

URBEMIS2007 Existing Emissions

Urbemis 2007 Version 9.2.0

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\glu\My Documents\aq\Verdugo Gardens\Verdugo Revised Part II\URBEMIS2007\Existing Conditions.urb9

Project Name: Verdugo Gardens Existing Emissions

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	0.39	0.16	3.54	0.00	0.01	0.01

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	7.20	7.39	69.41	0.05	8.02	1.56

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	7.59	7.55	72.95	0.05	8.03	1.57

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
Natural Gas	0.01	0.12	0.10	0.00	0.00	0.00
Hearth						
Landscape	0.29	0.04	3.44	0.00	0.01	0.01
Consumer Products	0.00					
Architectural Coatings	0.09					
TOTALS (lbs/day, unmitigated)	0.39	0.16	3.54	0.00	0.01	0.01

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>
High turnover (sit-down) rest.	4.25	3.99	37.54	0.03	4.15	0.81
Medical office building	2.95	3.40	31.87	0.02	3.87	0.75
TOTALS (lbs/day, unmitigated)	7.20	7.39	69.41	0.05	8.02	1.56

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2007 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
High turnover (sit-down) rest.		127.15	1000 sq ft	5.15	654.82	2,396.81
Medical office building		36.13	1000 sq ft	10.00	361.30	2,236.13
					1,016.12	4,632.94

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.8	2.0	97.6	0.4
Light Truck < 3750 lbs	6.9	5.8	91.3	2.9
Light Truck 3751-5750 lbs	22.8	0.9	99.1	0.0
Med Truck 5751-8500 lbs	10.0	2.0	98.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.4	0.0	85.7	14.3
Lite-Heavy Truck 10,001-14,000 lbs	0.4	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	0.0	100.0
Other Bus	0.1	0.0	100.0	0.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	82.6	17.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	12.5	75.0	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
High turnover (sit-down) rest.				5.0	2.5	92.5
Medical office building				7.0	3.5	89.5

Urbemis 2007 Version 9.2.0

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\glu\My Documents\aq\Verdugo Gardens\Verdugo Revised Part II\URBEMIS2007\Existing Conditions.urb9

Project Name: Verdugo Gardens Existing Emissions

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	0.10	0.12	0.10	0.00	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	8.50	8.92	70.09	0.04	8.02	1.56

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	8.60	9.04	70.19	0.04	8.02	1.56

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
Natural Gas	0.01	0.12	0.10	0.00	0.00	0.00
Hearth						
Landscaping - No Winter Emissions						
Consumer Products	0.00					
Architectural Coatings	0.09					
TOTALS (lbs/day, unmitigated)	0.10	0.12	0.10	0.00	0.00	0.00

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>
High turnover (sit-down) rest.	5.10	4.81	38.50	0.02	4.15	0.81
Medical office building	3.40	4.11	31.59	0.02	3.87	0.75
TOTALS (lbs/day, unmitigated)	8.50	8.92	70.09	0.04	8.02	1.56

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2007 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
High turnover (sit-down) rest.		127.15	1000 sq ft	5.15	654.82	2,396.81
Medical office building		36.13	1000 sq ft	10.00	361.30	2,236.13
					1,016.12	4,632.94

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.8	2.0	97.6	0.4
Light Truck < 3750 lbs	6.9	5.8	91.3	2.9
Light Truck 3751-5750 lbs	22.8	0.9	99.1	0.0
Med Truck 5751-8500 lbs	10.0	2.0	98.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.4	0.0	85.7	14.3
Lite-Heavy Truck 10,001-14,000 lbs	0.4	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	0.0	100.0
Other Bus	0.1	0.0	100.0	0.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	82.6	17.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	12.5	75.0	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commuter	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
High turnover (sit-down) rest.				5.0	2.5	92.5
Medical office building				7.0	3.5	89.5

URBEMIS2007 Proposed Summertime Emissions

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\glu\My Documents\aq\Verdugo Gardens\Verdugo Revised Part II\URBEMIS2007\Verdugo Gardens Construction and Operation.urb9

Project Name: Verdugo Gardens Construction and Operational

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
2008 TOTALS (lbs/day unmitigated)	6.30	64.20	43.35	0.05	24.14	3.14	27.28	5.05	2.89	7.95
2008 TOTALS (lbs/day mitigated)	6.30	64.20	43.35	0.05	12.56	3.14	15.70	2.64	2.89	5.53
2009 TOTALS (lbs/day unmitigated)	4.12	31.78	40.65	0.05	0.19	1.42	1.61	0.07	1.30	1.37
2009 TOTALS (lbs/day mitigated)	4.12	31.78	40.65	0.05	0.19	1.42	1.61	0.07	1.30	1.37
2010 TOTALS (lbs/day unmitigated)	47.40	29.73	40.28	0.05	0.20	1.31	1.51	0.07	1.20	1.27
2010 TOTALS (lbs/day mitigated)	47.40	29.73	40.28	0.05	0.20	1.31	1.51	0.07	1.20	1.27

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	15.70	2.89	4.32	0.00	0.02	0.02

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	11.82	13.41	122.35	0.12	19.71	3.85
TOTALS (lbs/day, mitigated)	11.82	13.41	122.35	0.12	19.71	3.85
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	27.52	16.30	126.67	0.12	19.73	3.87

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 6/2/2008-6/30/2008 Number Active Days: 21	2.83		12.16		11.61	1.56		2.42		3.86
		21.88		0.01			13.17		1.43	
Demolition 06/02/2008-06/30/2008	2.83		12.16		11.61	1.56		2.42	1.43	
		21.88		0.01			13.17			3.86
Fugitive Dust	0.00	0.00	0.00	0.00	11.57	0.00	11.57	2.41	0.00	2.41
Demo Off Road Diesel	2.04	12.37	7.03	0.00	0.00	1.13	1.13	0.00	1.04	1.04
Demo On Road Diesel	0.74	9.43	3.88	0.01	0.04	0.43	0.46	0.01	0.39	0.40
Demo Worker Trips	0.04	0.08	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 7/1/2008-8/29/2008 Number Active Days: 44	<u>6.30</u>		27.39		<u>24.14</u>	<u>3.14</u>		<u>5.05</u>		<u>7.95</u>
		<u>64.20</u>		0.03			<u>27.28</u>		<u>2.89</u>	
Mass Grading 07/01/2008-08/29/2008	6.30		27.39		24.14	3.14		5.05	2.89	
		64.20		0.03			27.28			7.95
Mass Grading Dust	0.00	0.00	0.00	0.00	24.02	0.00	24.02	5.02	0.00	5.02
Mass Grading Off Road Diesel	3.99	35.67	13.84	0.00	0.00	1.85	1.85	0.00	1.71	1.71
Mass Grading On Road Diesel	2.24	28.42	11.69	0.03	0.11	1.28	1.39	0.04	1.18	1.22
Mass Grading Worker Trips	0.06	0.12	1.87	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 9/1/2008-12/31/2008 Number Active Days: 88	4.39		<u>43.35</u>		0.19	1.52		0.07		1.46
		33.72		<u>0.05</u>			1.71		1.39	
Building 09/01/2008-06/30/2010	4.39		43.35		0.19	1.52		0.07	1.39	
		33.72		0.05			1.71			1.46
Building Off Road Diesel	2.43	19.70	7.80	0.00	0.00	0.89	0.89	0.00	0.82	0.82
Building Vendor Trips	1.09	12.42	9.54	0.02	0.07	0.56	0.63	0.02	0.52	0.54
Building Worker Trips	0.87	1.60	26.01	0.03	0.12	0.07	0.19	0.04	0.06	0.10

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Time Slice 1/1/2009-12/31/2009 Number Active Days: 261	<u>4.12</u>		<u>40.65</u>		<u>0.19</u>	<u>1.42</u>		<u>0.07</u>		<u>1.37</u>
		<u>31.78</u>		<u>0.05</u>			<u>1.61</u>		<u>1.30</u>	
Building 09/01/2008-06/30/2010	4.12		40.65		0.19	1.42		0.07	1.30	
		31.78		0.05			1.61			1.37
Building Off Road Diesel	2.31	18.64	7.51	0.00	0.00	0.84	0.84	0.00	0.77	0.77
Building Vendor Trips	1.02	11.67	8.88	0.02	0.07	0.51	0.58	0.02	0.47	0.49
Building Worker Trips	0.79	1.47	24.27	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Time Slice 1/1/2010-4/30/2010 Number Active Days: 86	<u>3.85</u>		<u>38.17</u>		<u>0.19</u>	<u>1.30</u>		<u>0.07</u>		<u>1.26</u>
		<u>29.61</u>		<u>0.05</u>			<u>1.49</u>		<u>1.19</u>	
Building 09/01/2008-06/30/2010	3.85		38.17		0.19	1.30		0.07	1.19	
		29.61		0.05			1.49			1.26
Building Off Road Diesel	2.18	17.59	7.21	0.00	0.00	0.77	0.77	0.00	0.71	0.71
Building Vendor Trips	0.95	10.66	8.24	0.02	0.07	0.46	0.53	0.02	0.42	0.44
Building Worker Trips	0.73	1.35	22.72	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Time Slice 5/3/2010-6/30/2010 Number Active Days: 43	<u>47.40</u>		<u>40.28</u>		<u>0.20</u>	<u>1.31</u>		<u>0.07</u>		<u>1.27</u>
		<u>29.73</u>		<u>0.05</u>			<u>1.51</u>		<u>1.20</u>	
Building 09/01/2008-06/30/2010	3.85		38.17		0.19	1.30		0.07	1.19	
		29.61		0.05			1.49			1.26
Building Off Road Diesel	2.18	17.59	7.21	0.00	0.00	0.77	0.77	0.00	0.71	0.71
Building Vendor Trips	0.95	10.66	8.24	0.02	0.07	0.46	0.53	0.02	0.42	0.44
Building Worker Trips	0.73	1.35	22.72	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Coating 05/03/2010-06/30/2010	43.54		2.10		0.01	0.01		0.00	0.01	
		0.13		0.00			0.02			0.01
Architectural Coating	43.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.10	0.00	0.01	0.01	0.02	0.00	0.01	0.01

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Phase Assumptions

Phase: Demolition 6/2/2008 - 6/30/2008 - Default Demolition Description

Building Volume Total (cubic feet): 605495.7

Building Volume Daily (cubic feet): 27543.61

On Road Truck Travel (VMT): 255.03

Off-Road Equipment:

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 7/1/2008 - 8/29/2008 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 1.8

Maximum Daily Acreage Disturbed: 0.5

Fugitive Dust Level of Detail: High

Onsite Haulage: 0 ton-miles/day; Offsite haulage: 37.9 ton-miles/day

On Road Truck Travel (VMT): 768.18

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 9/1/2008 - 6/30/2010 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

4 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 5/3/2010 - 6/30/2010 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 6/2/2008-6/30/2008 Number Active Days: 21	2.83		12.16		11.61	1.56		2.42		3.86
		21.88		0.01			13.17		1.43	
Demolition 06/02/2008-06/30/2008	2.83		12.16		11.61	1.56		2.42	1.43	
		21.88		0.01			13.17			3.86
Fugitive Dust	0.00	0.00	0.00	0.00	11.57	0.00	11.57	2.41	0.00	2.41
Demo Off Road Diesel	2.04	12.37	7.03	0.00	0.00	1.13	1.13	0.00	1.04	1.04
Demo On Road Diesel	0.74	9.43	3.88	0.01	0.04	0.43	0.46	0.01	0.39	0.40
Demo Worker Trips	0.04	0.08	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 7/1/2008-8/29/2008 Number Active Days: 44	<u>6.30</u>		27.39		<u>12.56</u>	<u>3.14</u>		<u>2.64</u>		<u>5.53</u>
		<u>64.20</u>		0.03			<u>15.70</u>		<u>2.89</u>	
Mass Grading 07/01/2008-08/29/2008	6.30		27.39		12.56	3.14		2.64	2.89	
		64.20		0.03			15.70			5.53
Mass Grading Dust	0.00	0.00	0.00	0.00	12.44	0.00	12.44	2.60	0.00	2.60
Mass Grading Off Road Diesel	3.99	35.67	13.84	0.00	0.00	1.85	1.85	0.00	1.71	1.71
Mass Grading On Road Diesel	2.24	28.42	11.69	0.03	0.11	1.28	1.39	0.04	1.18	1.22
Mass Grading Worker Trips	0.06	0.12	1.87	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 9/1/2008-12/31/2008 Number Active Days: 88	4.39		<u>43.35</u>		0.19	1.52		0.07		1.46
		33.72		<u>0.05</u>			1.71		1.39	
Building 09/01/2008-06/30/2010	4.39		43.35		0.19	1.52		0.07	1.39	
		33.72		0.05			1.71			1.46
Building Off Road Diesel	2.43	19.70	7.80	0.00	0.00	0.89	0.89	0.00	0.82	0.82
Building Vendor Trips	1.09	12.42	9.54	0.02	0.07	0.56	0.63	0.02	0.52	0.54
Building Worker Trips	0.87	1.60	26.01	0.03	0.12	0.07	0.19	0.04	0.06	0.10

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Time Slice 1/1/2009-12/31/2009 Number Active Days: 261	<u>4.12</u>		<u>40.65</u>		<u>0.19</u>	<u>1.42</u>		<u>0.07</u>		<u>1.37</u>
		<u>31.78</u>		<u>0.05</u>			<u>1.61</u>		<u>1.30</u>	
Building 09/01/2008-06/30/2010	4.12		40.65		0.19	1.42		0.07	1.30	
		31.78		0.05			1.61			1.37
Building Off Road Diesel	2.31	18.64	7.51	0.00	0.00	0.84	0.84	0.00	0.77	0.77
Building Vendor Trips	1.02	11.67	8.88	0.02	0.07	0.51	0.58	0.02	0.47	0.49
Building Worker Trips	0.79	1.47	24.27	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Time Slice 1/1/2010-4/30/2010 Number Active Days: 86	<u>3.85</u>		<u>38.17</u>		<u>0.19</u>	<u>1.30</u>		<u>0.07</u>		<u>1.26</u>
		<u>29.61</u>		<u>0.05</u>			<u>1.49</u>		<u>1.19</u>	
Building 09/01/2008-06/30/2010	3.85		38.17		0.19	1.30		0.07	1.19	
		29.61		0.05			1.49			1.26
Building Off Road Diesel	2.18	17.59	7.21	0.00	0.00	0.77	0.77	0.00	0.71	0.71
Building Vendor Trips	0.95	10.66	8.24	0.02	0.07	0.46	0.53	0.02	0.42	0.44
Building Worker Trips	0.73	1.35	22.72	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Time Slice 5/3/2010-6/30/2010 Number Active Days: 43	<u>47.40</u>		<u>40.28</u>		<u>0.20</u>	<u>1.31</u>		<u>0.07</u>		<u>1.27</u>
		<u>29.73</u>		<u>0.05</u>			<u>1.51</u>		<u>1.20</u>	
Building 09/01/2008-06/30/2010	3.85		38.17		0.19	1.30		0.07	1.19	
		29.61		0.05			1.49			1.26
Building Off Road Diesel	2.18	17.59	7.21	0.00	0.00	0.77	0.77	0.00	0.71	0.71
Building Vendor Trips	0.95	10.66	8.24	0.02	0.07	0.46	0.53	0.02	0.42	0.44
Building Worker Trips	0.73	1.35	22.72	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Coating 05/03/2010-06/30/2010	43.54		2.10		0.01	0.01		0.00	0.01	
		0.13		0.00			0.02			0.01
Architectural Coating	43.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.10	0.00	0.01	0.01	0.02	0.00	0.01	0.01

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Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2008 - 8/29/2008 - Default Mass Site Grading/Excavation Description

For Soil Stabilizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
Natural Gas	0.22	2.85	1.23	0.00	0.01	0.01
Hearth - No Summer Emissions						
Landscape	0.25	0.04	3.09	0.00	0.01	0.01
Consumer Products	14.72					
Architectural Coatings	0.51					
TOTALS (lbs/day, unmitigated)	15.70	2.89	4.32	0.00	0.02	0.02

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>
Condo/townhouse high rise	10.97	12.42	113.67	0.11	18.34	3.58
Strip mall	0.85	0.99	8.68	0.01	1.37	0.27
TOTALS (lbs/day, unmitigated)	11.82	13.41	122.35	0.12	19.71	3.85

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>
Condo/townhouse high rise	10.97	12.42	113.67	0.11	18.34	3.58
Strip mall	0.85	0.99	8.68	0.01	1.37	0.27
TOTALS (lbs/day, mitigated)	11.82	13.41	122.35	0.12	19.71	3.85

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

.....

Percent Reduction in Trips is 3.55% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 500.

The employment for the study area (within a 1/2 mile radius of the project) is 2000.

Residential Local-Serving Retail Mitigation

.....

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

.....

Percent Reduction in Trips is 3.55%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 500.

The employment for the study area (within a 1/2 mile radius of the project) is 2000.

Non-Residential Local-Serving Retail Mitigation

.....

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

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Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse high rise	4.48	4.18	dwelling units	287.00	1,199.66	10,610.99
Strip mall		44.44	1000 sq ft	3.60	159.98	791.70
					1,359.64	11,402.69

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.6	1.1	98.7	0.2
Light Truck < 3750 lbs	6.8	2.9	94.2	2.9
Light Truck 3751-5750 lbs	22.8	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.0	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	69.6	30.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commuter	Commercial	
	Home-Work	Home-Shop	Home-Other		Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0

Operational Changes to Defaults

Detail Report for Summer Operational Mitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\glu\My Documents\laq\Verdugo Gardens\Verdugo Revised Part II\URBEMIS2007\Verdugo Gardens Construction and Operation.urb9

Project Name: Verdugo Gardens Construction and Operational

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Mitigated)

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25
Condo/townhouse high rise	9.85	10.85	99.24	0.10	16.02	3.12
Strip mall	0.81	0.94	8.20	0.01	1.29	0.25
TOTALS (lbs/day, mitigated)	10.66	11.79	107.44	0.11	17.31	3.37

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3.55% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 500.

The employment for the study area (within a 1/2 mile radius of the project) is 2000.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3.55%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 500.

The employment for the study area (within a 1/2 mile radius of the project) is 2000.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse high rise	4.48	3.65	dwelling units	287.00	1,047.35	9,263.80
Strip mall		41.98	1000 sq ft	3.60	151.11	747.79
					1,198.46	10,011.59

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.6	1.1	98.7	0.2
Light Truck < 3750 lbs	6.8	2.9	94.2	2.9
Light Truck 3751-5750 lbs	22.8	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.0	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	69.6	30.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0

Operational Changes to Defaults

URBEMIS2007 Proposed Wintertime Emissions

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\glu\My Documents\laq\Verdugo Gardens\Verdugo Revised Part II\URBEMIS2007\Verdugo Gardens Construction and Operation.urb9

Project Name: Verdugo Gardens Construction and Operational

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
2008 TOTALS (lbs/day unmitigated)	6.30	64.20	43.35	0.05	24.14	3.14	27.28	5.05	2.89	7.95
2008 TOTALS (lbs/day mitigated)	6.30	64.20	43.35	0.05	12.56	3.14	15.70	2.64	2.89	5.53
2009 TOTALS (lbs/day unmitigated)	4.12	31.78	40.65	0.05	0.19	1.42	1.61	0.07	1.30	1.37
2009 TOTALS (lbs/day mitigated)	4.12	31.78	40.65	0.05	0.19	1.42	1.61	0.07	1.30	1.37
2010 TOTALS (lbs/day unmitigated)	47.40	29.73	40.28	0.05	0.20	1.31	1.51	0.07	1.20	1.27
2010 TOTALS (lbs/day mitigated)	47.40	29.73	40.28	0.05	0.20	1.31	1.51	0.07	1.20	1.27

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	15.54	4.44	1.91	0.01	0.14	0.14

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	12.11	16.17	117.71	0.10	19.71	3.85
TOTALS (lbs/day, mitigated)	12.11	16.17	117.71	0.10	19.71	3.85
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
TOTALS (lbs/day, unmitigated)	27.65	20.61	119.62	0.11	19.85	3.99

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

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Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
Time Slice 6/2/2008-6/30/2008 Number Active Days: 21	2.83		12.16		11.61	1.56		2.42		3.86
		21.88		0.01			13.17		1.43	
Demolition 06/02/2008-06/30/2008	2.83		12.16		11.61	1.56		2.42	1.43	
		21.88		0.01			13.17			3.86
Fugitive Dust	0.00	0.00	0.00	0.00	11.57	0.00	11.57	2.41	0.00	2.41
Demo Off Road Diesel	2.04	12.37	7.03	0.00	0.00	1.13	1.13	0.00	1.04	1.04
Demo On Road Diesel	0.74	9.43	3.88	0.01	0.04	0.43	0.46	0.01	0.39	0.40
Demo Worker Trips	0.04	0.08	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 7/1/2008-8/29/2008 Number Active Days: 44	<u>6.30</u>		27.39		<u>24.14</u>	<u>3.14</u>		<u>5.05</u>		<u>7.95</u>
		<u>64.20</u>		0.03			<u>27.28</u>		<u>2.89</u>	
Mass Grading 07/01/2008-08/29/2008	6.30		27.39		24.14	3.14		5.05	2.89	
		64.20		0.03			27.28			7.95
Mass Grading Dust	0.00	0.00	0.00	0.00	24.02	0.00	24.02	5.02	0.00	5.02
Mass Grading Off Road Diesel	3.99	35.67	13.84	0.00	0.00	1.85	1.85	0.00	1.71	1.71
Mass Grading On Road Diesel	2.24	28.42	11.69	0.03	0.11	1.28	1.39	0.04	1.18	1.22
Mass Grading Worker Trips	0.06	0.12	1.87	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 9/1/2008-12/31/2008 Number Active Days: 88	4.39		<u>43.35</u>		0.19	1.52		0.07		1.46
		33.72		<u>0.05</u>			1.71		1.39	
Building 09/01/2008-06/30/2010	4.39		43.35		0.19	1.52		0.07	1.39	
		33.72		0.05			1.71			1.46
Building Off Road Diesel	2.43	19.70	7.80	0.00	0.00	0.89	0.89	0.00	0.82	0.82
Building Vendor Trips	1.09	12.42	9.54	0.02	0.07	0.56	0.63	0.02	0.52	0.54
Building Worker Trips	0.87	1.60	26.01	0.03	0.12	0.07	0.19	0.04	0.06	0.10

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Time Slice 1/1/2009-12/31/2009 Number Active Days: 261	<u>4.12</u>		<u>40.65</u>		<u>0.19</u>	<u>1.42</u>		<u>0.07</u>		<u>1.37</u>
		<u>31.78</u>		<u>0.05</u>			<u>1.61</u>		<u>1.30</u>	
Building 09/01/2008-06/30/2010	4.12		40.65		0.19	1.42		0.07		1.30
		31.78		0.05			1.61			1.37
Building Off Road Diesel	2.31	18.64	7.51	0.00	0.00	0.84	0.84	0.00	0.77	0.77
Building Vendor Trips	1.02	11.67	8.88	0.02	0.07	0.51	0.58	0.02	0.47	0.49
Building Worker Trips	0.79	1.47	24.27	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Time Slice 1/1/2010-4/30/2010 Number Active Days: 86	<u>3.85</u>		<u>38.17</u>		<u>0.19</u>	<u>1.30</u>		<u>0.07</u>		<u>1.26</u>
		<u>29.61</u>		<u>0.05</u>			<u>1.49</u>		<u>1.19</u>	
Building 09/01/2008-06/30/2010	3.85		38.17		0.19	1.30		0.07		1.19
		29.61		0.05			1.49			1.26
Building Off Road Diesel	2.18	17.59	7.21	0.00	0.00	0.77	0.77	0.00	0.71	0.71
Building Vendor Trips	0.95	10.66	8.24	0.02	0.07	0.46	0.53	0.02	0.42	0.44
Building Worker Trips	0.73	1.35	22.72	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Time Slice 5/3/2010-6/30/2010 Number Active Days: 43	<u>47.40</u>		<u>40.28</u>		<u>0.20</u>	<u>1.31</u>		<u>0.07</u>		<u>1.27</u>
		<u>29.73</u>		<u>0.05</u>			<u>1.51</u>		<u>1.20</u>	
Building 09/01/2008-06/30/2010	3.85		38.17		0.19	1.30		0.07		1.19
		29.61		0.05			1.49			1.26
Building Off Road Diesel	2.18	17.59	7.21	0.00	0.00	0.77	0.77	0.00	0.71	0.71
Building Vendor Trips	0.95	10.66	8.24	0.02	0.07	0.46	0.53	0.02	0.42	0.44
Building Worker Trips	0.73	1.35	22.72	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Coating 05/03/2010-06/30/2010	43.54		2.10		0.01	0.01		0.00	0.01	
		0.13		0.00			0.02			0.01
Architectural Coating	43.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.10	0.00	0.01	0.01	0.02	0.00	0.01	0.01

Phase Assumptions

Phase: Demolition 6/2/2008 - 6/30/2008 - Default Demolition Description

Building Volume Total (cubic feet): 605495.7

Building Volume Daily (cubic feet): 27543.61

On Road Truck Travel (VMT): 255.03

Off-Road Equipment:

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 7/1/2008 - 8/29/2008 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 1.8

Maximum Daily Acreage Disturbed: 0.5

Fugitive Dust Level of Detail: High

Onsite Haulage: 0 ton-miles/day; Offsite haulage: 37.9 ton-mils/day

On Road Truck Travel (VMT): 768.18

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Building Construction 9/1/2008 - 6/30/2010 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

4 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 5/3/2010 - 6/30/2010 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>
Time Slice 6/2/2008-6/30/2008 Number Active Days: 21	2.83		12.16		11.61	1.56		2.42		3.86
		21.88		0.01			13.17		1.43	
Demolition 06/02/2008-06/30/2008	2.83		12.16		11.61	1.56		2.42	1.43	
		21.88		0.01			13.17			3.86
Fugitive Dust	0.00	0.00	0.00	0.00	11.57	0.00	11.57	2.41	0.00	2.41
Demo Off Road Diesel	2.04	12.37	7.03	0.00	0.00	1.13	1.13	0.00	1.04	1.04
Demo On Road Diesel	0.74	9.43	3.88	0.01	0.04	0.43	0.46	0.01	0.39	0.40
Demo Worker Trips	0.04	0.08	1.24	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Time Slice 7/1/2008-8/29/2008 Number Active Days: 44	<u>6.30</u>		27.39		<u>12.56</u>	<u>3.14</u>		<u>2.64</u>		<u>5.53</u>
		<u>64.20</u>		0.03			<u>15.70</u>		<u>2.89</u>	
Mass Grading 07/01/2008-08/29/2008	6.30		27.39		12.56	3.14		2.64	2.89	
		64.20		0.03			15.70			5.53
Mass Grading Dust	0.00	0.00	0.00	0.00	12.44	0.00	12.44	2.60	0.00	2.60
Mass Grading Off Road Diesel	3.99	35.67	13.84	0.00	0.00	1.85	1.85	0.00	1.71	1.71
Mass Grading On Road Diesel	2.24	28.42	11.69	0.03	0.11	1.28	1.39	0.04	1.18	1.22
Mass Grading Worker Trips	0.06	0.12	1.87	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Time Slice 9/1/2008-12/31/2008 Number Active Days: 88	4.39		<u>43.35</u>		0.19	1.52		0.07		1.46
		33.72		<u>0.05</u>			1.71		1.39	
Building 09/01/2008-06/30/2010	4.39		43.35		0.19	1.52		0.07	1.39	
		33.72		0.05			1.71			1.46
Building Off Road Diesel	2.43	19.70	7.80	0.00	0.00	0.89	0.89	0.00	0.82	0.82
Building Vendor Trips	1.09	12.42	9.54	0.02	0.07	0.56	0.63	0.02	0.52	0.54
Building Worker Trips	0.87	1.60	26.01	0.03	0.12	0.07	0.19	0.04	0.06	0.10

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Time Slice 1/1/2009-12/31/2009 Number Active Days: 261	<u>4.12</u>		<u>40.65</u>		<u>0.19</u>	<u>1.42</u>		<u>0.07</u>		<u>1.37</u>
		<u>31.78</u>		<u>0.05</u>			<u>1.61</u>		<u>1.30</u>	
Building 09/01/2008-06/30/2010	4.12		40.65		0.19	1.42		0.07		1.30
		31.78		0.05			1.61			1.37
Building Off Road Diesel	2.31	18.64	7.51	0.00	0.00	0.84	0.84	0.00	0.77	0.77
Building Vendor Trips	1.02	11.67	8.88	0.02	0.07	0.51	0.58	0.02	0.47	0.49
Building Worker Trips	0.79	1.47	24.27	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Time Slice 1/1/2010-4/30/2010 Number Active Days: 86	<u>3.85</u>		<u>38.17</u>		<u>0.19</u>	<u>1.30</u>		<u>0.07</u>		<u>1.26</u>
		<u>29.61</u>		<u>0.05</u>			<u>1.49</u>		<u>1.19</u>	
Building 09/01/2008-06/30/2010	3.85		38.17		0.19	1.30		0.07		1.19
		29.61		0.05			1.49			1.26
Building Off Road Diesel	2.18	17.59	7.21	0.00	0.00	0.77	0.77	0.00	0.71	0.71
Building Vendor Trips	0.95	10.66	8.24	0.02	0.07	0.46	0.53	0.02	0.42	0.44
Building Worker Trips	0.73	1.35	22.72	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Time Slice 5/3/2010-6/30/2010 Number Active Days: 43	<u>47.40</u>		<u>40.28</u>		<u>0.20</u>	<u>1.31</u>		<u>0.07</u>		<u>1.27</u>
		<u>29.73</u>		<u>0.05</u>			<u>1.51</u>		<u>1.20</u>	
Building 09/01/2008-06/30/2010	3.85		38.17		0.19	1.30		0.07		1.19
		29.61		0.05			1.49			1.26
Building Off Road Diesel	2.18	17.59	7.21	0.00	0.00	0.77	0.77	0.00	0.71	0.71
Building Vendor Trips	0.95	10.66	8.24	0.02	0.07	0.46	0.53	0.02	0.42	0.44
Building Worker Trips	0.73	1.35	22.72	0.03	0.12	0.07	0.19	0.04	0.06	0.10
Coating 05/03/2010-06/30/2010	43.54		2.10		0.01	0.01		0.00	0.01	
		0.13		0.00			0.02			0.01
Architectural Coating	43.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.07	0.13	2.10	0.00	0.01	0.01	0.02	0.00	0.01	0.01

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Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2008 - 8/29/2008 - Default Mass Site Grading/Excavation Description

For Soil Stabilizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by:

PM10: 61% PM25: 61%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>
Natural Gas	0.22	2.85	1.23	0.00	0.01	0.01
Hearth	0.09	1.59	0.68	0.01	0.13	0.13
Landscaping - No Winter Emissions						
Consumer Products	14.72					
Architectural Coatings	0.51					
TOTALS (lbs/day, unmitigated)	15.54	4.44	1.91	0.01	0.14	0.14

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 10% to 0%

Percentage of residences with wood fireplaces changed from 5% to 0%

Percentage of residences with natural gas fireplaces changed from 85% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>
Condo/townhouse high rise	11.12	14.98	109.06	0.09	18.34	3.58
Strip mall	0.99	1.19	8.65	0.01	1.37	0.27
TOTALS (lbs/day, unmitigated)	12.11	16.17	117.71	0.10	19.71	3.85

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>
Condo/townhouse high rise	11.12	14.98	109.06	0.09	18.34	3.58
Strip mall	0.99	1.19	8.65	0.01	1.37	0.27
TOTALS (lbs/day, mitigated)	12.11	16.17	117.71	0.10	19.71	3.85

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3.55% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 500.

The employment for the study area (within a 1/2 mile radius of the project) is 2000.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3.55%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 500.

The employment for the study area (within a 1/2 mile radius of the project) is 2000.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse high rise	4.48	4.18	dwelling units	287.00	1,199.66	10,610.99
Strip mall		44.44	1000 sq ft	3.60	159.98	791.70
					1,359.64	11,402.69

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.6	1.1	98.7	0.2
Light Truck < 3750 lbs	6.8	2.9	94.2	2.9
Light Truck 3751-5750 lbs	22.8	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.0	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	69.6	30.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0

Operational Changes to Defaults

Detail Report for Winter Operational Mitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\glu\My Documents\aqVerdugo Gardens\Verdugo Revised Part II\URBEMIS2007\Verdugo Gardens Construction and Operation.urb9

Project Name: Verdugo Gardens Construction and Operational

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Winter Pounds Per Day, Mitigated)

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25
Condo/townhouse high rise	9.83	13.08	95.21	0.08	16.02	3.12
Strip mall	0.94	1.13	8.17	0.01	1.29	0.25
TOTALS (lbs/day, mitigated)	10.77	14.21	103.38	0.09	17.31	3.37

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Operational Mitigation Options Selected

Residential Mitigation Measures

Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3.55% (calculated as a % of 9.57 trips/day))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 500.

The employment for the study area (within a 1/2 mile radius of the project) is 2000.

Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2% (calculated as a % of 9.57 trips/day)))

Note that the above percent is applied to a baseline of 9.57 and that product is subtracted from the Unmitigated Trips

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 3.55%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 500.

The employment for the study area (within a 1/2 mile radius of the project) is 2000.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Condo/townhouse high rise	4.48	3.65	dwelling	287.00	1,047.35	9,263.80
Strip mall		41.98	1000 sq ft	3.60	151.11	747.79
					1,198.46	10,011.59

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.6	1.1	98.7	0.2
Light Truck < 3750 lbs	6.8	2.9	94.2	2.9
Light Truck 3751-5750 lbs	22.8	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.0	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	69.6	30.4	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0

Operational Changes to Defaults

Demolition Calculations

**Verdugo Gardens Demolition Calculations
Amount of Demolition Debris is Known**

Demolition Schedule

Months	<input type="text" value="1.0"/> months	entered
Days/Month	22 days/mo	URBEMIS default

Building Dimensions

Length	84.57 feet	calculated
Width	84.57 feet	calculated
Height	84.57 feet	calculated
Building Volume	604,800 cubic feet	calculated

Daily Demolition

Length	30.18 feet	calculated
Width	30.18 feet	calculated
Height	30.18 feet	calculated
Volume	27,491 cubic feet	calculated

Demolition Debris

% of Bldg. Volume	25%	URBEMIS default
Total Debris Volume	<input type="text" value="5,600"/> cubic yards	entered

Haul Trucks

Capacity	<input type="text" value="20"/> cubic yards	URBEMIS default
Number of Trips	12.7 trips/day	calculated
Round Trip Length	<input type="text" value="20"/> miles	
VMT	254.00 miles/day	calculated

Ton-Mile Grading Calculations

Estimated Ton-Miles of Exported Soil
(Input for High-Level of Detail for Fugitive Dust from Off-Site Haulage in URBEMIS)

Project Name: Input

Building ID: Input

Excavation

Number of Haul Trucks per Day

Underground Parking Structure Footprint Input SF

Number of UG Parking Levels Input

Depth of Each Parking Level Input

Total Underground Volume CY

Total Above Ground Volume Input CY

Total Export Volume CY

Total Number of Haul Trucks

Number of Months for Excavation Input

Haul Truck Trips per Day

Ton-Mile per Day Calculation

Soil Type Input

Soil Density (g/m3) g/cm3

Soil Density (lbs/CY) lbs/CY

Soil Density (tons/CY) tons/CY

Haul Distance (On-Site) Input Miles

Ton-Miles per Day <-----> Haul truck trips per day * 20 CY/truck * tons/CY * miles/trip

Soil Type	Dry Density (g/cm3)
Sand	1.52
Sandy Loam	1.44
Loam	1.36
Silt Loam	1.28
Clay Loam	1.28
Clay	1.20

Note: Dry density in most soils varies within the range 1.1 to 1.6

CO Hotspots Analysis

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

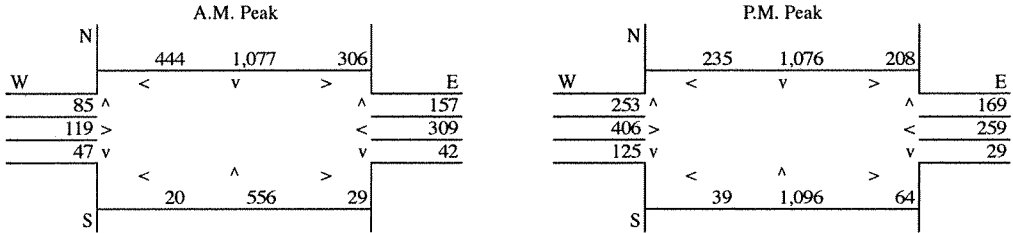
Project Title: Verdugo Gardens
 Intersection: Brand and Dorian
 Analysis Condition: Future Conditions (No Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

	Roadway Type	No. of Lanes	Average Cruise Speed	
			A.M.	P.M.
North-South Roadway: Brand	At Grade	4	5	5
East-West Roadway: Dorian	At Grade	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,625	N-S Road	3,037
E-W Road	1,024	E-W Road	1,317

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,625	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,024	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	3,037	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,317	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
50 Feet from Roadway Edge	5.4	5.6	4.5
100 Feet from Roadway Edge	5.0	5.2	4.1
300 Feet from Roadway Edge	4.4	4.5	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

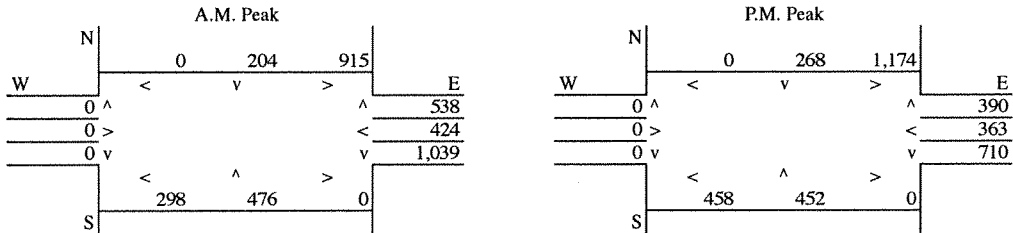
Project Title: Verdugo Gardens
 Intersection: Brand and Goode
 Analysis Condition: Future Conditions (No Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

Roadway Type	No. of Lanes	Average Cruise Speed	
		A.M.	P.M.
North-South Roadway: Brand	At Grade	4	5
East-West Roadway: Goode	At Grade	2	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,133	N-S Road	2,284
E-W Road	2,916	E-W Road	2,637

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	2.2	1.7	1.1	*	2,133	*	8.52	÷	100,000
E-W Road	5.7	4.0	1.7	*	2,916	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	2.2	1.7	1.1	*	2,284	*	8.52	÷	100,000
E-W Road	5.7	4.0	1.7	*	2,637	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
50 Feet from Roadway Edge	5.8	5.7	4.6
100 Feet from Roadway Edge	5.3	5.2	4.2
300 Feet from Roadway Edge	4.6	4.6	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

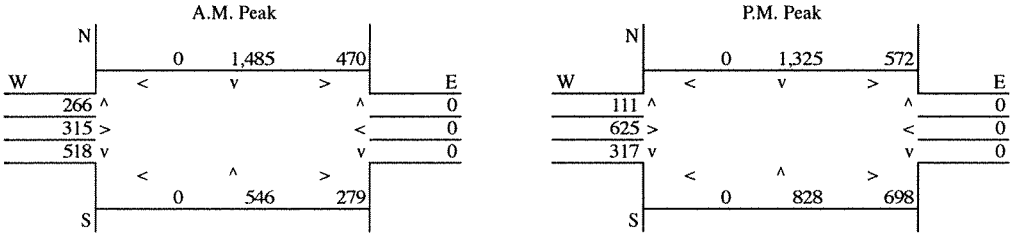
Project Title: Verdugo Gardens
 Intersection: Brand and Sanchez
 Analysis Condition: Future Conditions (No Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

Roadway Type	Brand Sanchez	No. of Lanes	Average Cruise Speed	
			A.M.	P.M.
North-South Roadway:	Brand	4	5	5
East-West Roadway:	Sanchez	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,828	N-S Road	3,168
E-W Road	1,099	E-W Road	1,895

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,828	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,099	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	3,168	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,895	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
50 Feet from Roadway Edge	5.5	5.8	4.6
100 Feet from Roadway Edge	5.1	5.3	4.2
300 Feet from Roadway Edge	4.5	4.6	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

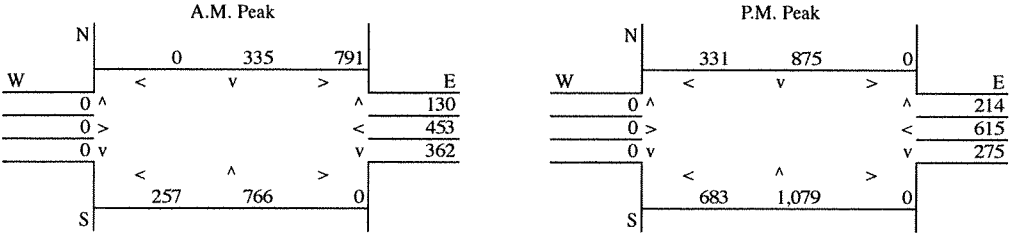
Project Title: Verdugo Gardens
 Intersection: Central and Goode
 Analysis Condition: Future Conditions (No Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

	Roadway Type	No. of Lanes	Average Cruise Speed	
			A.M.	P.M.
North-South Roadway:	Central	4	5	5
East-West Roadway:	Goode	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,022	N-S Road	2,912
E-W Road	1,736	E-W Road	1,629

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,022	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,736	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,912	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,629	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
50 Feet from Roadway Edge	5.3	5.6	4.5
100 Feet from Roadway Edge	4.9	5.2	4.1
300 Feet from Roadway Edge	4.4	4.5	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

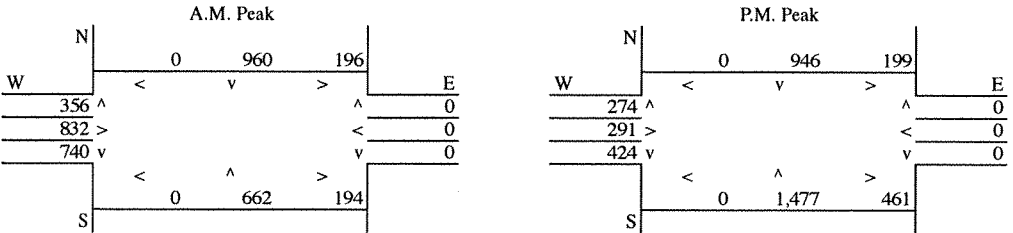
Project Title: Verdugo Gardens
 Intersection: Central and Sanchez
 Analysis Condition: Future Conditions (No Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

	Roadway Type	No. of Lanes	Average Cruise Speed	
			A.M.	P.M.
North-South Roadway:	Central	4	5	5
East-West Roadway:	Sanchez	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,556	N-S Road	3,308
E-W Road	1,928	E-W Road	989

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			Traffic Volume	Emission Factor				
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,556	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,928	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	3,308	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	989	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
50 Feet from Roadway Edge	5.5	5.7	4.5
100 Feet from Roadway Edge	5.1	5.2	4.2
300 Feet from Roadway Edge	4.5	4.5	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

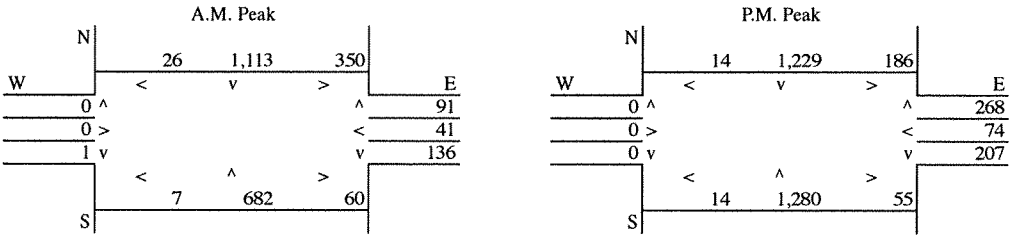
Project Title: Verdugo Gardens
 Intersection: Doran and Central
 Analysis Condition: Future Conditions (No Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

	Roadway Type	No. of Lanes	Average Cruise Speed	
			A.M.	P.M.
North-South Roadway:	Doran	4	5	5
East-West Roadway:	Central	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,262	N-S Road	2,977
E-W Road	678	E-W Road	790

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor		
	50 Feet	100 Feet	300 Feet				÷	÷	÷
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,262	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	678	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,977	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	790	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
50 Feet from Roadway Edge	5.2	5.5	4.4
100 Feet from Roadway Edge	4.8	5.1	4.1
300 Feet from Roadway Edge	4.4	4.5	3.6

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

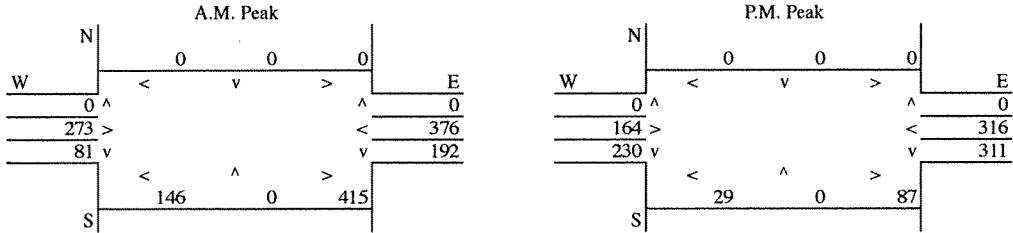
Project Title: Verdugo Gardens
 Intersection: Orange and Dorian
 Analysis Condition: Future Conditions (No Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

Roadway Type	No. of Lanes	Average Cruise Speed	
		A.M.	P.M.
North-South Roadway: Orange	4	5	5
East-West Roadway: Dorian	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	834	N-S Road	657
E-W Road	1,256	E-W Road	878

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	100,000
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	2.2	1.7	1.1	*	834	*	8.52	÷	100,000
E-W Road	5.7	4.0	1.7	*	1,256	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	2.2	1.7	1.1	*	657	*	8.52	÷	100,000
E-W Road	5.7	4.0	1.7	*	878	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
50 Feet from Roadway Edge	4.8	4.5	3.8
100 Feet from Roadway Edge	4.5	4.4	3.7
300 Feet from Roadway Edge	4.3	4.2	3.5

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

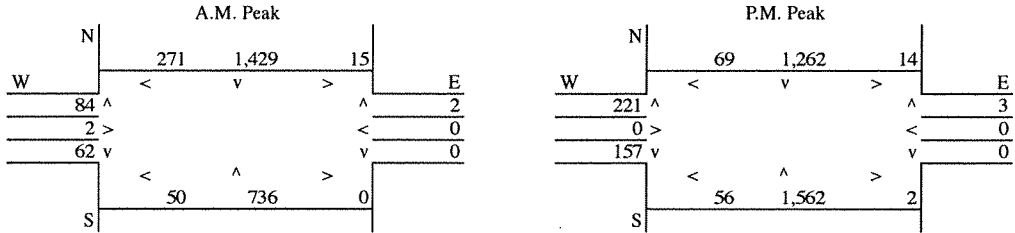
Project Title: Verdugo Gardens
 Intersection: Pioneer and Central
 Analysis Condition: Future Conditions (No Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

		Roadway Type	No. of Lanes	Average Cruise Speed	
				A.M.	P.M.
North-South Roadway:	Pioneer	At Grade	4	5	5
East-West Roadway:	Central	At Grade	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,537	N-S Road	3,131
E-W Road	469	E-W Road	503

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor		
	50 Feet	100 Feet	300 Feet				÷	÷	÷
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,537	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	469	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	3,131	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	503	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
50 Feet from Roadway Edge	5.3	5.5	4.4
100 Feet from Roadway Edge	4.9	5.1	4.1
300 Feet from Roadway Edge	4.4	4.5	3.6

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

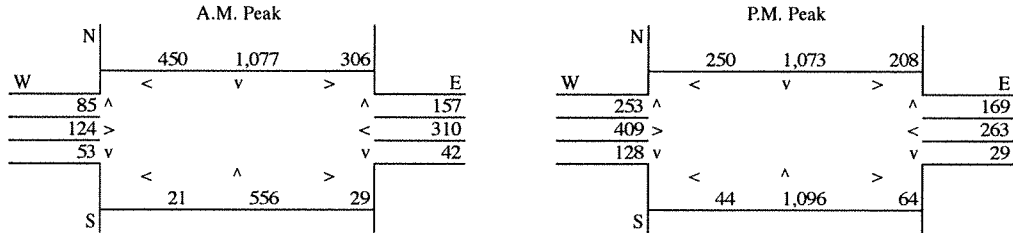
Project Title: Verdugo Gardens
 Intersection: Brand and Dorian
 Analysis Condition: Future Conditions (With Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

	Roadway Type	No. of Lanes	Average Cruise Speed	
			A.M.	P.M.
North-South Roadway: Brand	At Grade	4	5	5
East-West Roadway: Dorian	At Grade	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,631	N-S Road	3,049
E-W Road	1,043	E-W Road	1,347

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,631	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,043	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	3,049	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,347	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M.	P.M.	8-Hour
	Peak Hour	Peak Hour	
50 Feet from Roadway Edge	5.4	5.7	4.5
100 Feet from Roadway Edge	5.0	5.2	4.1
300 Feet from Roadway Edge	4.4	4.5	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

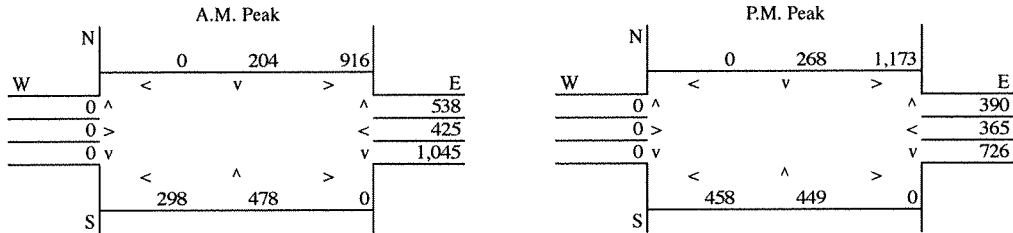
Project Title: Verdugo Gardens
 Intersection: Brand and Goode
 Analysis Condition: Future Conditions (With Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

Roadway	Brand / Goode	Roadway Type	No. of Lanes	Average Cruise Speed	
				A.M.	P.M.
North-South Roadway:	Brand	At Grade	4	5	5
East-West Roadway:	Goode	At Grade	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,136	N-S Road	2,280
E-W Road	2,924	E-W Road	2,654

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	2.2	1.7	1.1	*	2,136	*	8.52	÷	100,000
E-W Road	5.7	4.0	1.7	*	2,924	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	2.2	1.7	1.1	*	2,280	*	8.52	÷	100,000
E-W Road	5.7	4.0	1.7	*	2,654	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
50 Feet from Roadway Edge	5.8	5.7	4.6
100 Feet from Roadway Edge	5.3	5.2	4.2
300 Feet from Roadway Edge	4.6	4.6	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

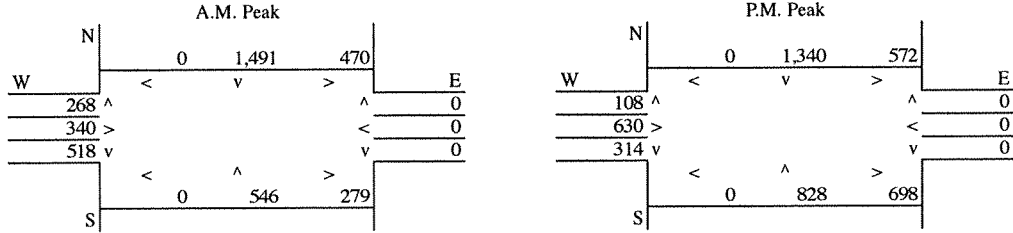
Project Title: Verdugo Gardens
 Intersection: Brand and Sanchez
 Analysis Condition: Future Conditions (With Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

Roadway Type	No. of Lanes	Average Cruise Speed	
		A.M.	P.M.
North-South Roadway: Brand	4	5	5
East-West Roadway: Sanchez	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,834	N-S Road	3,180
E-W Road	1,126	E-W Road	1,900

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor		
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,834	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,126	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	3,180	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,900	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
50 Feet from Roadway Edge	5.5	5.8	4.6
100 Feet from Roadway Edge	5.1	5.3	4.2
300 Feet from Roadway Edge	4.5	4.6	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

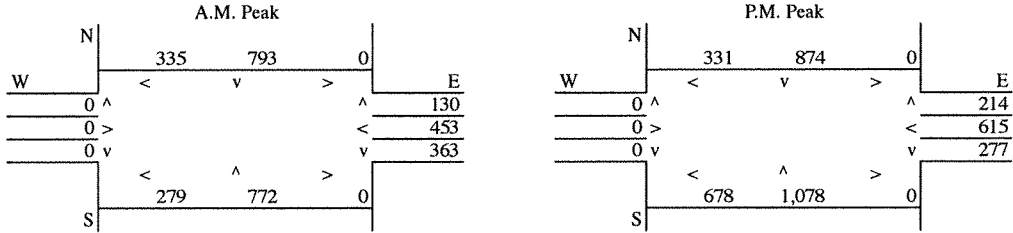
Project Title: Verdugo Gardens
 Intersection: Central and Goode
 Analysis Condition: Future Conditions (With Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

Roadway Type	Central	Goode	No. of Lanes	Average Cruise Speed	
				A.M.	P.M.
North-South Roadway:	Central		4	5	5
East-West Roadway:		Goode	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,207	N-S Road	2,907
E-W Road	1,067	E-W Road	1,624

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	100,000
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,207	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,067	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,907	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,624	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
50 Feet from Roadway Edge	5.2	5.6	4.4
100 Feet from Roadway Edge	4.9	5.2	4.1
300 Feet from Roadway Edge	4.4	4.5	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

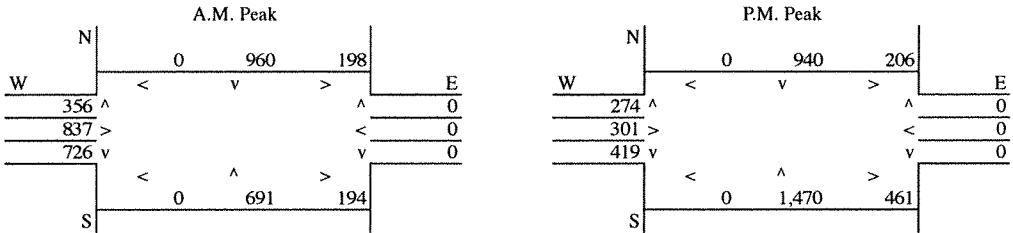
Project Title: Verdugo Gardens
 Intersection: Central and Sanchez
 Analysis Condition: Future Conditions (With Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

	Roadway Type	No. of Lanes	Average Cruise Speed	
			A.M.	P.M.
North-South Roadway:	Central	4	5	5
East-West Roadway:	Sanchez	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,571	N-S Road	3,290
E-W Road	1,919	E-W Road	994

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,571	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	1,919	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	3,290	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	994	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
50 Feet from Roadway Edge	5.5	5.7	4.5
100 Feet from Roadway Edge	5.1	5.2	4.1
300 Feet from Roadway Edge	4.5	4.5	3.7

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

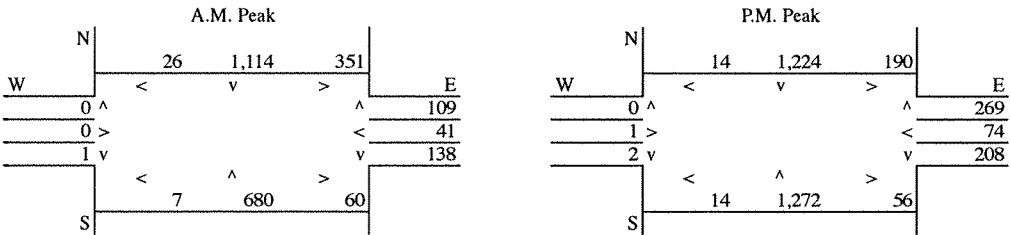
Project Title: Verdugo Gardens
 Intersection: Doran and Central
 Analysis Condition: Future Conditions (With Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

	Roadway Type	No. of Lanes	Average Cruise Speed	
			A.M.	P.M.
North-South Roadway: Doran	At Grade	4	5	5
East-West Roadway: Central	At Grade	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,280	N-S Road	2,969
E-W Road	699	E-W Road	798

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor		
	50 Feet	100 Feet	300 Feet				÷	÷	÷
A.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,280	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	699	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	5.4	3.8	1.6	*	2,969	*	8.52	÷	100,000
E-W Road	2.2	1.7	1.0	*	798	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
50 Feet from Roadway Edge	5.2	5.5	4.4
100 Feet from Roadway Edge	4.8	5.1	4.1
300 Feet from Roadway Edge	4.4	4.5	3.6

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

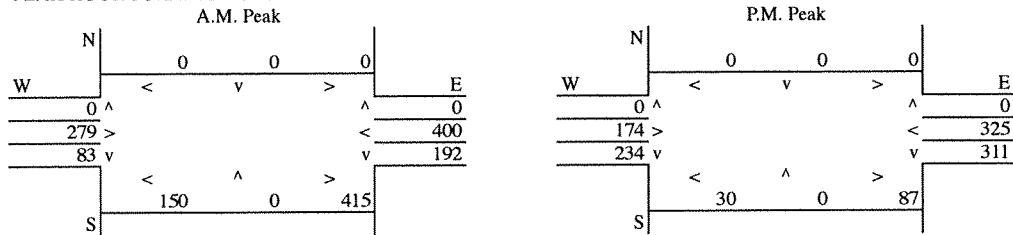
Project Title: Verdugo Gardens
 Intersection: Orange and Dorian
 Analysis Condition: Future Conditions (With Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

		Roadway Type	No. of Lanes	Average Cruise Speed	
				A.M.	P.M.
North-South Roadway:	Orange	At Grade	4	5	5
East-West Roadway:	Dorian	At Grade	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
2015	5.288	4.689	4.210	3.821	3.501	3.235	3.012	2.824	2.665	2.531
2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	840	N-S Road	662
E-W Road	1,286	E-W Road	897

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			*	Traffic Volume	*	Emission Factor	÷	
	50 Feet	100 Feet	300 Feet						
A.M. Peak Hour									
N-S Road	2.2	1.7	1.1	*	840	*	8.52	÷	100,000
E-W Road	5.7	4.0	1.7	*	1,286	*	8.52	÷	100,000
P.M. Peak Hour									
N-S Road	2.2	1.7	1.1	*	662	*	8.52	÷	100,000
E-W Road	5.7	4.0	1.7	*	897	*	8.52	÷	100,000

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
50 Feet from Roadway Edge	4.8	4.6	3.8
100 Feet from Roadway Edge	4.6	4.4	3.7
300 Feet from Roadway Edge	4.3	4.2	3.5

BAY AREA AQMD SIMPLIFIED CALINE4 ANALYSIS; UPDATED WITH EMFAC2002

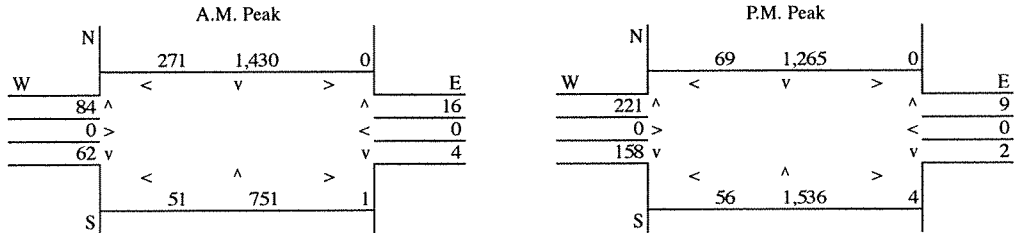
Project Title: Verdugo Gardens
 Intersection: Pioneer and Central
 Analysis Condition: Future Conditions (With Project)
 Nearest Air Monitoring Station measuring CO: SRA 7 (East San Fernando Monitoring Station)
 Background 1-hour CO Concentration (ppm): 4.0
 Background 8-hour CO Concentration (ppm): 3.3
 Persistence Factor: 0.7
 Analysis Year: 2010

	Roadway Type	No. of Lanes	Average Cruise Speed	
			A.M.	P.M.
North-South Roadway:	Pioneer	4	5	5
East-West Roadway:	Central	2	5	5

EMFAC2002 COMPOSITE EMISSION FACTORS FOR CO

Year	Average Speed (miles per hour)									
	5	8	11	14	17	20	23	26	29	32
2004	14.389	12.507	11.033	9.862	8.921	8.158	7.535	7.024	6.606	6.266
2005	13.055	11.365	10.039	8.985	8.136	7.447	6.883	6.420	6.040	5.730
2006	12.159	10.599	9.375	8.400	7.615	6.975	6.452	6.021	5.666	5.377
2007	11.221	9.796	8.677	7.784	7.064	6.477	5.995	5.597	5.270	5.002
2008	10.296	9.003	7.985	7.173	6.516	5.979	5.538	5.173	4.872	4.625
2009	9.384	8.218	7.299	6.565	5.969	5.483	5.081	4.749	4.474	4.247
2010	8.524	7.478	6.653	5.992	5.455	5.015	4.652	4.350	4.099	3.892
2011	7.734	6.799	6.058	5.464	4.981	4.583	4.254	3.980	3.752	3.562
2012	7.025	6.187	5.523	4.988	4.553	4.194	3.895	3.646	3.438	3.265
2013	6.384	5.634	5.039	4.558	4.165	3.841	3.570	3.344	3.154	2.995
2014	5.804	5.134	4.600	4.169	3.815	3.521	3.276	3.070	2.896	2.751
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2020	3.367	3.023	2.743	2.512	2.318	2.155	2.015	1.894	1.791	1.701
2025	2.343	2.125	1.945	1.793	1.665	1.554	1.458	1.374	1.300	1.236
2030	1.793	1.627	1.491	1.376	1.279	1.195	1.123	1.059	1.003	0.954
2035	1.491	1.351	1.236	1.140	1.059	0.990	0.930	0.877	0.831	0.791
2040	1.338	1.211	1.107	1.020	0.947	0.885	0.831	0.784	0.744	0.708

PEAK HOUR TURNING VOLUMES



Representative Traffic Volumes (Vehicles per Hour)

N-S Road	2,552	N-S Road	3,100
E-W Road	468	E-W Road	504

ROADWAY CO CONTRIBUTIONS

Roadway	Reference CO Concentrations			Traffic Volume	Emission Factor					
	50 Feet	100 Feet	300 Feet							
A.M. Peak Hour										
N-S Road	5.4	3.8	1.6	*	2,552	*	8.52	÷	100,000	
E-W Road	2.2	1.7	1.0	*	468	*	8.52	÷	100,000	
P.M. Peak Hour										
N-S Road	5.4	3.8	1.6	*	3,100	*	8.52	÷	100,000	
E-W Road	2.2	1.7	1.0	*	504	*	8.52	÷	100,000	

TOTAL CO CONCENTRATIONS (ppm)

	A.M. Peak Hour	P.M. Peak Hour	8-Hour
50 Feet from Roadway Edge	5.3	5.5	4.4
100 Feet from Roadway Edge	4.9	5.1	4.1
300 Feet from Roadway Edge	4.4	4.5	3.6