	660,122	0.728
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	1,556,797	1.716
6	TOTAL DAILY CO REDUCTIONS (HIGH)	2,075,941	2.288
7	**TOTAL ORGANIC GASES REDUCTIONS**		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	102,623	0.113
9	DAILY PEAK TOG REDUCTIONS (HIGH)	136,841	0.151
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	51,820	0.057
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	69,097	0.076
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	154,444	0.170
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	205,938	0.227
14	**OXIDES OF NITROGEN**		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	50,981	0.056
16	DAILY PEAK NOx REDUCTIONS (HIGH)	67,979	0.075
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	34,865	0.038
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	46,488	0.051
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	85,846	0.095
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	114,467	0.126
21	**EXHAUST PARTICULATES**		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	956	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	1,275	0.001
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	574	0.001
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	765	0.001
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	1,530	0.002
27	TOTAL DAILY PM REDUCTIONS (HIGH)	2,040	0.002
28	**TIRE WEAR**		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	9,564	0.011
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	12,752	0.014
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	5,738	0.006
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	7,651	0.008
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	15,302	0.017
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	20,403	0.022

TCM # 23.1 PARKING MANAGEMENT (SCENARIO1)

DESCRIPTION OF MEASURE

PARKING PRICING STRATEGIES TO DISCOURAGE THE USE OF AUTOMOBILE AS A MODE OF TRAVEL FOR COMMUTE TRIPS.

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	17,285
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	25,927
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	10,803
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	16,205
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	6,482
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	9,723
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	143,475
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	215,212
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	86,085
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	129,127
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	229,559
18	REDUCTIONS IN TOTAL VMT (HIGH)	344,339

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	3,147,537	3.470
2	DAILY PEAK CO REDUCTIONS (HIGH)	4,721,305	5.204
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	1,467,591	1.618
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	2,201,387	2.427
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	4,615,128	5.087
6	TOTAL DAILY CO REDUCTIONS (HIGH)	6,922,692	7.631
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	305,745	0.337
9	DAILY PEAK TOG REDUCTIONS (HIGH)	458,617	0.506
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	154,324	0.170
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	231,486	0.255
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	460,068	0.507
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	690,103	0.761
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	152,037	0.168
16	DAILY PEAK NOx REDUCTIONS (HIGH)	228,055	0.251
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	104,090	0.115
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	156,135	0.172
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	256,127	0.282
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	384,190	0.423
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	2,869	0.003
23	DAILY PEAK PM REDUCTIONS (HIGH)	4,304	0.005
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	1,722	0.002
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	2,583	0.003
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	4,591	0.005
27	TOTAL DAILY PM REDUCTIONS (HIGH)	6,887	0.008
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	28,695	0.032
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	43,042	0.047
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	17,217	0.019
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	25,825	0.028
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	45,912	0.051
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	68,868	0.076

TCM # 23.2 PARKING MANAGEMENT (SCENARIO2)

DESCRIPTION OF MEASURE

PARKING PRICING STRATEGIES TO DISCOURAGE THE USE OF AUTOMOBILE AS A MODE OF TRAVEL FOR COMMUTE TRIPS.

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF-PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF-PEAK CO EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF-PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF-PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF-PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	51,854
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	69,139
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	32,409
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	43,212
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	19,445
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	25,927
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	430,424
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	573,898
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	258,254
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	344,339
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	688,678
18	REDUCTIONS IN TOTAL VMT (HIGH)	918,237

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	9,442,609	10.409
2	DAILY PEAK CO REDUCTIONS (HIGH)	12,590,139	13.878
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	4,402,719	4.853
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	5,870,337	6.471
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	13,845,329	15.262
6	TOTAL DAILY CO REDUCTIONS (HIGH)	18,460,476	20.349
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	917,234	1.011
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,222,978	1.348
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	462,967	0.510
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	617,293	0.680
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,380,201	1.521
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	1,840,271	2.029
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	456,110	0.503
16	DAILY PEAK NOx REDUCTIONS (HIGH)	608,146	0.670
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	312,269	0.344
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	416,360	0.459
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	768,379	0.847
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,024,506	1.129
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	8,608	0.009
23	DAILY PEAK PM REDUCTIONS (HIGH)	11,478	0.013
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	5,165	0.006
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	6,887	0.008
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	13,774	0.015
27	TOTAL DAILY PM REDUCTIONS (HIGH)	18,365	0.020
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	86,085	0.095
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	114,780	0.127
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	51,651	0.057
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	68,868	0.076
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	137,736	0.152
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	183,647	0.202

TCM # 23.3 PARKING MANAGEMENT (SCENARIO 3)

DESCRIPTION OF MEASURE

PARKING PRICING STRATEGIES TO DISCOURAGE THE USE OF AUTOMOBILE AS A MODE OF TRAVEL FOR COMMUTE TRIPS.

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF-PEAK PERIOD)
OFF-PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF-PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF-PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF-PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF-PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF-PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF-PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	207,418
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	290,385
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	129,636
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	181,490
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	77,782
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	108,894
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	1,721,696
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	2,410,374
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	1,033,018
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	1,446,225
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	2,754,714
18	REDUCTIONS IN TOTAL VMT (HIGH)	3,856,599

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	37,770,442	41.634
2	DAILY PEAK CO REDUCTIONS (HIGH)	52,878,618	58.288
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	17,611,095	19.413
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	24,655,533	27.178
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	55,381,537	61.047
6	TOTAL DAILY CO REDUCTIONS (HIGH)	77,534,151	85.465
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	3,668,937	4.044
9	DAILY PEAK TOG REDUCTIONS (HIGH)	5,136,512	5.662
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	1,851,885	2.041
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	2,592,638	2.858
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	5,520,821	6.086
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	7,729,150	8.520
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	1,824,440	2.011
16	DAILY PEAK NOx REDUCTIONS (HIGH)	2,554,217	2.815
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	1,249,082	1.377
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	1,748,714	1.928
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	3,073,522	3.388
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	4,302,931	4.743
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	34,434	0.038
23	DAILY PEAK PM REDUCTIONS (HIGH)	48,207	0.053
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	20,660	0.023
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	28,924	0.032
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	55,094	0.061
27	TOTAL DAILY PM REDUCTIONS (HIGH)	77,132	0.085
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	344,339	0.380
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	482,075	0.531
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	206,604	0.228
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	289,245	0.319
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	550,943	0.607
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	771,320	0.850

TCM#24 NO–DRIVE DAYS

DESCRIPTION OF MEASURE

100% OF EMPLOYEMENT ARE NOT
PERMITTED TO DRIVE ONCE A WEEK

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	691,392
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	691,392
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	432,120
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	432,120
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	259,272
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	259,272
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	5,665,094
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	5,665,094
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	3,399,057
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	3,399,057
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	9,064,151
18	REDUCTIONS IN TOTAL VMT (HIGH)	9,064,151

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	125,192,086	137.998
2	DAILY PEAK CO REDUCTIONS (HIGH)	125,192,086	137.998
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	58,371,573	64.343
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	58,371,573	64.343
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	183,563,658	202.341
6	TOTAL DAILY CO REDUCTIONS (HIGH)	183,563,658	202.341
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	12,124,122	13.364
9	DAILY PEAK TOG REDUCTIONS (HIGH)	12,124,122	13.364
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	6,121,076	6.747
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	6,121,076	6.747
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	18,245,198	20.112
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	18,245,198	20.112
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	6,025,309	6.642
16	DAILY PEAK NOx REDUCTIONS (HIGH)	6,025,309	6.642
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	4,122,374	4.544
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	4,122,374	4.544
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	10,147,683	11.186
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	10,147,683	11.186
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	113,302	0.125
23	DAILY PEAK PM REDUCTIONS (HIGH)	113,302	0.125
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	67,981	0.075
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	67,981	0.075
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	181,283	0.200
27	TOTAL DAILY PM REDUCTIONS (HIGH)	181,283	0.200
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	1,133,019	1.249
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	1,133,019	1.249
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	679,811	0.749
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	679,811	0.749
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	1,812,830	1.998
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	1,812,830	1.998

TCM#25 GAS TAX

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	529,838
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	662,297
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	211,935
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	264,919
7	OFF-PEAK TRIP REDUCTIONS	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	317,903
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	397,378
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	1,866,724
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	2,333,404
13	OFF-PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	2,285,083
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	2,856,354
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	4,151,807
18	REDUCTIONS IN TOTAL VMT (HIGH)	5,189,758

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	52,648,220	58.034
2	DAILY PEAK CO REDUCTIONS (HIGH)	65,810,306	72.542
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	57,470,673	63.350
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	71,838,248	79.187
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	110,118,893	121.383
6	TOTAL DAILY CO REDUCTIONS (HIGH)	137,648,554	151.729
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	4,642,530	5.117
9	DAILY PEAK TOG REDUCTIONS (HIGH)	5,803,164	6.397
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	5,302,605	5.845
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	6,628,250	7.306
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	9,945,135	10.962
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	12,431,414	13.703
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	2,262,212	2.494
16	DAILY PEAK NOx REDUCTIONS (HIGH)	2,827,765	3.117
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	3,303,753	3.642
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	4,129,688	4.552
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	5,565,964	6.135
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	6,957,453	7.669
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	37,334	0.041
23	DAILY PEAK PM REDUCTIONS (HIGH)	46,668	0.051
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	45,702	0.050
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	57,127	0.063
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	83,036	0.092
27	TOTAL DAILY PM REDUCTIONS (HIGH)	103,795	0.114
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	373,345	0.412
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	466,681	0.514
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	457,017	0.504
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	571,271	0.630
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	830,361	0.915
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	1,037,952	1.144

TCM #26 COST INCREASE IN THE FORM OF TAX PER MILE

DESCRIPTION OF MEASURE

ONE CENT PER MILE TAX INCREASE

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

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TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	219,554
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	329,330
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	87,822
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	131,732
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	131,732
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	197,598
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	773,532
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,160,298
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	709,774
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	1,064,660
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	1,483,306
18	REDUCTIONS IN TOTAL VMT (HIGH)	2,224,959

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	21,816,420	24.048
2	DAILY PEAK CO REDUCTIONS (HIGH)	32,724,466	36.072
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	22,038,597	24.293
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	33,057,888	36.439
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	43,855,017	48.341
6	TOTAL DAILY CO REDUCTIONS (HIGH)	65,782,354	72.511
7	**TOTAL ORGANIC GASES REDUCTIONS**		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,923,774	2.121
9	DAILY PEAK TOG REDUCTIONS (HIGH)	2,885,651	3.181
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	1,919,859	2.116
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	2,879,788	3.174
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	3,843,633	4.237
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	5,765,439	6.355
14	**OXIDES OF NITROGEN**		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	937,416	1.033
16	DAILY PEAK NOx REDUCTIONS (HIGH)	1,406,120	1.550
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	1,148,486	1.266
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	1,722,728	1.899
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	2,085,902	2.299
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	3,128,848	3.449
21	**EXHAUST PARTICULATES**		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	15,471	0.017
23	DAILY PEAK PM REDUCTIONS (HIGH)	23,206	0.026
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	14,195	0.016
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	21,293	0.023
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	29,666	0.033
27	TOTAL DAILY PM REDUCTIONS (HIGH)	44,499	0.049
28	**TIRE WEAR**		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	154,706	0.171
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	232,060	0.256
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	141,955	0.156
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	212,932	0.235
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	296,661	0.327
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	444,992	0.491

TCM#27 PEAK-HOUR AND OFF-PEAK PRICING

DESCRIPTION OF MEASURE

CHARGE SINGLE OCCUPANCY VEHICLE DRIVERS $1 IN THE PEAK
AND $.5 IN THE OFF-PEAK ON FREEWAYS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF-PEAK PERIOD)
OFF-PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF-PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF-PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF-PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF-PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF-PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF-PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNO
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	253,474
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	337,965
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	109,571
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	146,094
7	OFF-PEAK TRIP REDUCTIONS	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	143,903
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	191,871
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	1,169,759
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,559,679
13	OFF-PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	1,146,987
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	1,529,317
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	2,316,746
18	REDUCTIONS IN TOTAL VMT (HIGH)	3,088,995

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	29,183,990	32.169
2	DAILY PEAK CO REDUCTIONS (HIGH)	38,911,881	42.892
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	26,858,339	29.606
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	35,811,169	39.474
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	56,042,330	61.775
6	TOTAL DAILY CO REDUCTIONS (HIGH)	74,723,050	82.367
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	2,692,861	2.968
9	DAILY PEAK TOG REDUCTIONS (HIGH)	3,590,476	3.958
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	2,532,053	2.791
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	3,376,074	3.721
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	5,224,914	5.759
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	6,966,550	7.679
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	1,325,109	1.461
16	DAILY PEAK NOx REDUCTIONS (HIGH)	1,766,810	1.948
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	1,600,218	1.764
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	2,133,627	2.352
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	2,925,328	3.225
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	3,900,437	4.299
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	23,395	0.026
23	DAILY PEAK PM REDUCTIONS (HIGH)	31,194	0.034
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	22,940	0.025
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	30,586	0.034
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	46,335	0.051
27	TOTAL DAILY PM REDUCTIONS (HIGH)	61,780	0.068
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	233,952	0.258
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	311,936	0.344
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	229,397	0.253
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	305,863	0.337
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	463,349	0.511
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	617,799	0.681

TCM package#1 – TRANSIT SERVICE INCREASE, CHILDCARE FACILITIES AT MAJOR TRANSIT STATIONS, AND FEEDER SERVCES TO AND FROM MAJOR TRANSIT SERVICES

DESCRIPTION OF MEASURE

Improvements to the transit systems in terms of an increase in route miles combined with childcare facilities at major transit stations and feeder services to and from major stations

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	14,771
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	16,002
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	9,232
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	10,001
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	5,539
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	6,001
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	86,973
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	94,220
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	86,148
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	93,327
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	173,120
18	REDUCTIONS IN TOTAL VMT (HIGH)	187,547

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	2,347,660	2.588
2	DAILY PEAK CO REDUCTIONS (HIGH)	2,543,299	2.803
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	1,348,390	1.486
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	1,460,756	1.610
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	3,696,051	4.074
6	TOTAL DAILY CO REDUCTIONS (HIGH)	4,004,055	4.414
7	**TOTAL ORGANIC GASES REDUCTIONS**		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	210,319	0.232
9	DAILY PEAK TOG REDUCTIONS (HIGH)	227,845	0.251
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	146,601	0.162
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	158,818	0.175
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	356,920	0.393
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	386,663	0.426
14	**OXIDES OF NITROGEN**		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	102,842	0.113
16	DAILY PEAK NOx REDUCTIONS (HIGH)	111,412	0.123
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	100,653	0.111
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	109,041	0.120
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	203,495	0.224
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	220,453	0.243
21	**EXHAUST PARTICULATES**		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	1,739	0.002
23	DAILY PEAK PM REDUCTIONS (HIGH)	1,884	0.002
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	1,723	0.002
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	1,867	0.002
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	3,462	0.004
27	TOTAL DAILY PM REDUCTIONS (HIGH)	3,751	0.004
28	**TIRE WEAR**		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	17,395	0.019
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	18,844	0.021
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	17,230	0.019
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	18,665	0.021
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	34,624	0.038
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	37,509	0.041

TCM PACKAGE #2 RIDSHARING FOR SMALL EMPLOYERS, PREFERENTIAL PARKING FOR CARPOOLERS AND VANPOOLERS, PASSENGER LOADING AREA AND GRH PROGRAM

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF-PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF-PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF-PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF-PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;

PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF-PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;

PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF-PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;

OPDVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF-PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	23,922
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	29,903
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	14,951
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	18,689
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	8,971
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	11,214
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	205,358
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	256,698
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	338,981
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	423,726
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	544,339
18	REDUCTIONS IN TOTAL VMT (HIGH)	680,424

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	4,421,366	4.874
2	DAILY PEAK CO REDUCTIONS (HIGH)	5,526,707	6.092
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	3,677,745	4.054
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	4,597,181	5.067
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	8,099,111	8.928
6	TOTAL DAILY CO REDUCTIONS (HIGH)	10,123,889	11.159
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	432,859	0.477
9	DAILY PEAK TOG REDUCTIONS (HIGH)	541,074	0.596
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	470,796	0.519
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	588,495	0.649
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	903,655	0.996
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	1,129,569	1.245
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	215,578	0.238
16	DAILY PEAK NOx REDUCTIONS (HIGH)	269,473	0.297
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	348,512	0.384
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	435,640	0.480
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	564,090	0.622
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	705,113	0.777
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	4,107	0.005
23	DAILY PEAK PM REDUCTIONS (HIGH)	5,134	0.006
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	6,780	0.007
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	8,475	0.009
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	10,887	0.012
27	TOTAL DAILY PM REDUCTIONS (HIGH)	13,608	0.015
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	41,072	0.045
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	51,340	0.057
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	67,796	0.075
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	84,745	0.093
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	108,868	0.120
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	136,085	0.150

TCM PACKAGE #3 BICYCLE AND PEDESTRAIN IMPROVEMENT, BICYCLING RACKS AND LOCKERS AT PARK-AND-RIDE LOTS AND AT MAJOR TRANSIT FACILITIES AND AGRESSIVE MARKETING FOR WALKING AND BICYCLING

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF-PEAK PERIOD)
OFF-PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF-PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF-PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF-PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF-PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF-PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF-PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	10,865
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	21,729
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	6,790
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	13,581
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	4,074
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	8,149
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	20,371
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	40,743
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	12,223
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	24,446
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	32,594
18	REDUCTIONS IN TOTAL VMT (HIGH)	65,188

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	1,308,250	1.442
2	DAILY PEAK CO REDUCTIONS (HIGH)	2,616,499	2.884
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	608,748	0.671
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	1,217,495	1.342
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	1,916,997	2.113
6	TOTAL DAILY CO REDUCTIONS (HIGH)	3,833,995	4.226
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	92,350	0.102
9	DAILY PEAK TOG REDUCTIONS (HIGH)	184,700	0.204
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	47,995	0.053
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	95,990	0.106
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	140,345	0.155
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	280,690	0.309
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	42,508	0.047
16	DAILY PEAK NOx REDUCTIONS (HIGH)	85,017	0.094
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	26,473	0.029
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	52,945	0.058
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	68,981	0.076
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	137,962	0.152
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	407	0.000
23	DAILY PEAK PM REDUCTIONS (HIGH)	815	0.001
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	244	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	489	0.001
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	652	0.001
27	TOTAL DAILY PM REDUCTIONS (HIGH)	1,304	0.001
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	4,074	0.004
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	8,149	0.009
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	2,445	0.003
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	4,889	0.005
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	6,519	0.007
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	13,038	0.014

TCM PACKAGE #4 TRIP REDUCTION ORDINANCE FOR SMALL EMPLOYERS, PREFERENTIAL PARKING FOR RIDESHERERS, FEEDER SERVICE TO TRANSIT, TMA/TMO AND TRANSPORTATION LOADING AREA

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	60,246
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	80,328
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	37,654
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	50,205
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	22,592
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	30,123
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	486,383
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	648,511
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	281,707
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	375,609
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	768,090
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,024,120

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	10,839,220	11.948
2	DAILY PEAK CO REDUCTIONS (HIGH)	14,452,294	15.931
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	4,977,902	5.487
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	6,637,203	7.316
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	15,817,122	17.435
6	TOTAL DAILY CO REDUCTIONS (HIGH)	21,089,497	23.247
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,046,084	1.153
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,394,779	1.537
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	516,435	0.569
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	688,580	0.759
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,562,519	1.722
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	2,083,359	2.296
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	519,513	0.573
16	DAILY PEAK NOx REDUCTIONS (HIGH)	692,684	0.764
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	345,748	0.381
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	460,998	0.508
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	865,261	0.954
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,153,682	1.272
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	9,728	0.011
23	DAILY PEAK PM REDUCTIONS (HIGH)	12,970	0.014
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	5,634	0.006
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	7,512	0.008
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	15,362	0.017
27	TOTAL DAILY PM REDUCTIONS (HIGH)	20,482	0.023
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	97,277	0.107
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	129,702	0.143
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	56,341	0.062
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	75,122	0.083
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	153,618	0.169
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	204,824	0.226

EMISSION MODEL LACMTA

TCM PACAGE #5.1 (SCENARIO1)– TRANSIT SERVICE INCREASE, TRANSIT SUBSIDY AND PARKING MANAGEMENT

DESCRIPTION OF MEASURE

Improvements to the transit system in terms of an increase in route miles combined with fare reductions and parking pricing increase.

EMISSION CALCULATION METHODOLOGY

SEE PACKAGE 5.3

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING AFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	59,011
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	88,517
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	36,228
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	54,342
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	22,783
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	34,175
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	489,844
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	734,766
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	310,888
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	466,332
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	800,732
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,201,098

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	10,638,822	11.727
2	DAILY PEAK CO REDUCTIONS (HIGH)	15,958,234	17.591
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	5,220,682	5.755
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	7,831,023	8.632
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	15,859,505	17.482
6	TOTAL DAILY CO REDUCTIONS (HIGH)	23,789,257	26.223
7	**TOTAL ORGANIC GASES REDUCTIONS**		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,037,760	1.144
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,556,639	1.716
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	552,154	0.609
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	828,232	0.913
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,589,914	1.753
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	2,384,871	2.629
14	**OXIDES OF NITROGEN**		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	516,469	0.569
16	DAILY PEAK NOx REDUCTIONS (HIGH)	774,703	0.854
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	373,594	0.412
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	560,391	0.618
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	890,063	0.981
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,335,094	1.472
21	**EXHAUST PARTICULATES**		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	9,797	0.011
23	DAILY PEAK PM REDUCTIONS (HIGH)	14,695	0.016
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	6,218	0.007
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	9,327	0.010
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	16,015	0.018
27	TOTAL DAILY PM REDUCTIONS (HIGH)	24,022	0.026
28	**TIRE WEAR**		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	97,969	0.108
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	146,953	0.162
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	62,178	0.069
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	93,266	0.103
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	160,146	0.177
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	240,220	0.265

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT WITH PARKING AFFECT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	64,196
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	96,294
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	39,469
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	59,203
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	24,727
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	37,091
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	532,886
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	799,329
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	336,713
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	505,070
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	869,599
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,304,399

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	11,583,081	12.768
2	DAILY PEAK CO REDUCTIONS (HIGH)	17,374,622	19.152
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	5,660,927	6.240
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	8,491,391	9.360
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	17,244,009	19.008
6	TOTAL DAILY CO REDUCTIONS (HIGH)	25,866,013	28.512
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,129,483	1.245
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,694,224	1.868
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	598,449	0.660
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	897,674	0.989
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,727,932	1.905
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	2,591,898	2.857
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	562,080	0.620
16	DAILY PEAK NOx REDUCTIONS (HIGH)	843,120	0.929
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	404,820	0.446
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	607,230	0.669
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	966,899	1.066
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,450,349	1.599
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	10,658	0.012
23	DAILY PEAK PM REDUCTIONS (HIGH)	15,987	0.018
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	6,734	0.007
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	10,101	0.011
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	17,392	0.019
27	TOTAL DAILY PM REDUCTIONS (HIGH)	26,088	0.029
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	106,577	0.117
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	159,866	0.176
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	67,343	0.074
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	101,014	0.111
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	173,920	0.192
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	260,880	0.288

EMISSION MODEL LACMTA

TCM PACAGE #5.2 (SCENARIO2)– TRANSIT SERVICE INCREASE, TRANSIT SUBSIDY AND PARKING MANAGEMENT

DESCRIPTION OF MEASURE

Improvements to the transit systems in terms of an increase in route miles combined with fare reductions and parking pricing increase.

EMISSION CALCULATION METHODOLOGY

SEE PACKAGE 5.3

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING AFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	78,352
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	117,528
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	48,208
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	72,312
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	30,144
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	45,216
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	650,396
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	975,594
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	410,050
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	615,075
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	1,060,446
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,590,669

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

		GRAMS/DAY	TONS/DAY
	CARBON MONOXIDE REDUCTIONS		
1	DAILY PEAK CO REDUCTIONS (STANDARD)	14,143,164	15.590
2	DAILY PEAK CO REDUCTIONS (HIGH)	21,214,747	23.385
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	6,897,829	7.603
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	10,346,744	11.405
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	21,040,994	23.193
6	TOTAL DAILY CO REDUCTIONS (HIGH)	31,561,491	34.790
7	**TOTAL ORGANIC GASES REDUCTIONS**		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,378,883	1.520
9	DAILY PEAK TOG REDUCTIONS (HIGH)	2,068,324	2.280
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	729,049	0.804
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	1,093,574	1.205
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	2,107,932	2.324
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	3,161,898	3.485
14	**OXIDES OF NITROGEN**		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	686,169	0.756
16	DAILY PEAK NOx REDUCTIONS (HIGH)	1,029,253	1.135
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	493,105	0.544
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	739,658	0.815
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	1,179,274	1.300
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,768,911	1.950
21	**EXHAUST PARTICULATES**		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	13,008	0.014
23	DAILY PEAK PM REDUCTIONS (HIGH)	19,512	0.022
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	8,201	0.009
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	12,302	0.014
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	21,209	0.023
27	TOTAL DAILY PM REDUCTIONS (HIGH)	31,813	0.035
28	**TIRE WEAR**		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	130,079	0.143
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	195,119	0.215
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	82,010	0.090
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	123,015	0.136
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	212,089	0.234
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	318,134	0.351

EMISSION MODEL LACMTA

TRANSPORTATION MODEL OUTPUT WITH PARKING AFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	93,908
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	140,862
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	57,931
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	86,896
7	OFF-PEAK TRIP REDUCTIONS	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	35,978
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	53,966
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	779,523
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,169,285
13	OFF-PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	487,526
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	731,289
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	1,267,049
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,900,574

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	16,975,947	18.712
2	DAILY PEAK CO REDUCTIONS (HIGH)	25,463,921	28.069
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	8,218,645	9.059
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	12,327,968	13.589
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	25,194,592	27.772
6	TOTAL DAILY CO REDUCTIONS (HIGH)	37,791,888	41.658
7	**TOTAL ORGANIC GASES REDUCTIONS**		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,654,053	1.823
9	DAILY PEAK TOG REDUCTIONS (HIGH)	2,481,079	2.735
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	867,940	0.957
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	1,301,909	1.435
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	2,521,993	2.780
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	3,782,989	4.170
14	**OXIDES OF NITROGEN**		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	823,002	0.907
16	DAILY PEAK NOx REDUCTIONS (HIGH)	1,234,503	1.361
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	586,786	0.647
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	880,179	0.970
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	1,409,788	1.554
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	2,114,682	2.331
21	**EXHAUST PARTICULATES**		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	15,590	0.017
23	DAILY PEAK PM REDUCTIONS (HIGH)	23,386	0.026
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	9,751	0.011
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	14,626	0.016
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	25,341	0.028
27	TOTAL DAILY PM REDUCTIONS (HIGH)	38,011	0.042
28	**TIRE WEAR**		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	155,905	0.172
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	233,857	0.258
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	97,505	0.107
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	146,258	0.161
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	253,410	0.279
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	380,115	0.419

TCM PACKAGE #5.3– TRANSIT SERVICE INCREASE, TRANSIT SUBSIDY AND PARKING MANAGEMENT

DESCRIPTION OF MEASURE

Improvements to the transit system in terms of an increase in route miles combined with fare reductions and parking pricing increase.

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF-PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF-PEAK CO EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF-PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF-PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF-PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING EFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	82,639
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	123,958
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	50,342
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	75,514
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	32,296
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	48,445
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	679,753
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,019,630
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	441,816
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	662,724
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	1,121,570
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,682,354

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	14,774,741	16.286
2	DAILY PEAK CO REDUCTIONS (HIGH)	22,162,111	24.429
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	7,409,001	8.167
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	11,113,501	12.250
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	22,183,741	24.453
6	TOTAL DAILY CO REDUCTIONS (HIGH)	33,275,612	36.679
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,440,735	1.588
9	DAILY PEAK TOG REDUCTIONS (HIGH)	2,161,103	2.382
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	784,017	0.864
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	1,176,025	1.296
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	2,224,752	2.452
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	3,337,128	3.678
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	716,975	0.790
16	DAILY PEAK NOx REDUCTIONS (HIGH)	1,075,463	1.185
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	530,628	0.585
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	795,942	0.877
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	1,247,604	1.375
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,871,406	2.063
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	13,595	0.015
23	DAILY PEAK PM REDUCTIONS (HIGH)	20,393	0.022
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	8,836	0.010
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	13,254	0.015
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	22,431	0.025
27	TOTAL DAILY PM REDUCTIONS (HIGH)	33,647	0.037
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	135,951	0.150
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	203,926	0.225
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	88,363	0.097
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	132,545	0.146
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	224,314	0.247
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	336,471	0.371

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT WITH PARKING EFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	144,864
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	217,296
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	89,233
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	133,850
7	OFF-PEAK TRIP REDUCTIONS	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	55,631
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	83,446
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	1,123,109
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,684,663
13	OFF-PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	707,827
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	1,061,741
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	1,830,936
18	REDUCTIONS IN TOTAL VMT (HIGH)	2,746,404

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	25,403,596	28.002
2	DAILY PEAK CO REDUCTIONS (HIGH)	38,105,394	42.003
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	12,363,538	13.628
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	18,545,307	20.442
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	37,767,134	41.630
6	TOTAL DAILY CO REDUCTIONS (HIGH)	56,650,701	62.446
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	2,436,806	2.686
9	DAILY PEAK TOG REDUCTIONS (HIGH)	3,655,210	4.029
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	1,288,224	1.420
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	1,932,337	2.130
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	3,725,031	4.106
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	5,587,546	6.159
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	1,208,711	1.332
16	DAILY PEAK NOx REDUCTIONS (HIGH)	1,813,066	1.999
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	864,530	0.953
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	1,296,796	1.429
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	2,073,241	2.285
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	3,109,862	3.428
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	22,462	0.025
23	DAILY PEAK PM REDUCTIONS (HIGH)	33,693	0.037
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	14,157	0.016
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	21,235	0.023
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	36,619	0.040
27	TOTAL DAILY PM REDUCTIONS (HIGH)	54,928	0.061
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	224,622	0.248
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	336,933	0.371
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	141,565	0.156
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	212,348	0.234
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	366,187	0.404
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	549,281	0.605

EMISSION MODEL LACMTA

TCM PACKAGE #6.1 (SCENARIO1) RIDSHARING FOR SMALL EMPLOYERS, PREFERENTIAL PARKING FOR CARPOOLERS AND VANPOOLERS, A $.5 CHARGE FOR SOV USERS AND A $1 SUBSIDY FOR RIDESHARERS

EMISSION CALCULATION METHODOLOGY

SEE PACKAGE 5.3

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING AFFECT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	44,940
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	49,262
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	28,088
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	30,789
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	16,853
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	18,473
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	381,162
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	483,220
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	228,992
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	290,287
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	610,154
18	REDUCTIONS IN TOTAL VMT (HIGH)	773,507

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	8,261,573	9.107
2	DAILY PEAK CO REDUCTIONS (HIGH)	9,683,957	10.675
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	3,854,449	4.249
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	4,519,290	4.982
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	12,116,022	13.355
6	TOTAL DAILY CO REDUCTIONS (HIGH)	14,203,247	15.656
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	806,556	0.889
9	DAILY PEAK TOG REDUCTIONS (HIGH)	977,648	1.078
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	407,291	0.449
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	492,410	0.543
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,213,847	1.338
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	1,470,057	1.620
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	401,471	0.443
16	DAILY PEAK NOx REDUCTIONS (HIGH)	489,786	0.540
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	275,443	0.304
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	338,456	0.373
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	676,915	0.746
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	828,243	0.913
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	7,623	0.008
23	DAILY PEAK PM REDUCTIONS (HIGH)	9,664	0.011
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	4,580	0.005
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	5,806	0.006
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	12,203	0.013
27	TOTAL DAILY PM REDUCTIONS (HIGH)	15,470	0.017
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	76,232	0.084
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	96,644	0.107
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	45,798	0.050
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	58,057	0.064
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	122,031	0.135
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	154,701	0.171

EMISSION MODEL LACMTA

TRANSPORTATION MODEL OUTPUT WITH PARKING AFFECT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	55,310
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	57,040
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	34,569
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	35,650
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	20,741
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	21,390
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	467,246
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	612,347
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	280,642
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	367,763
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	747,889
18	REDUCTIONS IN TOTAL VMT (HIGH)	980,110

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	10,150,091	11.188
2	DAILY PEAK CO REDUCTIONS (HIGH)	11,720,134	12.919
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	4,734,939	5.219
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	5,469,865	6.029
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	14,885,030	16.408
6	TOTAL DAILY CO REDUCTIONS (HIGH)	17,189,999	18.948
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	990,003	1.091
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,207,558	1.331
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	499,881	0.551
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	607,179	0.669
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,489,883	1.642
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	1,814,737	2.000
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	492,693	0.543
16	DAILY PEAK NOx REDUCTIONS (HIGH)	607,271	0.669
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	337,895	0.372
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	421,324	0.464
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	830,588	0.916
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,028,594	1.134
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	9,345	0.010
23	DAILY PEAK PM REDUCTIONS (HIGH)	12,247	0.013
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	5,613	0.006
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	7,355	0.008
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	14,958	0.016
27	TOTAL DAILY PM REDUCTIONS (HIGH)	19,602	0.022
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	93,449	0.103
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	122,469	0.135
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	56,128	0.062
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	73,553	0.081
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	149,578	0.165
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	196,022	0.216

EMISSION MODEL LACMTA

TCM PACKAGE #6.2 (SCENARIO2) RIDSHARING FOR SMALL EMPLOYERS, PREFERENTIAL PARKING FOR CARPOOLERS AND VANPOOLERS, A $1 CHARGE FOR SOV USERS AND A $1 SUBSIDY FOR RIDESHARERS

EMISSION CALCULATION METHODOLOGY

SEE PACKAGE 6.3

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING AFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	72,595
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	89,880
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	45,372
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	56,175
7	OFF-PEAK TRIP REDUCTIONS	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	27,223
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	33,705
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	612,347
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	757,447
13	OFF-PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	367,762
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	454,882
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	980,109
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,212,329

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	13,313,167	14.675
2	DAILY PEAK CO REDUCTIONS (HIGH)	16,476,327	18.162
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	6,210,309	6.846
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	7,685,663	8.472
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	19,523,476	21.521
6	TOTAL DAILY CO REDUCTIONS (HIGH)	24,161,990	26.634
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,298,068	1.431
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,606,138	1.770
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	655,417	0.722
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	810,952	0.894
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,953,485	2.153
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	2,417,091	2.664
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	645,964	0.712
16	DAILY PEAK NOx REDUCTIONS (HIGH)	799,236	0.881
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	442,948	0.488
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	548,002	0.604
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	1,088,912	1.200
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,347,238	1.485
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	12,247	0.013
23	DAILY PEAK PM REDUCTIONS (HIGH)	15,149	0.017
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	7,355	0.008
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	9,098	0.010
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	19,602	0.022
27	TOTAL DAILY PM REDUCTIONS (HIGH)	24,247	0.027
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	122,469	0.135
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	151,489	0.167
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	73,552	0.081
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	90,976	0.100
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	196,022	0.216
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	242,466	0.267

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT WITH PARKING AFFECT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	103,707
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	131,363
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	64,817
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	82,102
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	38,890
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	49,261
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	870,601
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,101,786
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	522,714
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	661,485
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	1,393,316
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,763,271

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	12,033,648	13.265
2	DAILY PEAK CO REDUCTIONS (HIGH)	15,471,833	17.054
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	5,611,178	6.185
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	7,214,372	7.952
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	17,644,826	19.450
6	TOTAL DAILY CO REDUCTIONS (HIGH)	22,686,204	25.007
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,177,014	1.297
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,513,303	1.668
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	593,772	0.655
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	763,421	0.842
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,770,786	1.952
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	2,276,725	2.510
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	586,085	0.646
16	DAILY PEAK NOx REDUCTIONS (HIGH)	753,538	0.831
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	401,869	0.443
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	516,689	0.570
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	987,955	1.089
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,270,227	1.400
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	11,154	0.012
23	DAILY PEAK PM REDUCTIONS (HIGH)	14,340	0.016
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	6,692	0.007
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	8,604	0.009
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	17,846	0.020
27	TOTAL DAILY PM REDUCTIONS (HIGH)	22,945	0.025
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	111,536	0.123
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	143,403	0.158
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	66,922	0.074
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	86,042	0.095
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	178,457	0.197
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	229,445	0.253

TRANSPORTATION MODEL OUTPUT WITH PARKING EFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	189,676
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	258,092
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	118,547
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	161,307
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	71,128
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	96,784
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	1,444,390
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,958,408
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	866,630
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	1,175,045
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	2,311,019
18	REDUCTIONS IN TOTAL VMT (HIGH)	3,133,453

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	33,291,322	36.697
2	DAILY PEAK CO REDUCTIONS (HIGH)	45,232,563	49.860
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	15,520,280	17.108
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	21,087,152	23.244
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	48,811,602	53.805
6	TOTAL DAILY CO REDUCTIONS (HIGH)	66,319,714	73.104
7	**TOTAL ORGANIC GASES REDUCTIONS**		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	3,169,154	3.493
9	DAILY PEAK TOG REDUCTIONS (HIGH)	4,302,296	4.742
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	1,602,189	1.766
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	2,175,210	2.398
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	4,771,343	5.259
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	6,477,507	7.140
14	**OXIDES OF NITROGEN**		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	1,569,555	1.730
16	DAILY PEAK NOx REDUCTIONS (HIGH)	2,130,394	2.348
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	1,069,674	1.179
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	1,451,620	1.600
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	2,639,229	2.909
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	3,582,014	3.948
21	**EXHAUST PARTICULATES**		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	28,888	0.032
23	DAILY PEAK PM REDUCTIONS (HIGH)	39,168	0.043
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	17,333	0.019
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	23,501	0.026
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	46,220	0.051
27	TOTAL DAILY PM REDUCTIONS (HIGH)	62,669	0.069
28	**TIRE WEAR**		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	288,878	0.318
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	391,682	0.432
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	173,326	0.191
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	235,009	0.259
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	462,204	0.509
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	626,691	0.691

EMISSION MODEL LACMTA

TCM PACKAGE #7.1 (SCENARIO1) BICYCLE AND PEDESTRIAN IMPROVEMENT, WALKING AND BICYCLING SUBSIDY OF $1 PER TRIP AND A PARKING CHARGE OF $.50

EMISSION CALCULATION METHODOLOGY

SEE PACKAGE 7.3

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING AFFECT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	18,383
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	21,009
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	10,478
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	11,975
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	7,905
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	9,034
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	27,431
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	31,350
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	16,216
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	18,533
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	43,647
18	REDUCTIONS IN TOTAL VMT (HIGH)	49,882

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	1,980,263	2.183
2	DAILY PEAK CO REDUCTIONS (HIGH)	2,263,157	2.495
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	1,124,938	1.240
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	1,285,644	1.417
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	3,105,201	3.423
6	TOTAL DAILY CO REDUCTIONS (HIGH)	3,548,801	3.912
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	136,777	0.151
9	DAILY PEAK TOG REDUCTIONS (HIGH)	156,316	0.172
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	84,347	0.093
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	96,397	0.106
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	221,124	0.244
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	252,713	0.279
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	62,550	0.069
16	DAILY PEAK NOx REDUCTIONS (HIGH)	71,486	0.079
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	44,389	0.049
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	50,730	0.056
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	106,939	0.118
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	122,216	0.135
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	549	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	627	0.001
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	324	0.000
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	371	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	873	0.001
27	TOTAL DAILY PM REDUCTIONS (HIGH)	998	0.001
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	5,486	0.006
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	6,270	0.007
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	3,243	0.004
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	3,707	0.004
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	8,729	0.010
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	9,976	0.011

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT WITH PARKING AFFECT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	20,111
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	22,984
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	11,558
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	13,209
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	8,553
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	9,775
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	30,672
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	35,054
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	18,160
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	20,755
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	48,832
18	REDUCTIONS IN TOTAL VMT (HIGH)	55,808

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	2,188,393	2.412
2	DAILY PEAK CO REDUCTIONS (HIGH)	2,501,021	2.757
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	1,221,773	1.347
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	1,396,311	1.539
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	3,410,166	3.759
6	TOTAL DAILY CO REDUCTIONS (HIGH)	3,897,332	4.296
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	151,469	0.167
9	DAILY PEAK TOG REDUCTIONS (HIGH)	173,107	0.191
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	91,982	0.101
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	105,122	0.116
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	243,450	0.268
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	278,229	0.307
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	69,313	0.076
16	DAILY PEAK NOx REDUCTIONS (HIGH)	79,214	0.087
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	48,600	0.054
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	55,543	0.061
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	117,912	0.130
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	134,757	0.149
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	613	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	701	0.001
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	363	0.000
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	415	0.000
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	977	0.001
27	TOTAL DAILY PM REDUCTIONS (HIGH)	1,116	0.001
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	6,134	0.007
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	7,011	0.008
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	3,632	0.004
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	4,151	0.005
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	9,766	0.011
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	11,162	0.012

EMISSION MODEL LACMTA

TCM PACKAGE #7.2 (SCENARIO2) BICYCLE AND PEDESTRIAN IMPROVEMENT, WALKING AND BICYCLING SUBSIDY OF $1 PER TRIP AND A PARKING CHARGE OF $1

EMISSION CALCULATION METHODOLOGY

SEE PACKAGE 7.3

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING AFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	24,505
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	28,006
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	14,142
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	16,162
7	OFF-PEAK TRIP REDUCTIONS	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	10,363
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	11,843
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	37,783
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	43,181
13	OFF-PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	22,388
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	25,586
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	60,171
18	REDUCTIONS IN TOTAL VMT (HIGH)	68,767

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	2,680,025	2.954
2	DAILY PEAK CO REDUCTIONS (HIGH)	3,062,890	3.376
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	1,483,191	1.635
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	1,695,076	1.868
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	4,163,216	4.589
6	TOTAL DAILY CO REDUCTIONS (HIGH)	4,757,965	5.245
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	185,692	0.205
9	DAILY PEAK TOG REDUCTIONS (HIGH)	212,220	0.234
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	111,896	0.123
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	127,881	0.141
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	297,588	0.328
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	340,101	0.375
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	85,000	0.094
16	DAILY PEAK NOx REDUCTIONS (HIGH)	97,143	0.107
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	59,242	0.065
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	67,705	0.075
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	144,242	0.159
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	164,848	0.182
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	756	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	864	0.001
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	448	0.000
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	512	0.001
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	1,203	0.001
27	TOTAL DAILY PM REDUCTIONS (HIGH)	1,375	0.002
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	7,557	0.008
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	8,636	0.010
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	4,478	0.005
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	5,117	0.006
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	12,034	0.013
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	13,753	0.015

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT WITH PARKING AFFECT

1	**TOTAL TRIP REDUCTIONS**	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	29,690
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	33,932
4	**PEAK TRIP REDUCTIONS**	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	17,383
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	19,866
7	**OFF–PEAK TRIP REDUCTIONS**	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	12,308
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	14,066
10	**PEAK VMT REDUCTIONS**	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	47,506
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	54,292
13	**OFF–PEAK VMT REDUCTIONS**	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	28,222
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	32,253
16	**TOTAL VMT REDUCTIONS**	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	75,727
18	REDUCTIONS IN TOTAL VMT (HIGH)	86,545

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	3,304,417	3.642
2	DAILY PEAK CO REDUCTIONS (HIGH)	3,776,476	4.163
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	1,773,724	1.955
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	2,027,113	2.234
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	5,078,141	5.598
6	TOTAL DAILY CO REDUCTIONS (HIGH)	5,803,589	6.397
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	229,768	0.253
9	DAILY PEAK TOG REDUCTIONS (HIGH)	262,592	0.289
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	134,802	0.149
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	154,060	0.170
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	364,570	0.402
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	416,652	0.459
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	105,288	0.116
16	DAILY PEAK NOx REDUCTIONS (HIGH)	120,329	0.133
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	71,876	0.079
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	82,144	0.091
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	177,164	0.195
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	202,474	0.223
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	950	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	1,086	0.001
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	564	0.001
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	645	0.001
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	1,515	0.002
27	TOTAL DAILY PM REDUCTIONS (HIGH)	1,731	0.002
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	9,501	0.010
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	10,858	0.012
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	5,644	0.006
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	6,451	0.007
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	15,145	0.017
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	17,309	0.019

**PACKAGE #7.3 BICYCLE AND PEDESTRIAN IMPROVEMENT,
WALKING AND BICYCLING SUBSIDY OF $1 PER TRIP AND
A $3 PARKING CHARGE FOR SOV USERS AND**

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF–PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF–PEAK CO EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF–PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF–PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF–PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING EFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	43,459
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	86,918
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	25,206
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	50,412
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	18,253
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	36,506
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	64,754
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	129,508
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	48,239
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	96,479
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	112,993
18	REDUCTIONS IN TOTAL VMT (HIGH)	225,986

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	4,751,922	5.238
2	DAILY PEAK CO REDUCTIONS (HIGH)	9,503,843	10.476
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	2,678,363	2.952
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	5,356,727	5.905
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	7,430,285	8.190
6	TOTAL DAILY CO REDUCTIONS (HIGH)	14,860,570	16.381
7	**TOTAL ORGANIC GASES REDUCTIONS**		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	327,268	0.361
9	DAILY PEAK TOG REDUCTIONS (HIGH)	654,535	0.721
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	207,390	0.229
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	414,781	0.457
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	534,658	0.589
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	1,069,316	1.179
14	**OXIDES OF NITROGEN**		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	149,534	0.165
16	DAILY PEAK NOx REDUCTIONS (HIGH)	299,067	0.330
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	112,535	0.124
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	225,069	0.248
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	262,068	0.289
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	524,136	0.578
21	**EXHAUST PARTICULATES**		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	1,295	0.001
23	DAILY PEAK PM REDUCTIONS (HIGH)	2,590	0.003
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	965	0.001
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	1,930	0.002
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	2,260	0.002
27	TOTAL DAILY PM REDUCTIONS (HIGH)	4,520	0.005
28	**TIRE WEAR**		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	12,951	0.014
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	25,902	0.029
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	9,648	0.011
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	19,296	0.021
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	22,599	0.025
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	45,197	0.050

TRANSPORTATION MODEL OUTPUT WITH PARKING EFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	64,201
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	128,401
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	38,170
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	76,340
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	26,031
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	52,062
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	103,645
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	207,289
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	71,574
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	143,147
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	175,218
18	REDUCTIONS IN TOTAL VMT (HIGH)	350,437

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	7,249,489	7.991
2	DAILY PEAK CO REDUCTIONS (HIGH)	14,498,978	15.982
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	3,840,509	4.233
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	7,681,017	8.467
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	11,089,997	12.224
6	TOTAL DAILY CO REDUCTIONS (HIGH)	22,179,995	24.449
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	503,572	0.555
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,007,145	1.110
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	299,016	0.330
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	598,033	0.659
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	802,589	0.885
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	1,605,178	1.769
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	230,686	0.254
16	DAILY PEAK NOx REDUCTIONS (HIGH)	461,371	0.509
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	163,073	0.180
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	326,146	0.360
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	393,759	0.434
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	787,517	0.868
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	2,073	0.002
23	DAILY PEAK PM REDUCTIONS (HIGH)	4,146	0.005
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	1,431	0.002
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	2,863	0.003
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	3,504	0.004
27	TOTAL DAILY PM REDUCTIONS (HIGH)	7,009	0.008
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	20,729	0.023
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	41,458	0.046
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	14,315	0.016
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	28,629	0.032
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	35,044	0.039
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	70,087	0.077

EMISSION MODEL LACMTA

TCM PACKAGE #8.1 (SCENARIO1) TRIP REDUCTION ORDINANCE FOR SMALL EMPLOYERS, A $.5 CHARGE FOR PARKING AND FREE PREFERENTIAL PARKING FOR RIDESHARERS

EMISSION CALCULATION METHODOLOGY

SEE PACKAGE 8.3

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING AFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	48,605
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	80,783
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	30,378
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	50,489
7	OFF-PEAK TRIP REDUCTIONS	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	18,227
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	30,294
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	410,821
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	683,069
13	OFF-PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	246,760
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	410,310
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	657,581
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,093,379

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	8,921,641	9.834
2	DAILY PEAK CO REDUCTIONS (HIGH)	14,830,651	16.348
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	4,161,997	4.588
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	6,918,770	7.627
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	13,083,639	14.422
6	TOTAL DAILY CO REDUCTIONS (HIGH)	21,749,422	23.974
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	870,294	0.959
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,446,845	1.595
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	439,445	0.484
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	730,591	0.805
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,309,740	1.444
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	2,177,436	2.400
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	433,129	0.477
16	DAILY PEAK NOx REDUCTIONS (HIGH)	720,080	0.794
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	297,063	0.327
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	493,902	0.544
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	730,192	0.805
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,213,982	1.338
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	8,216	0.009
23	DAILY PEAK PM REDUCTIONS (HIGH)	13,661	0.015
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	4,935	0.005
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	8,206	0.009
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	13,152	0.014
27	TOTAL DAILY PM REDUCTIONS (HIGH)	21,868	0.024
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	82,164	0.091
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	136,614	0.151
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	49,352	0.054
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	82,062	0.090
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	131,516	0.145
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	218,676	0.241

EMISSION MODEL LACMTA

TRANSPORTATION MODEL OUTPUT WITH PARKING AFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	65,889
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	106,710
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	41,181
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	66,693
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	24,708
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	40,016
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	554,295
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	898,281
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	332,844
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	539,437
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	887,140
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,437,718

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	12,069,171	13.304
2	DAILY PEAK CO REDUCTIONS (HIGH)	19,551,874	21.552
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	5,629,481	6.205
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	9,120,067	10.053
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	17,698,652	19.509
6	TOTAL DAILY CO REDUCTIONS (HIGH)	28,671,941	31.605
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,176,038	1.296
9	DAILY PEAK TOG REDUCTIONS (HIGH)	1,905,457	2.100
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	593,762	0.654
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	962,071	1.060
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	1,769,800	1.951
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	2,867,528	3.161
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	585,165	0.645
16	DAILY PEAK NOx REDUCTIONS (HIGH)	948,133	1.045
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	401,149	0.442
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	650,034	0.717
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	986,314	1.087
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,598,168	1.762
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	11,086	0.012
23	DAILY PEAK PM REDUCTIONS (HIGH)	17,966	0.020
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	6,657	0.007
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	10,789	0.012
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	17,743	0.020
27	TOTAL DAILY PM REDUCTIONS (HIGH)	28,754	0.032
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	110,859	0.122
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	179,656	0.198
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	66,569	0.073
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	107,887	0.119
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	177,428	0.196
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	287,544	0.317

EMISSION MODEL LACMTA

TCM PACKAGE #8.2 (CSENARIO2) TRIP REDUCTION ORDINANCE FOR SMALL EMPLOYERS, A $1 CHARGE FOR PARKING AND FREE PREFERENTIAL PARKING FOR RIDESHARERS

EMISSION CALCULATION METHODOLOGY

SEE PACKAGE 8.3

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING AFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	98,835
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	139,611
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	61,772
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	87,257
7	OFF-PEAK TRIP REDUCTIONS	
8	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (STANDARD)	37,063
9	TOTAL OFF-PEAK VEHICLE TRIPS REDUCED (HIGH)	52,354
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	831,444
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,175,000
13	OFF-PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF-PEAK VMT (STANDARD)	488,268
15	TOTAL REDUCTIONS IN OFF-PEAK VMT (HIGH)	705,860
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	1,319,712
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,880,860

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	18,103,802	19.956
2	DAILY PEAK CO REDUCTIONS (HIGH)	25,577,912	28.194
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	8,362,013	9.217
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	11,932,855	13.153
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	26,465,815	29.173
6	TOTAL DAILY CO REDUCTIONS (HIGH)	37,510,766	41.348
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,764,061	1.945
9	DAILY PEAK TOG REDUCTIONS (HIGH)	2,492,612	2.748
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	877,786	0.968
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	1,258,825	1.388
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	2,641,847	2.912
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	3,751,436	4.135
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	877,750	0.968
16	DAILY PEAK NOx REDUCTIONS (HIGH)	1,240,282	1.367
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	591,501	0.652
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	850,553	0.938
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	1,469,250	1.620
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	2,090,835	2.305
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	16,629	0.018
23	DAILY PEAK PM REDUCTIONS (HIGH)	23,500	0.026
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	9,765	0.011
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	14,117	0.016
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	26,394	0.029
27	TOTAL DAILY PM REDUCTIONS (HIGH)	37,617	0.041
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	166,289	0.183
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	235,000	0.259
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	97,654	0.108
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	141,172	0.156
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	263,942	0.291
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	376,172	0.415

EMISSION MODEL

LACMTA

TRANSPORTATION MODEL OUTPUT WITH PARKING AFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	150,689
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	208,750
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	94,181
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	130,469
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	56,508
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	78,281
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	1,261,868
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,748,898
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	746,522
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	1,050,199
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	2,008,390
18	REDUCTIONS IN TOTAL VMT (HIGH)	2,799,097

EMISSION MODEL LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	27,546,411	30.364
2	DAILY PEAK CO REDUCTIONS (HIGH)	38,168,051	42.072
3	DAILY OFF–PEAK CO REDUCTIONS (STANDARD)	12,764,732	14.070
4	DAILY OFF–PEAK CO REDUCTIONS (HIGH)	17,803,192	19.624
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	40,311,143	44.435
6	TOTAL DAILY CO REDUCTIONS (HIGH)	55,971,243	61.697
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	2,681,295	2.956
9	DAILY PEAK TOG REDUCTIONS (HIGH)	3,715,589	4.096
10	DAILY OFF–PEAK TOG REDUCTIONS (STANDARD)	1,340,753	1.478
11	DAILY OFF–PEAK TOG REDUCTIONS (HIGH)	1,876,118	2.068
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	4,022,048	4.433
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	5,591,707	6.164
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	1,333,860	1.470
16	DAILY PEAK NOx REDUCTIONS (HIGH)	1,848,429	2.038
17	DAILY OFF–PEAK NOx REDUCTIONS (STANDARD)	903,769	0.996
18	DAILY OFF–PEAK NOx REDUCTIONS (HIGH)	1,266,912	1.397
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	2,237,629	2.467
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	3,115,341	3.434
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	25,237	0.028
23	DAILY PEAK PM REDUCTIONS (HIGH)	34,978	0.039
24	DAILY OFF–PEAK PM REDUCTIONS (STANDARD)	14,930	0.016
25	DAILY OFF–PEAK PM REDUCTIONS (HIGH)	21,004	0.023
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	40,168	0.044
27	TOTAL DAILY PM REDUCTIONS (HIGH)	55,982	0.062
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	252,374	0.278
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	349,780	0.386
31	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (STANDARD)	149,304	0.165
32	DAILY OFF–PEAK TIRE WEAR REDUCTIONS (HIGH)	210,040	0.232
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	401,678	0.443
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	559,819	0.617

PACKAGE #8.3 TRIP REDUCTION ORDINANCE FOR SMALL EMPLOYERS
$3 PARKING CHARGE AND
PREFERENTIAL FREE PARKING FOR RIDESHERERS

EMISSION CALCULATION METHODOLOGY

TOTAL ORGANIC GASES (TOG)

DAILY PEAK PERIOD TOG REDUCTIONS (PPTOGR) =
(PVMTR) * (PTOGEPM) + (PDVTR) (PPOCS) * (PTOGCSEPT) +
+ (PDVTR) * (PPOHS) * (PTOGHSEPT) + (PDVTR) * (PTOGHSKEPT) +
+ (PDVTR/2) * (PTOGDRLEPVPD) WHERE;

PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = PEAK DAILY VEHICLE TRIPS REDUCED
PTOGEPM = PEAK TOTAL ORGANIC GASES EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PTOGCSEPT = PEAK TOG COLD START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STRATS
PTOGHSEPT = PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
PDRLEPVPD = PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

DAILY TOTAL ORGANIC GASES (OFF–PEAK PERIOD)
OFF–PEAK PERIOD TOG REDUCTIONS (OPPTOGR) =
(OPVMTR) * (OPTOGEPM) + (OPDVTR) (OPPOCS) * (OPTOGCSEPT) +
+ (OPDVTR) * (OPPOHS) * (OPTOGHSEPT) + (OPDVTR) * (OPTOGHSKEPT)
+ (OPDVTR/2) * (OPTOGDRLEPVPD) WHERE;

OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = OFF–PEAK DAILY VEHICLE TRIPS REDUCED
OPTOGEPM = OFF–PEAK TOG EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPTOGCSEPT = OFF–PEAK TOG COLD START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STRATS
OPTOGHSEPT = OFF–PEAK TOG HOT START EMISSIONS PER TRIP
PTOGHSKEPT = PEAK TOG HOT SOAK EMISSIONS PER TRIP
OPDRLEPVPD = OFF–PEAK DAILY TOG DIURNAL AND RUNING LOSSES PER VEHICLE PER DAY

TOTAL DAILY TOG REDUCTIONS (TDTOGR) =
(PPTOGR) + (OPPTOGR) WHERE;

PPTOGR = DAILY PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS
OPPTOGR = DAILY OFF–PEAK PERIOD TOTAL ORGANIC GASES REDUCTIONS

CARBON MONOXIDE (CO)

DAILY PEAK PERIOD CO REDUCTIONS (PPCOR) =
(PVMTR) * (PCOEPM) + (PDVTR) * (PPOCS) * (PCOCSEPT) +
+ (PDVTR) * (PCOHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PCOEPM = PEAK CO EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PCOCSEPT = PEAK CO COLD START EMISSIONS PER TRIP
PCOHSEPT = PEAK CO HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT START

DAILY OFF-PEAK PERIOD CO REDUCTIONS (OPPCOR) =
(OPVMTR) * (OPCOEPM) + (OPDVTR) * (OPPOCS) * (OPCOCSEPT) +
+ (OPDVTR) * (OPCOHSEPT) * (OPPOHS) WHERE;

OPVMTR = DAILY OFF-PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF-PEAK VEHICLE TRIPS REDUCED
OPCOEPM = OFF-PEAK CO EMISSIONS PER MILE
OPPOCS = OFF-PEAK PERCENT OF COLD STARTS
OPCOCSEPT = OFF-PEAK CO COLD START EMISSIONS PER TRIP
OPCOHSEPT = OFF-PEAK CO HOT START EMISSIONS PER TRIP
OPPOHS = OFF-PEAK PERCENT OF HOT START

TOTAL DAILY CO REDUCTIONS (TDCOR) =
(PPCOR) + (OPPCOR) WHERE;

PPCO =DAILY PEAK PERIOD CO REDUCTIONS
OPPCOR = DAILY OFF-PEAK PERIOD CO REDUCTIONS

OXIDES OF NITROGEN (NOx)

DAILY PEAK PERIOD NOx REDUCTIONS (PPNOxR) =
(PVMTR) * (PNOxEPM) + (PDVTR) * (PPOCS) * (PNOxCSEPT) +
+ (PDVTR) * (PNOxHSEPT) * (PPOHS) WHERE;

PVMTR = DAILY PEAK VEHICLE MILES TRAVELED REDUCED
PDVTR = DAILY PEAK VEHICLE TRIPS REDUCED
PNOxEPM = PEAK NOx EMISSIONS PER MILE
PPOCS = PEAK PERCENT OF COLD STARTS
PNOxCSEPT = PEAK NOx COLD START EMISSIONS PER TRIP
PNOxHSEPT = PEAK NOx HOT START EMISSIONS PER TRIP
PPOHS = PEAK PERCENT OF HOT STARTS

DAILY OFF–PEAK PERIOD NOx REDUCTIONS (OPPNOxR) =
(OPVMTR) * (OPNOxEPM) + (OPDVTR) * (OPPOCS) * (OPNOxCSEPT) +
+ (OPDVTR) * (OPNOxHSEPT) * (OPPOHS) WHERE;
OPVMTR = DAILY OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPDVTR = DAILY OFF–PEAK VEHICLE TRIPS REDUCED
OPNOxEPM = OFF–PEAK NOx EMISSIONS PER MILE
OPPOCS = OFF–PEAK PERCENT OF COLD STARTS
OPNOxCSEPT = OFF–PEAK NOx COLD START EMISSIONS PER TRIP
OPNOxHSEPT = OFF–PEAK NOx HOT START EMISSIONS PER TRIP
OPPOHS = OFF–PEAK PERCENT OF HOT STARTS

TOTAL DAILY NOx REDUCTIONS (TDNOxR) =
(PPNOxR) + (OPPNOxR) WHERE;
PPNOxR = DAILY PEAK PERIOD NOx REDUCTIONS
OPPNOxR = DAILY OFF–PEAK PERIOD NOx REDUCTIONS

EXHAUST PARTICULATES (PM)

DAILY PEAK PERIOD PM REDUCTIONS (PPPMR) =
(PDVMTR) * (PPMEPM) WHERE;
PDVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PPMEPM = PEAK PM EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD PM REDUCTIONS (OPPPMR) =
(OPDVMTR) * (OPPMEPM) WHERE;
OPDVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPPMEPM = OFF–PEAK PM EMISSIONS PER MILE

TOTAL DAILY PM REDUCTIONS (TDPMR) =
(PPPMR) + (OPPPMR) WHERE;
PPPMR = DAILY PEAK PERIOD PM REDUCTIONS
OPPPMR = DAILY OFF–PEAK PERIOD PM REDUCTIONS

TIRE WEAR (TW)

DAILY PEAK PERIOD TW REDUCTIONS (PPTWR) =
(PVMTR) * (PTWEPM)
PVMTR = PEAK VEHICLE MILES TRAVELED REDUCED
PTWEPM =PEAK TW EMISSIONS PER MILE

DAILY OFF–PEAK PERIOD TW REDUCTIONS (OPPTWR)=
(OPVMTR) * (OPTWEPM)
OPVMTR = OFF–PEAK VEHICLE MILES TRAVELED REDUCED
OPTWEPM = OFF–PEAK TW EMISSIONS PER MILE

TOTAL DAILY TW REDUCTIONS (TDTWR) =
(PPTWR) + (OPPTWR) WHERE;
PPTWR = DAILY PEAK PERIOD TIRE WEAR REDUCTIONS
OPPTWR = DAILY OFF–PEAK PERIOD TIRE WEAR REDUCTIONS

TRANSPORTATION MODEL OUTPUT WITHOUT PARKING EFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	86,132
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	125,283
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	53,833
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	78,302
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	32,300
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	46,981
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	736,432
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	1,071,173
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	441,859
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	642,704
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	1,178,290
18	REDUCTIONS IN TOTAL VMT (HIGH)	1,713,877

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	15,890,771	17.516
2	DAILY PEAK CO REDUCTIONS (HIGH)	23,113,849	25.478
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	7,409,719	8.168
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	10,777,773	11.880
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	23,300,490	25.684
6	TOTAL DAILY CO REDUCTIONS (HIGH)	33,891,622	37.358
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	1,554,280	1.713
9	DAILY PEAK TOG REDUCTIONS (HIGH)	2,260,770	2.492
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	784,093	0.864
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	1,140,499	1.257
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	2,338,373	2.578
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	3,401,269	3.749
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	773,942	0.853
16	DAILY PEAK NOx REDUCTIONS (HIGH)	1,125,734	1.241
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	530,680	0.585
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	771,898	0.851
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	1,304,622	1.438
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	1,897,632	2.092
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	14,729	0.016
23	DAILY PEAK PM REDUCTIONS (HIGH)	21,423	0.024
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	8,837	0.010
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	12,854	0.014
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	23,566	0.026
27	TOTAL DAILY PM REDUCTIONS (HIGH)	34,278	0.038
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	147,286	0.162
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	214,235	0.236
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	88,372	0.097
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	128,541	0.142
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	235,658	0.260
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	342,775	0.378

TRANSPORTATION MODEL OUTPUT WITH PARKING EFFECT

1	TOTAL TRIP REDUCTIONS	
2	TOTAL VEHICLE TRIPS REDUCED (STANDARD)	293,549
3	TOTAL VEHICLE TRIPS REDUCED (HIGH)	415,667
4	PEAK TRIP REDUCTIONS	
5	TOTAL PEAK VEHICLE TRIPS REDUCED (STANDARD)	183,469
6	TOTAL PEAK VEHICLE TRIPS REDUCED (HIGH)	259,792
7	OFF–PEAK TRIP REDUCTIONS	
8	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (STANDARD)	110,081
9	TOTAL OFF–PEAK VEHICLE TRIPS REDUCED (HIGH)	155,875
10	PEAK VMT REDUCTIONS	
11	TOTAL REDUCTIONS IN PEAK VMT (STANDARD)	2,458,128
12	TOTAL REDUCTIONS IN PEAK VMT (HIGH)	3,481,547
13	OFF–PEAK VMT REDUCTIONS	
14	TOTAL REDUCTIONS IN OFF–PEAK VMT (STANDARD)	1,474,876
15	TOTAL REDUCTIONS IN OFF–PEAK VMT (HIGH)	2,088,928
16	TOTAL VMT REDUCTIONS	
17	REDUCTIONS IN TOTAL VMT (STANDARD)	3,933,003
18	REDUCTIONS IN TOTAL VMT (HIGH)	5,570,476

EMISSION MODEL

LACMTA

EMISSION MODEL OUTPUT

	CARBON MONOXIDE REDUCTIONS		
		GRAMS/DAY	TONS/DAY
1	DAILY PEAK CO REDUCTIONS (STANDARD)	53,661,208	59.150
2	DAILY PEAK CO REDUCTIONS (HIGH)	75,992,391	83.766
3	DAILY OFF-PEAK CO REDUCTIONS (STANDARD)	25,020,731	27.580
4	DAILY OFF-PEAK CO REDUCTIONS (HIGH)	35,433,267	39.058
5	TOTAL DAILY CO REDUCTIONS (STANDARD)	78,681,939	86.731
6	TOTAL DAILY CO REDUCTIONS (HIGH)	111,425,658	122.824
7	TOTAL ORGANIC GASES REDUCTIONS		
8	DAILY PEAK TOG REDUCTIONS (STANDARD)	5,223,216	5.758
9	DAILY PEAK TOG REDUCTIONS (HIGH)	7,397,277	8.154
10	DAILY OFF-PEAK TOG REDUCTIONS (STANDARD)	2,635,972	2.906
11	DAILY OFF-PEAK TOG REDUCTIONS (HIGH)	3,733,134	4.115
12	TOTAL DAILY TOG REDUCTIONS (STANDARD)	7,859,188	8.663
13	TOTAL DAILY TOG REDUCTIONS (HIGH)	11,130,411	12.269
14	OXIDES OF NITROGEN		
15	DAILY PEAK NOx REDUCTIONS (STANDARD)	2,598,382	2.864
16	DAILY PEAK NOx REDUCTIONS (HIGH)	3,679,948	4.056
17	DAILY OFF-PEAK NOx REDUCTIONS (STANDARD)	1,779,759	1.962
18	DAILY OFF-PEAK NOx REDUCTIONS (HIGH)	2,520,611	2.778
19	TOTAL DAILY NOx REDUCTIONS IN (STANDARD)	4,378,141	4.826
20	TOTAL DAILY NOx REDUCTIONS (HIGH)	6,200,559	6.835
21	EXHAUST PARTICULATES		
22	DAILY PEAK PM REDUCTIONS (STANDARD)	49,163	0.054
23	DAILY PEAK PM REDUCTIONS (HIGH)	69,631	0.077
24	DAILY OFF-PEAK PM REDUCTIONS (STANDARD)	29,498	0.033
25	DAILY OFF-PEAK PM REDUCTIONS (HIGH)	41,779	0.046
26	TOTAL DAILY PM REDUCTIONS (STANDARD)	78,660	0.087
27	TOTAL DAILY PM REDUCTIONS (HIGH)	111,410	0.123
28	TIRE WEAR		
29	DAILY PEAK TIRE WEAR REDUCTIONS (STANDARD)	491,626	0.542
30	DAILY PEAK TIRE WEAR REDUCTIONS (HIGH)	696,309	0.768
31	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (STANDARD)	294,975	0.325
32	DAILY OFF-PEAK TIRE WEAR REDUCTIONS (HIGH)	417,786	0.461
33	TOTAL DAILY TIRE WEAR REDUCTIONS (STANDARD)	786,601	0.867
34	TOTAL DAILY TIRE WEAR REDUCTIONS (HIGH)	1,114,095	1.228