Appendix G
Air Quality Modeling Data Sheets

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CRITERIA AIR POLLUTANT EMISSIONS SUMMARY

2030 Analysis

Total IBC Emissions Inventory

Summer	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources	1,198	424	311	0	1	1
Transportation	4,254	2,223	18,760	77	1,065	1,054
Total	5,452	2,647	19,071	77	1,066	1,055
Winter	**VOC**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources	1,201	513	328	1	8	8
Transportation	4,254	2,223	18,760	77	1,065	1,054
Total	5,455	2,736	19,088	78	1,073	1,062

Project (Pending + Project) Emissions - Net Increase

Summer	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources	406	114	78	0	0	0
Transportation	621	274	2,423	9	141	140
Total	1,027	388	2,501	9	141	140
Winter	**VOC**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources	407	151	84	0	3	3
Transportation	621	274	2,423	9	141	140
Total	1,028	425	2,507	9	144	143

Existing Baseline

Summer	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources	530	262	212	0	1	1
Transportation	3,074	1,723	14,286	60	803	795
Total	3,604	1,985	14,498	60	804	796
Winter	**VOC**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources	531	287	212	0	3	2
Transportation	3,074	1,723	14,286	60	803	795
Total	3,605	2,010	14,498	60	806	797

Existing (Existing + Under Construction/Approved [Cumulative])

Summer	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources	792	310	234	0	1	1
Transportation	3,634	1,948	16,337	68	924	915
Total	4,426	2,258	16,571	68	925	916
Winter	**VOC**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources	795	362	244	0	5	5
Transportation	3,634	1,948	16,337	68	924	915
Total	4,429	2,310	16,581	68	929	920

CRITERIA AIR POLLUTANT EMISSIONS SUMMARY

2013 Analysis

Total IBC Emissions Inventory

Summer	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources	933	339	252	0	1	1
Transportation	7,903	5,396	40,887	70	567	561
Total	8,836	5,735	41,139	70	568	562
Winter	**VOC**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources	936	405	264	0	6	6
Transportation	7,903	5,396	40,887	70	567	561
Total	8,839	5,801	41,151	70	573	567

Pending Emissions - Net Increase

Summer	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources	141	29	17	0	0	0
Transportation	215	132	1,034	2	14	13
Total	356	161	1,051	2	14	13
Winter	**VOC**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources	142	43	20	0	1	1
Transportation	215	132	1,034	2	14	13
Total	357	175	1,054	2	15	14

Existing Baseline

Summer	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources	530	262	212	0	1	1
Transportation	6,522	4,659	34,850	60	494	489
Total	7,052	4,921	35,062	60	495	490
Winter	**VOC**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources	531	287	212	0	3	2
Transportation	6,522	4,659	34,850	60	494	489
Total	7,053	4,946	35,062	60	497	491

Existing (Existing + Under Construction/Approved [Cumulative])

Summer	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources	793	310	236	0	1	1
Transportation	7,688	5,264	39,853	68	553	548
Total	8,481	5,574	40,089	68	554	549
Winter	**VOC**	**NOx**	**CO**	**SO2**	**PM10**	**PM2.5**
Area Sources	795	362	244	0	5	5
Transportation	7,688	5,264	39,853	68	553	548
Total	8,483	5,626	40,097	68	558	553

Greenhouse Gas Emissions Summary

2030 Analysis

Total IBC Emissions Inventory			
Source	***CO_{2e} Emissions Tons/Year [1]***	***CO_{2e} Emissions MTons/Year [1]***	***Percent of Total***
Transportation Sector[1]	1,336,242	1,212,218	69.1%
Electricity Sector			
Purchased Energy[2]	381,972	346,519	19.8%
Water Demand and Treatment[3]	9,987	9,060	0.5%
Total Energy Emissions	391,959	355,579	20.3%
Recycling and Waste[4]	109,324	99,177	5.7%
Area Sources[1]	95,381	86,528	4.9%
Total all Sectors	**1,932,906**	**1,753,502**	**100.0%**
In Million Metric Tons (MMTons CO2e)	1.9	1.8	
Per Capita CO2e	16	15	
Residents	21,048		
Employees	96,709		
Total	117,757		

Project (Pending + Project) Emissions - NET INCREASE			
Source	***CO_{2e} Emissions Tons/Year [1]***	***CO_{2e} Emissions MTons/Year [1]***	***Percent of Total***
Transportation Sector[1]	156,975	142,406	58%
Electricity Sector			0%
Purchased Energy[2]	67,854	61,556	25%
Water Demand and Treatment[3]	4,018	3,645	1%
Total Energy Emissions	71,872	65,201	26%
Recycling and Waste[4]	16,504	14,972	6%
Area Sources[1]	25,996	23,583	10%
Total all Sectors	**271,347**	**246,161**	**100%**
In Million Metric Tons (MMTons CO2e)	0.3	0.2	
Per Capita CO2e	13	12	
Residents	8,769		
Employees	12,124		
Total	20,892		

Sources:

[1] URBEMIS2007, Version 9.2.4. Assumes CO_2 represents 99.6 percent of total CO_{2e} emissions from motorgasoline and 99.7 percent of total from diesel CO2e while CH_4, N_2O, and Fluorinated Gases comprise the remaining percent based on Bay Area Air Quality Management District's *Source Inventory of Bay Area Greenhouse Gas Emissions* .

[2] CO_{2e} emissions calculated using energy usage factors and emission rates from the United States Department of Energy, EIA, *2003 Commercial Building Energy Consumption* , December 2006, Table C14; EIA, Residential Energy Consumption Survey, Table US1. Total Energy Consumption, Expenditures, and Intensities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

[3] CO_{2e} emissions from the energy intensity of water are based on the CEC's California's Water Energy Relationship (2005) of 12,700 Kwh/MG for Southern California.

[4] CO_{2e} emissions from waste generation are based on the Waste Reduction Model (WARM) created by the USEPA and the waste stream jurisdictional profile for the City of Irvine

Note CARB CO2e based on fuel consumption and not EMFAC

1 short ton (Ton) equals 0.9071847

Greenhouse Gas Emissions Summary

2030 Analysis

2030 Analysis			
Existing Baseline			
Source	***CO_{2e} Emissions Tons/Year [1]***	***CO_{2e} Emissions MTons/Year [1]***	***Percent of Total***
Transportation Sector[1]	1,054,038	956,207	70%
Electricity Sector			
Purchased Energy[2]	290,951	263,946	19%
Water Demand and Treatment[3]	5,969	5,415	0%
Total Energy Emissions	296,920	269,361	20%
Recycling and Waste[4]	90,076	81,716	6%
Area Sources[1]	58,183	52,783	4%
Total all Sectors	**1,499,217**	**1,360,067**	**100%**
In Million Metric Tons (MMTons CO2e)	1.5	1.4	
Per Capita CO2e	17	15	
Residents	5,940		
Employees	84,585		
Total	90,525		

Existing (Existing + Under Construction/Approved [Cumulative])			
Source	***CO_{2e} Emissions Tons/Year [1]***	***CO_{2e} Emissions MTons/Year [1]***	***Percent of Total***
Transportation Sector[1]	1,179,266	1,069,812	71%
Electricity Sector			
Purchased Energy[2]	314,118	284,963	19%
Water Demand and Treatment[3]	5,969	5,415	0%
Total Energy Emissions	320,087	290,378	19%
Recycling and Waste[4]	92,820	84,205	6%
Area Sources[1]	69,386	62,946	4%
Total all Sectors	**1,661,559**	**1,507,341**	**100%**
In Million Metric Tons (MMTons CO2e)	1.7	1.5	
Compare to 2020 Goal (427 MMTons)	0.4%	0.4%	
Compare to BAU 2020 (596 MMTons)	0.3%	0.3%	
Per Capita CO2e	17	16	
Residents	12,280		
Employees	84,585		
Total	96,865		

Sources:

[1] URBEMIS2007, Version 9.2.4. Assumes CO_2 represents 99.6 percent of total CO_{2e} emissions from motorgasoline and 99.7 percent of total from diesel CO2e while CH_4, N_2O, and Fluorinated Gases comprise the remaining percent based on Bay Area Air Quality Management District's *Source Inventory of Bay Area Greenhouse Gas Emissions* .

[2] CO_{2e} emissions calculated using energy usage factors and emission rates from the United States Department of Energy, EIA, *2003 Commercial Building Energy Consumption* , December 2006, Table C14; EIA, Residential Energy Consumption Survey, Table US1. Total Energy Consumption, Expenditures, and Intensities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

[3] CO_{2e} emissions from the energy intensity of water are based on the CEC's California's Water Energy Relationship (2005) of 12,700 Kwh/MG for Southern California.

[4] CO_{2e} emissions from waste generation are based on the Waste Reduction Model (WARM) created by the USEPA and the waste stream jurisdictional profile for the City of Irvine

Note CARB CO2e based on fuel consumption and not EMFAC

1 short ton (Ton) equals 0.9071847

Greenhouse Gas Emissions Summary

2008 Analysis

Greenhouse Gas Emissions Summary

2008 Analysis

2008 Analysis

Existing Baseline

Source	*CO_{2e} Emissions Tons/Year [1]*	*CO_{2e} Emissions MTons/Year [1]*	*Percent of Total*
Transportation Sector[1]	1,035,865	939,721	70%
Electricity Sector			
Purchased Energy[2]	290,951	263,946	20%
Water Demand and Treatment[3]	5,969	5,415	0.4%
Total Energy Emissions	296,920	269,361	20%
Recycling and Waste[4]	90,076	81,716	6%
Area Sources[1]	58,183	52,783	4%
Total all Sectors	**1,481,044**	**1,343,581**	**100%**
In Million Metric Tons (MMTons CO2e)	1.5	1.3	
Per Capita CO2e	16	15	
Residents	5,940		
Employees	84,585		
Total	90,525		

Greenhouse Gas Emissions Summary

2013 Analysis

Total IBC Emissions Inventory 2013 (Existing Baseline, Cumulative, and Pending)			
Source	***CO_{2e} Emissions Tons/Year [1]***	***CO_{2e} Emissions MTons/Year [1]***	***Percent of Total***
Transportation Sector[1]	1,187,138	1,076,954	70%
Electricity Sector			
Purchased Energy[2]	328,953	298,421	19%
Water Demand and Treatment[3]	5,969	5,415	0%
Total Energy Emissions	334,922	303,836	20%
Recycling and Waste[4]	94,275	85,525	6%
Area Sources[1]	76,134	69,068	4%
Total all Sectors	**1,692,470**	**1,535,382**	**100%**
In Million Metric Tons (MMTons CO2e)	1.7	1.5	
Per Capita CO2e	17	15	
Residents	15,643		
Employees	84,585		
Total	100,228		

Pending Emissions - Net Project Increase			
Source	***CO_{2e} Emissions Tons/Year [1]***	***CO_{2e} Emissions MTons/Year [1]***	***Percent of Total***
Transportation Sector[1]	28,399	25,764	55%
Electricity Sector			0%
Purchased Energy[2]	14,835	13,458	29%
Water Demand and Treatment[3]	0	0	0%
Total Energy Emissions	14,835	13,458	29%
Recycling and Waste[4]	1,455	1,320	3%
Area Sources[1]	6,749	6,122	13%
Total all Sectors	**51,438**	**46,664**	**100%**
In Million Metric Tons (MMTons CO2e)	0.1	0.05	
Per Capita CO2e	15	14	
Residents	3,363		
Employees	0		
Total	3,363		

Sources:

[1] URBEMIS2007, Version 9.2.4. Assumes CO_2 represents 99.6 percent of total CO_{2e} emissions from motorgasoline and 99.7 percent of total from diesel CO2e while CH_4, N_2O, and Fluorinated Gases comprise the remaining percent based on Bay Area Air Quality Management District's *Source Inventory of Bay Area Greenhouse Gas Emissions* .

[2] CO_{2e} emissions calculated using energy usage factors and emission rates from the United States Department of Energy, EIA, *2003 Commercial Building Energy Consumption* , December 2006, Table C14; EIA, Residential Energy Consumption Survey, Table US1. Total Energy Consumption, Expenditures, and Intensities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

[3] CO_{2e} emissions from the energy intensity of water are based on the CEC's California's Water Energy Relationship (2005) of 12,700 Kwh/MG for Southern California.

[4] CO_{2e} emissions from waste generation are based on the Waste Reduction Model (WARM) created by the USEPA and the waste stream jurisdictional profile for the City of Irvine

Note CARB CO2e based on fuel consumption and not EMFAC

1 short ton (Ton) equals 0.9071847

Greenhouse Gas Emissions Summary

2013 Analysis

2013 Analysis

Existing Baseline

Source	*CO_{2e} Emissions Tons/Year* [1]	*CO_{2e} Emissions MTons/Year* [1]	*Percent of Total*
Transportation Sector[1]	1,035,625	939,503	70%
Electricity Sector			
Purchased Energy[2]	290,951	263,946	20%
Water Demand and Treatment[3]	5,969	5,415	0%
Total Energy Emissions	296,920	269,361	20%
Recycling and Waste[4]	90,076	81,716	6%
Area Sources[1]	58,183	52,783	4%
Total all Sectors	**1,480,804**	**1,343,363**	**100%**
In Million Metric Tons (MMTons CO2e)	1.5	1.3	
Per Capita CO2e	16	15	
Residents	5,940		
Employees	84,585		
Total	90,525		

Existing (Existing + Under Construction/Approved [Cumulative])

Source	*CO_{2e} Emissions Tons/Year* [1]	*CO_{2e} Emissions MTons/Year* [1]	*Percent of Total*
Transportation Sector[1]	1,158,739	1,051,190	71%
Electricity Sector			
Purchased Energy[2]	314,118	284,963	19%
Water Demand and Treatment[3]	5,969	5,415	0%
Total Energy Emissions	320,087	290,378	20%
Recycling and Waste[4]	92,820	84,205	6%
Area Sources[1]	69,386	62,946	4%
Total all Sectors	**1,641,032**	**1,488,719**	**100%**
In Million Metric Tons (MMTons CO2e)	1.6	1.5	
Compare to 2020 Goal (427 MMTons)	0.4%	0.3%	
Compare to BAU 2020 (596 MMTons)	0.3%	0.2%	
Per Capita CO2e	17	15	
Residents	12,280		
Employees	84,585		
Total	96,865		

[1] URBEMIS2007, Version 9.2.4. Assumes CO_2 represents 99.6 percent of total CO_{2e} emissions from motorgasoline and 99.7 percent of total from diesel CO2e while CH_4, N_2O, and Fluorinated Gases comprise the remaining percent based on Bay Area Air Quality Management District's *Source Inventory of Bay Area Greenhouse Gas Emissions* .

[2] CO_{2e} emissions calculated using energy usage factors and emission rates from the United States Department of Energy, EIA, *2003 Commercial Building Energy Consumption* , December 2006, Table C14; EIA, Residential Energy Consumption Survey, Table US1. Total Energy Consumption, Expenditures, and Intensities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

[3] CO_{2e} emissions from the energy intensity of water are based on the CEC's California's Water Energy Relationship (2005) of 12,700 Kwh/MG for Southern California.

[4] CO_{2e} emissions from waste generation are based on the Waste Reduction Model (WARM) created by the USEPA and the waste stream jurisdictional profile for the City of Irvine

Note CARB CO2e based on fuel consumption and not EMFAC

1 short ton (Ton) equals 0.9071847

Table B.9 Arterial Classification According to Their Functional and Design Categories

	FUNCTIONAL CATEGORY	
DESIGN CATEGORY	PRINCIPAL ARTERIAL	MINOR ARTERIAL
Typical suburban	I	II
Intermediate	II	II or III
Typical Urban	II or III	III

Source: Highway Capacity Manual (TRB, 1994)

Table B.10 Average Cruise Speed as a Function of Arterial Classification and Free-Flow Speed

ARTERIAL CLASSIFICATION	I			II		III		
FREE-FLOW SPEED (MPH)	45	40	35	35	30	35	30	25
AVERAGE CRUISE SPEED (MPH)	33	31	29	28	27	28	24	22

Derived from Table 11-4 of the Highway Capacity Manual (TRB, 1994)

NOTE: It is best to have an estimate of free-flow speed. If one is lacking, however, use the above table assuming the following default values:

For Classification	Free-Flow Speed (mph)
I	40
II	35
III	30

B.4 Calculating 1-Hour CO Concentrations

Microscale dispersion models are used to calculate 1-hour CO concentrations. The protocol recommends the use of CALINE4, a model that has been widely used in California[1]. There is one restriction to the use of CALINE4. The *intersection link* option of CALINE4 should not be used because it calculates modal emissions based on an algorithm developed for an outdated vehicle fleet. Guidance on the input parameters required by CALINE4 is presented in the remainder of this section, including guidance on how to set up the link network for intersection analyses (see Sections B.4.4 and B.4.5).

B.4.1 Present Background Concentration

Background concentration is a very important element in a microscale CO analysis. The background concentration is added to the project contribution to assess the impact of the project on the air quality. The methodology shown in Figure B.1 should be used to

[1] The recommendation to use CALINE4 does not preclude the use of other models approved by EPA such as CAL3QHC.

EMFAC2007 - CO Hotspot Analysis

Title: OrangeCounty2013
Version: Emfac2007 V2.3 1-Nov-06
Run Date: 2/27/2009 14:55:17
Scenario Year: 2013 - All model years in the range 1969 to 2013 selected
Season: Winter
Area: Orange

Emfac2007 Emission Factors
County Average Orange County

Table 1:00 Running Exhaust (grams/mile, grams/idle-hour)

Pollutant Name Carbon Monoxide Temperature 60F Relative Humidity 70%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	20.58	47.159	0	0	4.452
5	3.019	4.046	5.584	16.084	31.732	29.954	4.354
10	2.654	3.544	4.54	10.946	20.805	25.055	3.651
15	2.365	3.15	3.828	7.695	14.438	21.899	3.146
20	2.131	2.832	3.319	5.73	10.604	19.974	2.774
25	1.938	2.571	2.944	4.634	8.241	19.005	2.496
30	1.778	2.355	2.662	3.893	6.776	18.878	2.28
35	1.644	2.176	2.448	3.402	5.895	19.612	2.114
40	1.532	2.028	2.288	3.099	5.425	21.361	1.989
45	1.441	1.909	2.177	2.956	5.281	24.461	1.905
50	1.37	1.816	2.113	2.962	5.437	29.527	1.865
55	1.319	1.751	2.101	3.125	5.921	37.648	1.877

Project: Irvine Business Center

% COLD START

PROJ *	30%
NO PROJ	30%

% HOT START

PROJ	30%
NO PROJ	30%

*COMPOSITE BASED ON TABLE B.6 of the Caltrans Transportation Project-Level Carbon Monoxide Protocol.

Traffic data: Traffic Volumes, roadway configurations, and speed limits based on Traffic Study provided by Parson Brinkerhoff, 2009

Intersection: Von Karman and Alton
Peak Hour: PM
Year: 2013

Speed Limit

Von Karman	45
Alton	50

Scenario: W Project

North Link			South - Link			West - Link			East - Link			
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	TOTAL
101	539	63	59	1639	76	54	269	78	328	1055	178	4,439

Intersection: Jamboree and Main Street
Peak Hour: PM
Year: 2013

Speed Limit

Jamboree	50
Main Street	50

Scenario: W Project

North Link			South - Link			West - Link			East - Link			
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	TOTAL
669	1830	202	466	2614	646	134	253	234	732	766	116	8,662

Intersection: Jamboree and Michelson
Peak Hour: PM
Year: 2013

Speed Limit

Jamboree	50
Michelson	45

Scenario: W Project

North Link			South - Link			West - Link			East - Link			
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	TOTAL
194	1406	229	784	2609	667	233	238	68	386	631	603	8,048

Project: Irvine Business Center

% COLD START

PROJ *	30%
NO PROJ	30%

% HOT START

PROJ	30%
NO PROJ	30%

*COMPOSITE BASED ON TABLE B.6 of the Caltrans Transportation Project-Level Carbon Monoxide Protocol.

Traffic data: Traffic Volumes, roadway configurations, and speed limits based on Traffic Study provided by Parson Brinkerhoff, 2009

Intersection: MacArthur and Ford
Peak Hour: AM
Year: 2013
Scenario: W Project

Speed Limit
MacArthur 50
Ford 50

North Link			South - Link			West - Link			East - Link			
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	TOTAL
144	2014	92	573	2030	17	47	335	149	561	409	890	7,261

Intersection: Jamboree and San Joaquin Hills
Peak Hour: PM
Year: 2013
Scenario: W Project

Speed Limit
Jamboree 50
San Joaquin 50

North Link			South - Link			West - Link			East - Link			
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	TOTAL
73	1500	1250	533	1870	5	82	77	262	1238	11	29	6,930

Intersection: Tustin Ranch and El Camino Real
Peak Hour: AM
Year: 2013
Scenario: W Project

Speed Limit
Tustin Ranch 50
El Camino 45

North Link			South - Link			West - Link			East - Link			
LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	TOTAL
131	531	138	81	2848	110	120	131	529	293	148	79	5,139

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Jamboree and Main Street
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 175. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 5.8 PPM
SIGTH= 5. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	*	5	-450	5	-150	* AG	2701	2.2	.0	13.2
B. NA	*	5	-150	5	0	* AG	2032	4.1	.0	9.9
C. ND	*	5	0	5	150	* AG	2796	2.7	.0	9.9
D. NE	*	5	150	5	450	* AG	2796	2.2	.0	13.2
E. SF	*	-5	450	-5	150	* AG	3726	2.2	.0	13.2
F. SA	*	-5	150	-5	0	* AG	3260	4.1	.0	9.9
G. SD	*	-5	0	-5	-150	* AG	2864	2.7	.0	9.9
H. SE	*	-5	-150	-5	-450	* AG	2864	2.2	.0	13.2
I. WF	*	450	5	150	5	* AG	621	2.2	.0	13.2
J. WA	*	150	5	0	5	* AG	487	4.1	.0	9.9
K. WD	*	0	5	-150	5	* AG	1568	4.6	.0	9.9
L. WE	*	-150	5	-450	5	* AG	1568	2.2	.0	13.2
M. EF	*	-450	-5	-150	-5	* AG	1614	2.2	.0	13.2
N. EA	*	-150	-5	0	-5	* AG	882	4.6	.0	9.9
O. ED	*	0	-5	150	-5	* AG	1434	4.6	.0	9.9
P. EE	*	150	-5	450	-5	* AG	1434	2.2	.0	13.2
Q. NL	*	0	-150	0	0	* AG	669	3.3	.0	9.9
R. SL	*	0	150	0	0	* AG	466	3.1	.0	9.9
S. WL	*	150	0	0	0	* AG	134	4.1	.0	9.9
T. EL	*	-150	0	0	0	* AG	732	4.6	.0	9.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Jamboree and Main Street
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. NE	12	12	1.8
2. SE	12	-12	1.8
3. SW	-12	-12	1.8
4. NW	-12	12	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE	263.	7.4	.0	.0	.3	.0	.0	.3	.0	.0
2. SE	351.	7.2	.0	.0	.5	.0	.0	.4	.0	.0
3. SW	7.	7.6	.0	.0	.2	.0	.0	1.0	.0	.0
4. NW	168.	7.4	.0	.3	.0	.0	.0	.2	.5	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	.0	.0	.6	.0	.0	.1	.0	.0	.0	.0	.0	.2
2. SE	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
3. SW	.0	.0	.2	.0	.0	.1	.0	.0	.0	.0	.0	.0
4. NW	.0	.0	.3	.0	.0	.0	.0	.0	.1	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Jamboree and Michelson
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	1.0 M/S	Z0=	175. CM	ALT=	0. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	5.8 PPM		
SIGTH=	5. DEGREES	TEMP=	15.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	*	5	-450	5	-150	* AG	1829	2.2	.0	13.2
B. NA	*	5	-150	5	0	* AG	1635	3.5	.0	9.9
C. ND	*	5	0	5	150	* AG	1860	2.5	.0	9.9
D. NE	*	5	150	5	450	* AG	1860	2.2	.0	13.2
E. SF	*	-5	450	-5	150	* AG	4060	2.2	.0	13.2
F. SA	*	-5	150	-5	0	* AG	3276	4.1	.0	9.9
G. SD	*	-5	0	-5	-150	* AG	3445	2.7	.0	9.9
H. SE	*	-5	-150	-5	-450	* AG	3445	2.2	.0	13.2
I. WF	*	450	5	150	5	* AG	539	2.2	.0	13.2
J. WA	*	150	5	0	5	* AG	306	4.1	.0	9.9
K. WD	*	0	5	-150	5	* AG	1099	4.1	.0	9.9
L. WE	*	-150	5	-450	5	* AG	1099	2.2	.0	13.2
M. EF	*	-450	-5	-150	-5	* AG	1620	2.2	.0	13.2
N. EA	*	-150	-5	0	-5	* AG	1234	4.6	.0	9.9
O. ED	*	0	-5	150	-5	* AG	1644	4.6	.0	9.9
P. EE	*	150	-5	450	-5	* AG	1644	2.2	.0	13.2
Q. NL	*	0	-150	0	0	* AG	194	2.9	.0	9.9
R. SL	*	0	150	0	0	* AG	784	3.5	.0	9.9
S. WL	*	150	0	0	0	* AG	233	4.1	.0	9.9
T. EL	*	-150	0	0	0	* AG	386	4.6	.0	9.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Jamboree and Michelson
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. NE	12	12	1.8
2. SE	12	-12	1.8
3. SW	-12	-12	1.8
4. NW	-12	12	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE	262.	7.1	.0	.0	.2	.0	.0	.3	.0	.0
2. SE	351.	7.1	.0	.0	.4	.0	.0	.4	.0	.0
3. SW	7.	7.5	.0	.0	.1	.0	.0	1.0	.0	.0
4. NW	171.	7.2	.0	.2	.0	.0	.0	.1	.7	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	.0	.0	.4	.0	.0	.2	.0	.0	.0	.0	.0	.1
2. SE	.0	.0	.0	.0	.0	.0	.3	.0	.0	.2	.0	.0
3. SW	.0	.0	.1	.0	.0	.2	.0	.0	.0	.1	.0	.0
4. NW	.0	.0	.2	.0	.0	.1	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Jamboree and San Joaquin Hills
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	1.0 M/S	Z0=	175. CM	ALT=	0. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	5.8 PPM		
SIGTH=	5. DEGREES	TEMP=	15.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	*	5	-450	5	-150	* AG	2823	2.2	.0	13.2
B. NA	*	5	-150	5	0	* AG	2750	4.1	.0	9.9
C. ND	*	5	0	5	150	* AG	3000	2.7	.0	9.9
D. NE	*	5	150	5	450	* AG	3000	2.2	.0	13.2
E. SF	*	-5	450	-5	150	* AG	2408	2.2	.0	13.2
F. SA	*	-5	150	-5	0	* AG	1875	3.7	.0	9.9
G. SD	*	-5	0	-5	-150	* AG	1981	2.7	.0	9.9
H. SE	*	-5	-150	-5	-450	* AG	1981	2.2	.0	13.2
I. WF	*	450	5	150	5	* AG	421	2.2	.0	13.2
J. WA	*	150	5	0	5	* AG	339	4.1	.0	9.9
K. WD	*	0	5	-150	5	* AG	155	2.7	.0	9.9
L. WE	*	-150	5	-450	5	* AG	155	2.2	.0	13.2
M. EF	*	-450	-5	-150	-5	* AG	1278	2.2	.0	13.2
N. EA	*	-150	-5	0	-5	* AG	40	4.1	.0	9.9
O. ED	*	0	-5	150	-5	* AG	1794	4.6	.0	9.9
P. EE	*	150	-5	450	-5	* AG	1794	2.2	.0	13.2
Q. NL	*	0	-150	0	0	* AG	73	2.9	.0	9.9
R. SL	*	0	150	0	0	* AG	533	3.1	.0	9.9
S. WL	*	150	0	0	0	* AG	82	4.1	.0	9.9
T. EL	*	-150	0	0	0	* AG	1238	4.6	.0	9.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Jamboree and San Joaquin Hills
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. NE	12	12	1.8
2. SE	12	-12	1.8
3. SW	-12	-12	1.8
4. NW	-12	12	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE	187.	7.1	.0	.8	.0	.0	.0	.0	.1	.0
2. SE	351.	7.2	.0	.1	.6	.0	.0	.2	.0	.0
3. SW	84.	7.0	.0	.2	.0	.0	.0	.0	.2	.0
4. NW	171.	6.8	.0	.3	.0	.0	.0	.0	.4	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
2. SE	.0	.0	.0	.0	.0	.0	.3	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.7	.0	.0	.0	.0	.0
4. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: MacArthur and Ford
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	1.0 M/S	Z0=	175. CM	ALT=	0. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	5.8 PPM		
SIGTH=	5. DEGREES	TEMP=	15.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	*	5	-450	5	-150	* AG	2250	2.2	.0	13.2
B. NA	*	5	-150	5	0	* AG	2106	4.2	.0	9.9
C. ND	*	5	0	5	150	* AG	2724	2.9	.0	9.9
D. NE	*	5	150	5	450	* AG	2724	2.2	.0	13.2
E. SF	*	-5	450	-5	150	* AG	2620	2.2	.0	13.2
F. SA	*	-5	150	-5	0	* AG	2047	4.2	.0	9.9
G. SD	*	-5	0	-5	-150	* AG	2967	2.9	.0	9.9
H. SE	*	-5	-150	-5	-450	* AG	2967	2.2	.0	13.2
I. WF	*	450	5	150	5	* AG	531	2.2	.0	13.2
J. WA	*	150	5	0	5	* AG	484	3.8	.0	9.9
K. WD	*	0	5	-150	5	* AG	496	2.6	.0	9.9
L. WE	*	-150	5	-450	5	* AG	496	2.2	.0	13.2
M. EF	*	-450	-5	-150	-5	* AG	1860	2.2	.0	13.2
N. EA	*	-150	-5	0	-5	* AG	1299	4.6	.0	9.9
O. ED	*	0	-5	150	-5	* AG	1074	3.4	.0	9.9
P. EE	*	150	-5	450	-5	* AG	1074	2.2	.0	13.2
Q. NL	*	0	-150	0	0	* AG	144	3.0	.0	9.9
R. SL	*	0	150	0	0	* AG	573	3.3	.0	9.9
S. WL	*	150	0	0	0	* AG	47	3.8	.0	9.9
T. EL	*	-150	0	0	0	* AG	561	4.6	.0	9.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: MacArthur and Ford
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. NE	12	12	1.8
2. SE	12	-12	1.8
3. SW	-12	-12	1.8
4. NW	-12	12	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE	188.	7.0	.0	.7	.0	.0	.0	.0	.2	.0
2. SE	351.	7.0	.0	.0	.6	.0	.0	.3	.0	.0
3. SW	8.	7.2	.0	.0	.2	.0	.0	.7	.0	.0
4. NW	171.	7.1	.0	.3	.0	.0	.0	.0	.6	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	.0	.0	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0
3. SW	.0	.0	.0	.0	.0	.2	.0	.0	.0	.1	.0	.0
4. NW	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Tustin Ranch and El Camino Real
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 175. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 5.8 PPM
SIGTH= 5. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	*	5	-450	5	-150	* AG	800	2.2	.0	13.2
B. NA	*	5	-150	5	0	* AG	669	2.9	.0	9.9
C. ND	*	5	0	5	150	* AG	1353	2.4	.0	9.9
D. NE	*	5	150	5	450	* AG	1353	2.2	.0	13.2
E. SF	*	-5	450	-5	150	* AG	3039	2.2	.0	13.2
F. SA	*	-5	150	-5	0	* AG	2958	4.1	.0	9.9
G. SD	*	-5	0	-5	-150	* AG	3047	2.7	.0	9.9
H. SE	*	-5	-150	-5	-450	* AG	3047	2.2	.0	13.2
I. WF	*	450	5	150	5	* AG	780	2.2	.0	13.2
J. WA	*	150	5	0	5	* AG	660	4.4	.0	9.9
K. WD	*	0	5	-150	5	* AG	372	2.7	.0	9.9
L. WE	*	-150	5	-450	5	* AG	372	2.2	.0	13.2
M. EF	*	-450	-5	-150	-5	* AG	520	2.3	.0	13.2
N. EA	*	-150	-5	0	-5	* AG	227	4.1	.0	9.9
O. ED	*	0	-5	150	-5	* AG	367	2.8	.0	9.9
P. EE	*	150	-5	450	-5	* AG	367	2.3	.0	13.2
Q. NL	*	0	-150	0	0	* AG	131	2.9	.0	9.9
R. SL	*	0	150	0	0	* AG	81	2.9	.0	9.9
S. WL	*	150	0	0	0	* AG	120	4.1	.0	9.9
T. EL	*	-150	0	0	0	* AG	293	4.5	.0	9.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Tustin Ranch and El Camino Real
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. NE	12	12	1.8
2. SE	12	-12	1.8
3. SW	-12	-12	1.8
4. NW	-12	12	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE	348.	6.5	.0	.0	.3	.0	.0	.4	.0	.0
2. SE	351.	6.6	.0	.0	.3	.0	.0	.3	.0	.0
3. SW	7.	7.0	.0	.0	.0	.0	.0	.9	.0	.0
4. NW	8.	6.9	.0	.0	.0	.0	.0	.9	.0	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Von Karman and Alton
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 175. CM ALT= 0. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= 5.8 PPM
SIGTH= 5. DEGREES TEMP= 15.0 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NF	*	5	-450	5	-150	* AG	703	2.2	.0	13.2
B. NA	*	5	-150	5	0	* AG	602	3.4	.0	9.9
C. ND	*	5	0	5	150	* AG	945	2.5	.0	9.9
D. NE	*	5	150	5	450	* AG	945	2.2	.0	13.2
E. SF	*	-5	450	-5	150	* AG	1774	2.2	.0	13.2
F. SA	*	-5	150	-5	0	* AG	1715	4.5	.0	9.9
G. SD	*	-5	0	-5	-150	* AG	1871	3.2	.0	9.9
H. SE	*	-5	-150	-5	-450	* AG	1871	2.2	.0	13.2
I. WF	*	450	5	150	5	* AG	401	2.2	.0	13.2
J. WA	*	150	5	0	5	* AG	347	3.6	.0	9.9
K. WD	*	0	5	-150	5	* AG	446	2.5	.0	9.9
L. WE	*	-150	5	-450	5	* AG	446	2.2	.0	13.2
M. EF	*	-450	-5	-150	-5	* AG	1561	2.2	.0	13.2
N. EA	*	-150	-5	0	-5	* AG	1233	4.2	.0	9.9
O. ED	*	0	-5	150	-5	* AG	1177	2.9	.0	9.9
P. EE	*	150	-5	450	-5	* AG	1177	2.2	.0	13.2
Q. NL	*	0	-150	0	0	* AG	101	3.3	.0	9.9
R. SL	*	0	150	0	0	* AG	59	3.3	.0	9.9
S. WL	*	150	0	0	0	* AG	54	3.6	.0	9.9
T. EL	*	-150	0	0	0	* AG	328	3.7	.0	9.9

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Von Karman and Alton
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. NE	12	12	1.8
2. SE	12	-12	1.8
3. SW	-12	-12	1.8
4. NW	-12	12	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. NE	261.	6.5	.0	.0	.0	.0	.0	.2	.0	.0
2. SE	276.	6.6	.0	.0	.0	.0	.0	.0	.1	.0
3. SW	6.	6.9	.0	.0	.0	.0	.0	.6	.0	.0
4. NW	172.	6.7	.0	.0	.0	.0	.0	.0	.5	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. NE	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0	.0	.0
2. SE	.0	.0	.0	.0	.0	.5	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0
4. NW	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\construction\Pending2013.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (tons/year unmitigated)	33.45	364.89	175.08	0.40	253.74	16.27	270.00	53.01	14.96	67.97	49,728.89
2010 TOTALS (tons/year mitigated)	33.45	364.89	175.08	0.40	201.51	16.27	217.77	42.10	14.96	57.06	49,728.89
Percent Reduction	0.00	0.00	0.00	0.00	20.58	0.00	19.34	20.58	0.00	16.05	0.00
2011 TOTALS (tons/year unmitigated)	35.90	342.61	174.18	0.41	257.58	15.46	273.04	53.82	14.21	68.03	51,730.99
2011 TOTALS (tons/year mitigated)	35.90	342.61	174.18	0.41	202.15	15.46	217.61	42.25	14.21	56.46	51,730.99
Percent Reduction	0.00	0.00	0.00	0.00	21.52	0.00	20.30	21.51	0.00	17.02	0.00
2012 TOTALS (tons/year unmitigated)	13.06	60.85	59.56	0.07	25.96	3.74	29.70	5.45	3.43	8.89	11,314.15
2012 TOTALS (tons/year mitigated)	13.06	60.85	59.56	0.07	13.59	3.74	17.34	2.87	3.43	6.31	11,314.15
Percent Reduction	0.00	0.00	0.00	0.00	47.63	0.00	41.63	47.35	0.00	29.05	0.00
2013 TOTALS (tons/year unmitigated)	10.49	37.40	47.55	0.05	0.22	2.62	2.84	0.08	2.40	2.48	8,205.50
2013 TOTALS (tons/year mitigated)	10.49	37.40	47.55	0.05	0.22	2.62	2.84	0.08	2.40	2.48	8,205.50
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Demolition 1/3/2010 - 1/21/2012 - Default Demolition Description
Building Volume Total (cubic feet): 1.39709E+07
Building Volume Daily (cubic feet): 3484800
On Road Truck Travel (VMT): 69142.86
Off-Road Equipment:
8 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
16 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Mass Grading 1/24/2010 - 3/21/2012 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 53
Maximum Daily Acreage Disturbed: 13.25
Fugitive Dust Level of Detail: Default
38.2 lbs per acre-day
On Road Truck Travel (VMT): 506.59
Off-Road Equipment:
8 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
8 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
8 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/24/2010 - 12/29/2013 - Default Paving Description
Acres to be Paved: 52
Off-Road Equipment:
32 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 0 hours per day
8 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
16 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
8 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 3/24/2010 - 12/29/2013 - Default Building Construction Description
Off-Road Equipment:
8 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
16 Forklifts (145 hp) operating at a 0.3 load factor for 7 hours per day
8 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
8 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
24 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 3/24/2011 - 12/29/2013 - 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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010	33.45	364.89	175.08	0.40	201.51	16.27	217.77	42.10	14.96	57.06	49,728.89
Demolition 01/03/2010-01/21/2012	23.15	297.21	114.73	0.36	191.54	12.19	203.73	39.99	11.21	51.20	40,258.67
Fugitive Dust	0.00	0.00	0.00	0.00	1.42	0.00	1.42	0.30	0.00	0.30	0.00
Demo Off Road Diesel	3.04	23.57	13.53	0.00	0.00	1.35	1.35	0.00	1.24	1.24	2,032.08
Demo On Road Diesel	20.08	273.58	100.18	0.36	1.27	10.83	12.10	0.42	9.96	10.38	38,097.17
Demo Worker Trips	0.03	0.06	1.02	0.00	0.01	0.00	0.01	0.00	0.00	0.01	129.42
Mass Grading 01/24/2010-	3.76	31.86	16.83	0.00	9.79	1.56	11.34	2.05	1.43	3.48	3,051.51
Mass Grading Dust	0.00	0.00	0.00	0.00	9.77	0.00	9.77	2.04	0.00	2.04	0.00
Mass Grading Off Road Diesel	3.59	29.92	15.17	0.00	0.00	1.48	1.48	0.00	1.36	1.36	2,666.53
Mass Grading On Road Diesel	0.14	1.89	0.69	0.00	0.01	0.07	0.08	0.00	0.07	0.07	263.02
Mass Grading Worker Trips	0.03	0.06	0.96	0.00	0.01	0.00	0.01	0.00	0.00	0.00	121.96
Asphalt 03/24/2010-12/29/2013	2.29	13.44	8.84	0.00	0.01	1.17	1.18	0.00	1.08	1.08	1,180.49
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.23	13.29	7.21	0.00	0.00	1.16	1.16	0.00	1.07	1.07	970.23
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.17
Paving Worker Trips	0.05	0.09	1.60	0.00	0.01	0.01	0.01	0.00	0.00	0.01	202.10
Building 03/24/2010-12/29/2013	4.26	22.38	34.68	0.04	0.16	1.35	1.52	0.06	1.24	1.30	5,238.22
Building Off Road Diesel	3.08	14.44	9.53	0.00	0.00	1.01	1.01	0.00	0.93	0.93	1,418.02
Building Vendor Trips	0.56	6.78	5.08	0.01	0.04	0.27	0.32	0.02	0.25	0.27	1,282.36
Building Worker Trips	0.62	1.17	20.08	0.03	0.12	0.07	0.19	0.04	0.06	0.10	2,537.84

2011	35.90	342.61	174.18	0.41	202.15	15.46	217.61	42.25	14.21	56.46	51,730.99
Asphalt 03/24/2010-12/29/2013	2.78	16.39	11.06	0.00	0.01	1.46	1.47	0.00	1.34	1.34	1,511.90
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.70	16.22	9.12	0.00	0.00	1.45	1.45	0.00	1.33	1.33	1,242.65
Paving On Road Diesel	0.01	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.46
Paving Worker Trips	0.06	0.11	1.91	0.00	0.01	0.01	0.02	0.00	0.01	0.01	258.78
Building 03/24/2010-12/29/2013	5.04	26.66	41.83	0.05	0.21	1.64	1.85	0.07	1.50	1.57	6,708.23
Building Off Road Diesel	3.65	17.48	11.81	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,816.18
Building Vendor Trips	0.66	7.80	6.05	0.02	0.06	0.31	0.37	0.02	0.29	0.31	1,642.40
Building Worker Trips	0.73	1.37	23.97	0.03	0.15	0.09	0.24	0.06	0.07	0.13	3,249.65
Demolition 01/03/2010-01/21/2012	21.37	267.87	104.14	0.36	191.54	10.81	202.36	39.99	9.95	49.94	40,258.64
Fugitive Dust	0.00	0.00	0.00	0.00	1.42	0.00	1.42	0.30	0.00	0.30	0.00
Demo Off Road Diesel	2.85	22.25	12.90	0.00	0.00	1.27	1.27	0.00	1.17	1.17	2,032.08
Demo On Road Diesel	18.49	245.56	90.28	0.36	1.27	9.54	10.81	0.42	8.78	9.20	38,097.17
Demo Worker Trips	0.03	0.05	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.01	129.39
Mass Grading 01/24/2010-	3.75	31.68	17.05	0.00	10.39	1.55	11.94	2.17	1.42	3.60	3,238.30
Mass Grading Dust	0.00	0.00	0.00	0.00	10.37	0.00	10.37	2.17	0.00	2.17	0.00
Mass Grading Off Road Diesel	3.59	29.82	15.43	0.00	0.00	1.48	1.48	0.00	1.36	1.36	2,829.79
Mass Grading On Road Diesel	0.14	1.80	0.66	0.00	0.01	0.07	0.08	0.00	0.06	0.07	279.12
Mass Grading Worker Trips	0.03	0.05	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.01	129.39
Coating 03/24/2011-12/29/2013	2.95	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.91
Architectural Coating	2.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.91
2012	13.06	60.85	59.56	0.07	13.59	3.74	17.34	2.87	3.43	6.31	11,314.15
Asphalt 03/24/2010-12/29/2013	2.65	15.64	10.88	0.00	0.01	1.38	1.40	0.00	1.27	1.28	1,517.67
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.57	15.48	9.07	0.00	0.00	1.37	1.37	0.00	1.26	1.26	1,247.43
Paving On Road Diesel	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.50
Paving Worker Trips	0.05	0.10	1.78	0.00	0.01	0.01	0.02	0.00	0.01	0.01	259.73
Building 03/24/2010-12/29/2013	4.67	24.80	39.51	0.05	0.21	1.50	1.71	0.08	1.37	1.44	6,733.51
Building Off Road Diesel	3.40	16.57	11.48	0.00	0.00	1.13	1.13	0.00	1.04	1.04	1,823.17
Building Vendor Trips	0.61	6.97	5.63	0.02	0.06	0.28	0.34	0.02	0.25	0.27	1,648.74
Building Worker Trips	0.66	1.26	22.40	0.03	0.15	0.09	0.24	0.06	0.07	0.13	3,261.60
Coating 03/24/2011-12/29/2013	3.81	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.97
Architectural Coating	3.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.97
Demolition 01/03/2010-01/21/2012	1.13	13.80	5.42	0.02	11.05	0.55	11.60	2.31	0.50	2.81	2,322.61
Fugitive Dust	0.00	0.00	0.00	0.00	0.08	0.00	0.08	0.02	0.00	0.02	0.00
Demo Off Road Diesel	0.16	1.21	0.71	0.00	0.00	0.07	0.07	0.00	0.06	0.06	117.24
Demo On Road Diesel	0.97	12.59	4.65	0.02	0.07	0.48	0.55	0.02	0.44	0.47	2,197.91
Demo Worker Trips	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.46
Mass Grading 01/24/2010-	0.80	6.61	3.64	0.00	2.32	0.32	2.63	0.48	0.29	0.77	722.39
Mass Grading Dust	0.00	0.00	0.00	0.00	2.31	0.00	2.31	0.48	0.00	0.48	0.00
Mass Grading Off Road Diesel	0.76	6.24	3.31	0.00	0.00	0.30	0.30	0.00	0.28	0.28	631.26
Mass Grading On Road Diesel	0.03	0.36	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	62.27
Mass Grading Worker Trips	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.86

2013	10.49	37.40	47.55	0.05	0.22	2.62	2.84	0.08	2.40	2.48	8,205.50
Asphalt 03/24/2010-12/29/2013	2.47	14.73	10.59	0.00	0.01	1.28	1.30	0.00	1.18	1.18	1,506.01
Paving Off-Gas	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.40	14.59	8.92	0.00	0.00	1.27	1.27	0.00	1.17	1.17	1,237.88
Paving On Road Diesel	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.42
Paving Worker Trips	0.05	0.09	1.64	0.00	0.01	0.01	0.02	0.00	0.01	0.01	257.72
Building 03/24/2010-12/29/2013	4.24	22.66	36.85	0.05	0.21	1.34	1.55	0.07	1.22	1.30	6,681.65
Building Off Road Diesel	3.10	15.42	11.05	0.00	0.00	1.01	1.01	0.00	0.92	0.92	1,809.20
Building Vendor Trips	0.55	6.10	5.15	0.02	0.06	0.24	0.30	0.02	0.22	0.24	1,636.17
Building Worker Trips	0.60	1.14	20.65	0.03	0.15	0.09	0.24	0.06	0.07	0.13	3,236.28
Coating 03/24/2011-12/29/2013	3.78	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.83
Architectural Coating	3.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.83

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/24/2010 - 3/21/2012 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Construction Scenario Assumptions

	Residential			Non-Residential		
	Size	Units	Units/ acre	SQFT	Demo	Per acre demo
Irvine Technology Center	19.6	1,000	51	93,000	249,568	12,733
Avalon II	2.8	180	64		48,975	17,306
Avalon I	4.5	290	65		48,319	10,810
Alton	3.8	179	48			0
Martin Street	3.7	82	22		68,858	18,865
Main Street	10.0	445	45		240,014	24,001
2851 Alton	3.7	170	46		78,800	21,183
	6.9	2,346	49		122,422	14,985
	48.0					

1 Average site in the IBC is 6.9 acres
2 Average site is 50 units per acre
3 Average demolition for per acre is 14,985 square-feet

4 Assume most sites would have podium parking because of high groundwater table and therefore no soil export. Assume one half the sites (4 sites) would require 50,000 cubic yards of soil haul for subterranean garages

Year 2013 Construction Scenario

Construction timeline		4	years		
Number of individual project sites	8		Units	Hotel Rooms	
			2,587	458	
Based on average density of 50 units/acre construction would occur on:				52	acres
Based on average demolition quantity of 14,988 square-feet per acre:				775,344	sqft demolition
Based on average soil hual quanitity of 50,000 CY for 4 sites:				200,000	CY haul
Urbemis demo assumptions	881	Over a 2 yr period	440		
URBEMIS DEFAULT CONSTRUCTION EQUIPMENT LIST				Modified for 8 individual sites	
Demo Equipment 6.9 acre site	2	tractor/loader/backhoes		16	
	1	Concrete/Industrial saw		8	
	1	Rubber Tired Dozer		8	
Grading Equipment 6.9 acre site	1	Grader		8	
	1	Rubber Tired Dozer		8	
	1	tractor/loader/backhoes		8	
	1	water truck		8	
Paving Equipment 6.9 acre site	4	cement & mortar mixers		32	
	2	paving equipment		16	
	1	paver		8	
	1	roller		8	
Building Equipment 6.9 acre site	2	forklifts		16	
	1	tractor/loader/backhoes		8	
	1	crane		8	
	1	generator set		8	
	3	welders		24	

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\construction\Pending2013.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2010 TOTALS (lbs/day unmitigated)	273.26	2,899.21	1,448.67	3.19	1,981.40	131.32	2,112.72	414.00	120.75	534.75	397,830.91
2010 TOTALS (lbs/day mitigated)	273.26	2,899.21	1,448.67	3.19	1,555.02	131.32	1,686.34	324.96	120.75	445.71	397,830.91
2011 TOTALS (lbs/day unmitigated)	282.66	2,635.45	1,340.08	3.19	1,981.40	118.89	2,100.30	414.01	109.31	523.32	397,961.43
2011 TOTALS (lbs/day mitigated)	282.66	2,635.45	1,340.08	3.19	1,555.03	118.89	1,673.92	324.96	109.31	434.27	397,961.43
2012 TOTALS (lbs/day unmitigated)	263.55	2,377.69	1,235.05	3.19	1,981.40	105.90	2,087.30	414.01	97.35	511.36	397,956.71
2012 TOTALS (lbs/day mitigated)	263.55	2,377.69	1,235.05	3.19	1,555.03	105.90	1,660.93	324.96	97.35	422.32	397,956.71
2013 TOTALS (lbs/day unmitigated)	81.02	288.82	367.21	0.41	1.73	20.23	21.95	0.61	18.54	19.15	63,362.91
2013 TOTALS (lbs/day mitigated)	81.02	288.82	367.21	0.41	1.73	20.23	21.95	0.61	18.54	19.15	63,362.91

Phase Assumptions

Phase: Demolition 1/3/2010 - 1/21/2012 - Default Demolition Description
Building Volume Total (cubic feet): 1.39709E+07
Building Volume Daily (cubic feet): 3484800
On Road Truck Travel (VMT): 69142.86
Off-Road Equipment:
8 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
16 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Mass Grading 1/24/2010 - 3/21/2012 - Default Mass Site Grading/Excavation Description
Total Acres Disturbed: 53
Maximum Daily Acreage Disturbed: 13.25
Fugitive Dust Level of Detail: Default
38.2 lbs per acre-day
On Road Truck Travel (VMT): 506.59
Off-Road Equipment:
8 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
8 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
8 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
8 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/24/2010 - 12/29/2013 - Default Paving Description
Acres to be Paved: 52
Off-Road Equipment:
32 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 0 hours per day
8 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day
16 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
8 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 3/24/2010 - 12/29/2013 - Default Building Construction Description
Off-Road Equipment:
8 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day
16 Forklifts (145 hp) operating at a 0.3 load factor for 7 hours per day
8 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
8 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
24 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 3/24/2011 - 12/29/2013 - 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

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/4/2010-1/22/2010 Active	178.07	2,286.21	882.56	2.75	1,473.41	93.74	1,567.15	307.65	86.24	393.88	309,682.10
Demolition 01/03/2010-01/21/2012	178.07	2,286.21	882.56	2.75	1,473.41	93.74	1,567.15	307.65	86.24	393.88	309,682.10
Fugitive Dust	0.00	0.00	0.00	0.00	1,463.62	0.00	1,463.62	304.43	0.00	304.43	0.00
Demo Off Road Diesel	23.39	181.31	104.06	0.00	0.00	10.40	10.40	0.00	9.57	9.57	15,631.39
Demo On Road Diesel	154.43	2,104.44	770.62	2.74	9.75	83.31	93.05	3.20	76.64	79.84	293,055.16
Demo Worker Trips	0.24	0.46	7.88	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.56
Time Slice 1/25/2010-3/23/2010 Active	208.72	2,546.30	1,019.91	2.78	1,553.31	106.45	1,659.75	324.35	97.93	422.28	334,592.38
Demolition 01/03/2010-01/21/2012	178.07	2,286.21	882.56	2.75	1,473.41	93.74	1,567.15	307.65	86.24	393.88	309,682.10
Fugitive Dust	0.00	0.00	0.00	0.00	1,463.62	0.00	1,463.62	304.43	0.00	304.43	0.00
Demo Off Road Diesel	23.39	181.31	104.06	0.00	0.00	10.40	10.40	0.00	9.57	9.57	15,631.39
Demo On Road Diesel	154.43	2,104.44	770.62	2.74	9.75	83.31	93.05	3.20	76.64	79.84	293,055.16
Demo Worker Trips	0.24	0.46	7.88	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.56
Mass Grading 01/24/2010-	30.66	260.10	137.35	0.03	79.90	12.71	92.61	16.70	11.69	28.39	24,910.28
Mass Grading Dust	0.00	0.00	0.00	0.00	79.78	0.00	79.78	16.66	0.00	16.66	0.00
Mass Grading Off Road Diesel	29.28	244.22	123.83	0.00	0.00	12.08	12.08	0.00	11.11	11.11	21,767.61
Mass Grading On Road Diesel	1.13	15.42	5.65	0.02	0.07	0.61	0.68	0.02	0.56	0.58	2,147.11
Mass Grading Worker Trips	0.24	0.46	7.88	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.56
Time Slice 3/24/2010-12/31/2010	273.26	**2,899.21**	**1,448.67**	3.19	1,555.02	**131.32**	1,686.34	324.96	**120.75**	445.71	397,830.91
Asphalt 03/24/2010-12/29/2013	22.61	132.39	87.05	0.02	0.10	11.55	11.65	0.03	10.62	10.66	11,630.48
Paving Off-Gas	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	21.94	130.89	71.08	0.00	0.00	11.48	11.48	0.00	10.56	10.56	9,558.88
Paving On Road Diesel	0.04	0.58	0.21	0.00	0.00	0.02	0.03	0.00	0.02	0.02	80.48
Paving Worker Trips	0.49	0.92	15.75	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,991.11
Building 03/24/2010-12/29/2013	41.93	220.52	341.72	0.38	1.62	13.32	14.94	0.58	12.19	12.77	51,608.05
Building Off Road Diesel	30.30	142.22	93.87	0.00	0.00	9.96	9.96	0.00	9.17	9.17	13,970.63
Building Vendor Trips	5.53	66.75	50.05	0.12	0.44	2.70	3.15	0.15	2.48	2.63	12,634.06
Building Worker Trips	6.10	11.54	197.81	0.26	1.18	0.65	1.83	0.43	0.55	0.97	25,003.37
Demolition 01/03/2010-01/21/2012	178.07	2,286.21	882.56	2.75	1,473.41	93.74	1,567.15	307.65	86.24	393.88	309,682.10
Fugitive Dust	0.00	0.00	0.00	0.00	1,463.62	0.00	1,463.62	304.43	0.00	304.43	0.00
Demo Off Road Diesel	23.39	181.31	104.06	0.00	0.00	10.40	10.40	0.00	9.57	9.57	15,631.39
Demo On Road Diesel	154.43	2,104.44	770.62	2.74	9.75	83.31	93.05	3.20	76.64	79.84	293,055.16
Demo Worker Trips	0.24	0.46	7.88	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.56
Mass Grading 01/24/2010-	30.66	260.10	137.35	0.03	79.90	12.71	92.61	16.70	11.69	28.39	24,910.28
Mass Grading Dust	0.00	0.00	0.00	0.00	79.78	0.00	79.78	16.66	0.00	16.66	0.00
Mass Grading Off Road Diesel	29.28	244.22	123.83	0.00	0.00	12.08	12.08	0.00	11.11	11.11	21,767.61
Mass Grading On Road Diesel	1.13	15.42	5.65	0.02	0.07	0.61	0.68	0.02	0.56	0.58	2,147.11
Mass Grading Worker Trips	0.24	0.46	7.88	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.56

Time Slice 1/3/2011-3/23/2011 Active	253.46	2,635.40	1,339.07	3.19	1,555.02	118.89	1,673.91	324.96	109.31	434.27	397,823.67
Asphalt 03/24/2010-12/29/2013	21.37	126.10	85.06	0.02	0.10	11.20	11.29	0.03	10.30	10.33	11,629.99
Paving Off-Gas	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	20.75	124.74	70.18	0.00	0.00	11.12	11.12	0.00	10.23	10.23	9,558.88
Paving On Road Diesel	0.04	0.52	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	80.48
Paving Worker Trips	0.45	0.84	14.69	0.02	0.09	0.05	0.15	0.03	0.05	0.08	1,990.63
Building 03/24/2010-12/29/2013	38.80	205.09	321.79	0.38	1.62	12.59	14.22	0.58	11.52	12.10	51,601.78
Building Off Road Diesel	28.11	134.50	90.81	0.00	0.00	9.50	9.50	0.00	8.74	8.74	13,970.63
Building Vendor Trips	5.10	60.02	46.57	0.12	0.44	2.41	2.85	0.15	2.21	2.36	12,633.84
Building Worker Trips	5.59	10.57	184.42	0.26	1.18	0.68	1.86	0.43	0.57	1.00	24,997.32
Demolition 01/03/2010-01/21/2012	164.42	2,060.55	801.08	2.75	1,473.41	83.19	1,556.60	307.65	76.53	384.18	309,681.86
Fugitive Dust	0.00	0.00	0.00	0.00	1,463.62	0.00	1,463.62	304.43	0.00	304.43	0.00
Demo Off Road Diesel	21.95	171.19	99.27	0.00	0.00	9.75	9.75	0.00	8.97	8.97	15,631.39
Demo On Road Diesel	142.25	1,888.94	694.47	2.74	9.75	73.41	83.15	3.20	67.53	70.73	293,055.16
Demo Worker Trips	0.22	0.42	7.34	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.31
Mass Grading 01/24/2010-	28.87	243.65	131.13	0.03	79.90	11.91	91.81	16.70	10.96	27.66	24,910.04
Mass Grading Dust	0.00	0.00	0.00	0.00	79.78	0.00	79.78	16.66	0.00	16.66	0.00
Mass Grading Off Road Diesel	27.61	229.39	118.70	0.00	0.00	11.35	11.35	0.00	10.44	10.44	21,767.61
Mass Grading On Road Diesel	1.04	13.84	5.09	0.02	0.07	0.54	0.61	0.02	0.49	0.52	2,147.11
Mass Grading Worker Trips	0.22	0.42	7.34	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.31
Time Slice 3/24/2011-12/30/2011	**282.66**	2,635.45	1,340.08	3.19	1,555.03	118.89	1,673.92	324.96	109.31	434.27	**397,961.43**
Asphalt 03/24/2010-12/29/2013	21.37	126.10	85.06	0.02	0.10	11.20	11.29	0.03	10.30	10.33	11,629.99
Paving Off-Gas	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	20.75	124.74	70.18	0.00	0.00	11.12	11.12	0.00	10.23	10.23	9,558.88
Paving On Road Diesel	0.04	0.52	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	80.48
Paving Worker Trips	0.45	0.84	14.69	0.02	0.09	0.05	0.15	0.03	0.05	0.08	1,990.63
Building 03/24/2010-12/29/2013	38.80	205.09	321.79	0.38	1.62	12.59	14.22	0.58	11.52	12.10	51,601.78
Building Off Road Diesel	28.11	134.50	90.81	0.00	0.00	9.50	9.50	0.00	8.74	8.74	13,970.63
Building Vendor Trips	5.10	60.02	46.57	0.12	0.44	2.41	2.85	0.15	2.21	2.36	12,633.84
Building Worker Trips	5.59	10.57	184.42	0.26	1.18	0.68	1.86	0.43	0.57	1.00	24,997.32
Coating 03/24/2011-12/29/2013	29.20	0.06	1.02	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.75
Architectural Coating	29.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.06	1.02	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.75
Demolition 01/03/2010-01/21/2012	164.42	2,060.55	801.08	2.75	1,473.41	83.19	1,556.60	307.65	76.53	384.18	309,681.86
Fugitive Dust	0.00	0.00	0.00	0.00	1,463.62	0.00	1,463.62	304.43	0.00	304.43	0.00
Demo Off Road Diesel	21.95	171.19	99.27	0.00	0.00	9.75	9.75	0.00	8.97	8.97	15,631.39
Demo On Road Diesel	142.25	1,888.94	694.47	2.74	9.75	73.41	83.15	3.20	67.53	70.73	293,055.16
Demo Worker Trips	0.22	0.42	7.34	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.31
Mass Grading 01/24/2010-	28.87	243.65	131.13	0.03	79.90	11.91	91.81	16.70	10.96	27.66	24,910.04
Mass Grading Dust	0.00	0.00	0.00	0.00	79.78	0.00	79.78	16.66	0.00	16.66	0.00
Mass Grading Off Road Diesel	27.61	229.39	118.70	0.00	0.00	11.35	11.35	0.00	10.44	10.44	21,767.61
Mass Grading On Road Diesel	1.04	13.84	5.09	0.02	0.07	0.54	0.61	0.02	0.49	0.52	2,147.11
Mass Grading Worker Trips	0.22	0.42	7.34	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.31

Time Slice 1/2/2012-1/20/2012 Active	263.55	2,377.69	1,235.05	3.19	1,555.03	105.90	1,660.93	324.96	97.35	422.32	397,956.71
Asphalt 03/24/2010-12/29/2013	20.29	119.83	83.34	0.02	0.10	10.60	10.69	0.03	9.74	9.78	11,629.66
Paving Off-Gas	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	19.71	118.60	69.50	0.00	0.00	10.52	10.52	0.00	9.68	9.68	9,558.88
Paving On Road Diesel	0.04	0.46	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	80.48
Paving Worker Trips	0.41	0.77	13.67	0.02	0.09	0.05	0.15	0.03	0.05	0.08	1,990.29
Building 03/24/2010-12/29/2013	35.82	190.05	302.73	0.38	1.62	11.47	13.09	0.58	10.49	11.06	51,597.76
Building Off Road Diesel	26.05	126.95	87.99	0.00	0.00	8.66	8.66	0.00	7.97	7.97	13,970.63
Building Vendor Trips	4.68	53.44	43.12	0.12	0.44	2.12	2.57	0.15	1.95	2.10	12,634.03
Building Worker Trips	5.09	9.65	171.62	0.26	1.18	0.68	1.86	0.43	0.57	1.00	24,993.10
Coating 03/24/2011-12/29/2013	29.20	0.05	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.73
Architectural Coating	29.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.73
Demolition 01/03/2010-01/21/2012	150.80	1,839.93	722.52	2.75	1,473.41	72.93	1,546.34	307.65	67.10	374.75	309,681.69
Fugitive Dust	0.00	0.00	0.00	0.00	1,463.62	0.00	1,463.62	304.43	0.00	304.43	0.00
Demo Off Road Diesel	20.69	161.39	95.07	0.00	0.00	8.94	8.94	0.00	8.23	8.23	15,631.39
Demo On Road Diesel	129.91	1,678.16	620.61	2.74	9.75	63.96	73.71	3.20	58.85	62.05	293,055.16
Demo Worker Trips	0.20	0.38	6.83	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.15
Mass Grading 01/24/2010-	27.44	227.83	125.52	0.03	79.90	10.90	90.79	16.70	10.02	26.72	24,909.87
Mass Grading Dust	0.00	0.00	0.00	0.00	79.78	0.00	79.78	16.66	0.00	16.66	0.00
Mass Grading Off Road Diesel	26.29	215.15	114.14	0.00	0.00	10.40	10.40	0.00	9.57	9.57	21,767.61
Mass Grading On Road Diesel	0.95	12.30	4.55	0.02	0.07	0.47	0.54	0.02	0.43	0.45	2,147.11
Mass Grading Worker Trips	0.20	0.38	6.83	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.15
Time Slice 1/23/2012-3/21/2012 Active	112.74	537.76	512.53	0.44	81.62	32.96	114.58	17.31	30.25	47.57	88,275.01
Asphalt 03/24/2010-12/29/2013	20.29	119.83	83.34	0.02	0.10	10.60	10.69	0.03	9.74	9.78	11,629.66
Paving Off-Gas	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	19.71	118.60	69.50	0.00	0.00	10.52	10.52	0.00	9.68	9.68	9,558.88
Paving On Road Diesel	0.04	0.46	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	80.48
Paving Worker Trips	0.41	0.77	13.67	0.02	0.09	0.05	0.15	0.03	0.05	0.08	1,990.29
Building 03/24/2010-12/29/2013	35.82	190.05	302.73	0.38	1.62	11.47	13.09	0.58	10.49	11.06	51,597.76
Building Off Road Diesel	26.05	126.95	87.99	0.00	0.00	8.66	8.66	0.00	7.97	7.97	13,970.63
Building Vendor Trips	4.68	53.44	43.12	0.12	0.44	2.12	2.57	0.15	1.95	2.10	12,634.03
Building Worker Trips	5.09	9.65	171.62	0.26	1.18	0.68	1.86	0.43	0.57	1.00	24,993.10
Coating 03/24/2011-12/29/2013	29.20	0.05	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.73
Architectural Coating	29.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.73
Mass Grading 01/24/2010-	27.44	227.83	125.52	0.03	79.90	10.90	90.79	16.70	10.02	26.72	24,909.87
Mass Grading Dust	0.00	0.00	0.00	0.00	79.78	0.00	79.78	16.66	0.00	16.66	0.00
Mass Grading Off Road Diesel	26.29	215.15	114.14	0.00	0.00	10.40	10.40	0.00	9.57	9.57	21,767.61
Mass Grading On Road Diesel	0.95	12.30	4.55	0.02	0.07	0.47	0.54	0.02	0.43	0.45	2,147.11
Mass Grading Worker Trips	0.20	0.38	6.83	0.01	0.05	0.03	0.07	0.02	0.02	0.04	995.15

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Time Slice 3/22/2012-12/31/2012	85.30	309.93	387.01	0.41	1.73	22.06	23.79	0.61	20.23	20.85	63,365.14
Asphalt 03/24/2010-12/29/2013	20.29	119.83	83.34	0.02	0.10	10.60	10.69	0.03	9.74	9.78	11,629.66
Paving Off-Gas	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	19.71	118.60	69.50	0.00	0.00	10.52	10.52	0.00	9.68	9.68	9,558.88
Paving On Road Diesel	0.04	0.46	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	80.48
Paving Worker Trips	0.41	0.77	13.67	0.02	0.09	0.05	0.15	0.03	0.05	0.08	1,990.29
Building 03/24/2010-12/29/2013	35.82	190.05	302.73	0.38	1.62	11.47	13.09	0.58	10.49	11.06	51,597.76
Building Off Road Diesel	26.05	126.95	87.99	0.00	0.00	8.66	8.66	0.00	7.97	7.97	13,970.63
Building Vendor Trips	4.68	53.44	43.12	0.12	0.44	2.12	2.57	0.15	1.95	2.10	12,634.03
Building Worker Trips	5.09	9.65	171.62	0.26	1.18	0.68	1.86	0.43	0.57	1.00	24,993.10
Coating 03/24/2011-12/29/2013	29.20	0.05	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.73
Architectural Coating	29.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.95	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.73
Time Slice 1/1/2013-12/27/2013 Active	81.02	288.82	367.21	0.41	1.73	20.23	21.95	0.61	18.54	19.15	63,362.91
Asphalt 03/24/2010-12/29/2013	19.05	113.76	81.75	0.02	0.10	9.91	10.00	0.03	9.11	9.15	11,629.46
Paving Off-Gas	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	18.51	112.66	68.90	0.00	0.00	9.84	9.84	0.00	9.05	9.05	9,558.88
Paving On Road Diesel	0.03	0.41	0.15	0.00	0.00	0.02	0.02	0.00	0.01	0.01	80.48
Paving Worker Trips	0.37	0.70	12.70	0.02	0.09	0.05	0.15	0.03	0.05	0.08	1,990.09
Building 03/24/2010-12/29/2013	32.77	175.00	284.58	0.38	1.62	10.31	11.94	0.58	9.42	10.00	51,595.74
Building Off Road Diesel	23.90	119.06	85.35	0.00	0.00	7.76	7.76	0.00	7.14	7.14	13,970.63
Building Vendor Trips	4.25	47.12	39.74	0.12	0.44	1.87	2.31	0.15	1.71	1.86	12,634.55
Building Worker Trips	4.62	8.83	159.49	0.26	1.18	0.68	1.86	0.43	0.57	1.00	24,990.56
Coating 03/24/2011-12/29/2013	29.20	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.71
Architectural Coating	29.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.03	0.05	0.88	0.00	0.01	0.00	0.01	0.00	0.00	0.01	137.71

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 1/24/2010 - 3/21/2012 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Construction Summary

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 1/4/2010-1/22/2010 Active Days: 15	178	2,286	883	3	1,473	94	1,567	308	86	394	309,682
Time Slice 1/25/2010-3/23/2010 Active Days: 42	209	2,546	1,020	3	1,553	106	1,660	324	98	422	334,592
Time Slice 3/24/2010-12/31/2010 Active Days: 203	273	2,899	1,449	3	1,555	131	1,686	325	121	446	397,831
Time Slice 1/3/2011-3/23/2011 Active Days: 58	253	2,635	1,339	3	1,555	119	1,674	325	109	434	397,824
Time Slice 3/24/2011-12/30/2011 Active Days: 202	283	2,635	1,340	3	1,555	119	1,674	325	109	434	397,961
Time Slice 1/2/2012-1/20/2012 Active Days: 15	264	2,378	1,235	3	1,555	106	1,661	325	97	422	397,957
Time Slice 1/23/2012-3/21/2012 Active Days: 43	113	538	513	0	82	33	115	17	30	48	88,275
Time Slice 3/22/2012-12/31/2012 Active Days: 203	85	310	387	0	2	22	24	1	20	21	63,365
Time Slice 1/1/2013-12/27/2013 Active Days: 259	81	289	367	0	2	20	22	1	19	19	63,363
	283	2,899	1,449	3	1,555	131	1,686	325	121	446	397,961

Table B: Emission Factors (Lbs./Usage Unit)

Fuel	CO_2	CH_4	N_2O	Unit
Petroleum Products				
Distillate Fuel (Fuel Oil, Diesel)	22.384	0.000534	0.0001928	Gallon
Jet Fuel	21.095	0.0005198	0.0001877	Gallon
Kerosene/Naphtha	21.537	0.0005	0.00018	Gallon
Liquified Petroleum Gases (LPG)	12.805	0.0002538	0.0000216	Gallon
Motor Gasoline	19.564	0.00055	0.0002	Gallon
Residual Fuel (Bunker C Fuel Oil)	26.033	0.0002245	0.0002081	Gallon
Aviation Gasoline	18.355	0.0005198	0.0001877	Gallon
Bio-diesel	20.74	0.0004948	0.0001786	Gallon
Gaseous Fuels				
Propane	12.669	0.000003	2.3E-07	Gallon
Butane	14.655	0.000003	2.3E-07	Gallon
Natural Gas	120.593	0.0002	0.0002	1000 ft^3
Landfill Gas	110.445	0.210503	0.000236	1000 ft^3
Digester Gas	104.654	0.02997	0.0003	1000 ft^3
Carbon Monoxide	116.095	0.0027	0.000193	1000 ft^3
Refinery Waste Gases	135.0	0.0029	0.00022	1000 ft^3
Solids				
Refuge/Waste	2,000	0.2979	0.0898	Ton
Wood and Other	3,814	0.2979	0.0898	Ton
Agriculture Waste Burning	173.8	0.14	0.35	Ton
Petroleum Coke	6,768.67	0.4492	0.1063	Ton

Table C: 2002 General Statistics

County	Population (1000's)	Daily Electricity Usage (Megawatt hours)	Daily Natural Gas Usage (million cu.ft.)	Daily Gasoline Sales (1000's gal.)	Daily Vehicle Miles Traveled** (Millions)
Alameda	1,480	30,124	131.1	1,771	29.0
Contra Costa	975	19,358	589.5	1,171	21.7
Marin	250	4,454	22.2	355	5.7
Napa	128	2,795	11.2	153	2.6
San Francisco	785	16,327	104.8	1,106	10.5
San Mateo	718	14,586	69.0	1,077	19.4
Santa Clara	1,725	50,684	182.0	2,368	39.0
Solano*	295	6,511	43.0	328	5.8
Sonoma*	416	7,388	27.4	487	7.8
	6,772	**152,228**	**1,180.2**	**8,816**	**141.5**

* Portion within Bay Area Air Quality Management District.

** VMT (for passenger cars and light duty trucks only) from EMFAC2002 v2.2

Greenhouse Gases Emission from Energy Use - IBC, Total Buildout Year 2030

Proposed Uses - Commercial

Land Use	Area (ft^2)	Energy Consumption (kWh/ft^2/Year)	lbs of CO_2e/Year
Lodging	3,757,488	13.5	31,009,492
Retail (Other Than Mall)	1,794,480	14.3	15,686,929
Office	36,251,410	17.3	383,384,263
Other	12,449,744	22.5	171,240,393
Warehouse and Storage	403,783	7.6	1,875,966
Total for Existing Uses	**54656905**	**75.2**	**603,197,043**
		Tons	**301,599**
		lbs/day	**1,652,595**

Proposed Uses - Residential

Land Use	Area (ft^2)	Energy Consumption (1000 BTU/Sqft/Year)	lbs of CO_2e/Year
Residential/Hotel	20,594,952	41.7	153,825,288
Total Residential	**20594952**	**83.4**	**153,825,288**
		Tons	**76,913**
		lbs/day	**421,439**

Net Increase	Energy Use		
		lbs of CO_2e/Year	**757,022,330**
		Metric Tons/year	**343,380**
		Tons/Year	**378,511**
		lbs/day	**2,074,034**
		Percent of State	**0.0804%**

Sources

Note: New structures would be constructed to meet newer California Building Code energy efficiency requirements

[1]Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

[1] Commercial energy use based on Table C14 US Energy Information Admininstration www.eia.doe.gov/emeu/cbecs/

[1] Residential energy use based on US Energy Information Administration www.eia.doe.gov Table US1. Total Energy Consumption, Expenditures, and Intensitities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

California Energy Emission Factors

0.61	lbs of CO2/kwh	For California
0.0000067	lbs of CH4/kwh	For California
0.00000378	lbs of N20/kwh	For California

US EUA http://www.eia.doe.gov/oiaf/1605/ee-factors.html

GHG Potential - Coversion to CO2e	CH4	N20
	21	310
lbs of CO2e/kwh	**0.611**	

Conversion Factors

0.0005	lbs in a ton
0.9071847	Metric Tons
0.000293	BTU (British Thermal Units) in a kwh
471,000,000	tons of CO2e in 1990 and Goal for 2020:

Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

Assumptions

Assumes on average units are 1,272 sqft (US Census)

Median and Average Square-Feet of Floor Area in Units in New Multi-Family Building Completed.United States Census Bureau, Manufacturing, Mining, and Construction Statistics. Characteristics of New Housing, Median and Average Square Feet by Location. Based on average square-footage of new construction in the west compiled for years 1973 to 1979, 1980 to 1989, 1990 to 1999, 2000 to 2004, and 2005 to 2007. Obtained from http://www.census.gov/const/www/charindex.html#singlecomplete

Greenhouse Gases Emission from Energy Use - Approved and Under Construction Only 2013 and 2030

Residential

Land Use	Area (ft^2)	Energy Consumption (1000 BTU/Sqft/Year)	lbs of CO_2e/Year
Residential/Hotel	6,203,544	41.7	46,334,749
Total Residential	**6203544**	**41.7**	**46,334,749**
		Tons	23,167
		lbs/day	126,945

Total	Energy Use		
		lbs of CO_2e/Year	46,334,749
		Metric Tons/year	21,017
		Tons/Year	23,167
		lbs/day	126,945
		Percent of State	0.0049%

Sources

Note: New structures would be constructed to meet newer California Building Code energy efficiency requirements

[1]Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

[1] Commercial energy use based on Table C14 US Energy Information Admininstration www.eia.doe.gov/emeu/cbecs/

[1] Residential energy use based on US Energy Information Administration www.eia.doe.gov Table US1. Total Energy Consumption, Expenditures, and Intensitities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

California Energy Emission Factors

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0.0000067	lbs of CH4/kwh	For California
0.00000378	lbs of N20/kwh	For California

US EUA http://www.eia.doe.gov/oiaf/1605/ee-factors.html

GHG Potential - Coversion to CO2e	CH4	N20
	21	310
lbs of CO2e/kwh	**0.611**	

Conversion Factors

0.0005	lbs in a ton
0.9071847	Metric Tons
0.000293	BTU (British Thermal Units) in a kwh
471,000,000	tons of CO2e in 1990 and Goal for 2020:

Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

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Greenhouse Gases Emission from Energy Use - Existing Only 2008, 2013, and 2030

Commercial

Land Use	Area (ft^2)	Energy Consumption (kWh/ft^2/Year)	lbs of CO_2e/Year
Retail (Other Than Mall)	1,277,146	14.3	11,164,515
Office	27,442,357	17.3	290,222,306
Other	15,096,120	22.5	207,640,054
Warehouse and Storage	702,840	7.6	3,265,377
Lodging	3,174,912	13.5	26,201,656
Total Commercial	**47,693,375**	**75.2**	**538,493,909**
	44,518,463	**Tons**	269,247
		lbs/day	1,475,326

Proposed Uses - Residential

Land Use	Area (ft^2)	Energy Consumption (1000 BTU/Sqft/Year)	lbs of CO_2e/Year
Residential	5,811,768	41.7	43,408,544
Total Residential	**5,811,768**	**41.7**	43,408,544
		Tons	21,704
		lbs/day	118,928

Total	**Energy Use**	**lbs of CO_2e/Year**	581,902,453
		Metric Tons/year	263,947
		Tons/Year	290,951
		lbs/day	1,594,253

Sources

Note: New structures would be constructed to meet newer California Building Code energy efficiency requirements

[1]Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

[1] Commercial energy use based on Table C14 US Energy Information Admininstration www.eia.doe.gov/emeu/cbecs/

[1] Residential energy use based on US Energy Information Administration www.eia.doe.gov Table US1. Total Energy Consumption, Expenditures, and Intensitities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

California Energy Emission Factors

0.61	lbs of CO2/kwh	For California
0.0000067	lbs of CH4/kwh	For California
0.00000378	lbs of N20/kwh	For California

US EUA http://www.eia.doe.gov/oiaf/1605/ee-factors.html

GHG Potential - Coversion to CO2e	CH4	N20
	21	310
lbs of CO2e/kwh	**0.611**	

Conversion Factors

0.0005	lbs in a ton
0.9071847	Metric Tons
0.000293	BTU (British Thermal Units) in a kwh
471,000,000	tons of CO2e in 1990 and Goal for 2020:

Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

Assumptions

Assumes on average units are 1,272 sqft (US Census)

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Greenhouse Gases Emission from Energy Use - Pending Only 2013 and 2030

Commercial

Land Use	Area (ft^2)	Energy Consumption (kWh/ft^2/Year)	lbs of CO_2e/Year
Lodging	616,920	13.5	5,091,267
Total for Existing Uses	**616920**	**13.5**	**5,091,267**
		Tons	2,546
		lbs/day	13,949

Residential

Land Use	Area (ft^2)	Energy Consumption (1000 BTU/Sqft/Year)	lbs of CO_2e/Year
Residential/Hotel	3,290,664	41.7	24,578,224
Total Residential	**3290664**	**41.7**	**24,578,224**
		Tons	12,289
		lbs/day	67,338

Net Increase	Energy Use		
		lbs of CO_2e/Year	29,669,491
		Metric Tons/year	13,458
		Tons/Year	14,835
		lbs/day	81,286
		Percent of State	0.0031%

Sources

Note: New structures would be constructed to meet newer California Building Code energy efficiency requirements

[1]Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

[1] Commercial energy use based on Table C14 US Energy Information Admininstration www.eia.doe.gov/emeu/cbecs/

[1] Residential energy use based on US Energy Information Administration www.eia.doe.gov Table US1. Total Energy Consumption, Expenditures, and Intensitities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

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0.61	lbs of CO2/kwh	For California
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US EUA http://www.eia.doe.gov/oiaf/1605/ee-factors.html

GHG Potential - Coversion to CO2e	CH4	N20
	21	310
lbs of CO2e/kwh	**0.611**	

Conversion Factors

0.0005	lbs in a ton
0.9071847	Metric Tons
0.000293	BTU (British Thermal Units) in a kwh
471,000,000	tons of CO2e in 1990 and Goal for 2020:

Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

Assumptions

Assumes on average units are 1,272 sqft (US Census)

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Greenhouse Gases Emission from Energy Use - Potential Only 2030

Proposed Uses - Commercial

Land Use	Area (ft^2)	Energy Consumption (kWh/ft^2/Year)	lbs of CO_2e/Year
Retail (Other Than Mall)	517,334	14.3	4,522,414
Office	5,863,621	17.3	62,011,933
None	0	0	0
Total for Existing Uses	**6380955**	**31.6**	**66,534,347**
		Tons	33,267
		lbs/day	182,286

Proposed Uses - Residential

Land Use	Area (ft^2)	Energy Consumption (1000 BTU/Sqft/Year)	lbs of CO_2e/Year
Residential/Hotel	5,288,976	41.7	39,503,770
Total Residential	**5288976**	**41.7**	**39,503,770**
		Tons	19,752
		lbs/day	108,230

Net Increase	Energy Use		
		lbs of CO_2e/Year	106,038,118
		Metric Tons/year	48,098
		Tons/Year	53,019
		lbs/day	290,515
		Percent of State	0.0113%

Sources

Note: New structures would be constructed to meet newer California Building Code energy efficiency requirements

[1]Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

[1] Commercial energy use based on Table C14 US Energy Information Admininstration www.eia.doe.gov/emeu/cbecs/

[1] Residential energy use based on US Energy Information Administration www.eia.doe.gov Table US1. Total Energy Consumption, Expenditures, and Intensitities, 2005. Part 1: Housing Unit Characteristics and Energy Usage Indicators Released January 2009.

California Energy Emission Factors

0.61	lbs of CO2/kwh	For California
0.0000067	lbs of CH4/kwh	For California
0.00000378	lbs of N20/kwh	For California

US EUA http://www.eia.doe.gov/oiaf/1605/ee-factors.html

GHG Potential - Coversion to CO2e	CH4	N20
	21	310
lbs of CO2e/kwh	**0.611**	

Conversion Factors

0.0005	lbs in a ton
0.9071847	Metric Tons
0.000293	BTU (British Thermal Units) in a kwh
471,000,000	tons of CO2e in 1990 and Goal for 2020:

Based on CARB emissions inventory of GHG emissions for the State of California in 1990 of 471 million short tons of CO2e (427 million metric tons of CO2e) of in state emissions adopted in December 2007.

Assumptions

Assumes on average units are 1,272 sqft (US Census)

Median and Average Square-Feet of Floor Area in Units in New Multi-Family Building Completed.United States Census Bureau, Manufacturing, Mining, and Construction Statistics. Characteristics of New Housing, Median and Average Square Feet by Location. Based on average square-footage of new construction in the west compiled for years 1973 to 1979, 1980 to 1989, 1990 to 1999, 2000 to 2004, and 2005 to 2007. Obtained from http://www.census.gov/const/www/charindex.html#singlecomplete

SUMMARY - PURCHASED ENERGY USE

		CO2e (tons/Year)	CO2e (Mtons/Year)	
Existing			0.91	conversion
	Residential	21,704	19,690	
	Non-Residential (includes hotel)	269,247	244,257	
	Total	290,951	263,946	
Approved and Under Construction				
	Residential	23,167	21,017	
	Non-Residential (includes hotel)	0	0	
		23,167	21,017	
Existing + Under Construction + Approved		314,118	284,963	
Pending				
	Residential	12,289	11,148	
	Non-Residential (includes hotel)	2,546	2,310	
		14,835	13,458	
Project				
	Residential	19,752	17,919	
	Non-Residential (includes hotel)	33,267	30,179	
		53,019	48,098	
Project + Pending		67,854	61,556	
Total		381,972	346,519	

Quantification of PDF 15-10

Decrease in Purchased Energy Use in the IBC due to Potential + Pending Projects (year 2030)					
	Business as Usual (Tons/year)	Business as Usual (Mtons/Year)	15% Reduction from 2005 Title 24	15% Reduction from 2008 Title 24	Decrease Due to PDF 15-10
Non-Residential	33,267	30,179	25,653	21,805	-3,848
Residential	19,752	17,919	15,231	12,946	-2,285
Total	53,019	48,098	40,883	34,751	-6,133

Decrease in Area Sources Energy/Natural Gas Consumption in the IBC due to Potential + Pending Projects (year 2030)					
	Natural Gas Use Business as Usual (Tons/Year)	Natural Gas Use Business as Usual (MTons/Year)	15% Reduction from 2005 Title 24	15% Reduction from 2008 Title 24	Decrease Due to PDF 15-10
Total Non-Residential	9,695	8,795	7,476	6,354	-1,121
Total Residential	16,274	14,763	12,549	10,667	-1,882
Total	25,969	23,558	20,025	17,021	-3,004

Total Decrease in CO2e emissions from Implementation of PDF 15-10		
	Mtons/Year	percent of total
Non-Residential	-4,969	54%
Residential	-4,167	46%
Total	-9,136	100%

Per-Capita Reduction Associated with PDF 15-10 for New Uses	
	MTons/Year/Person
Non-Residential	0.24
Residential	0.20
Total	0.4

2030 Analysis

Project (Pending + Project) Emissions - NET INCREASE			
Source	***CO_{2e} Emissions MTons/Year [1]***	***With PDF 15-10 CO_{2e} Emissions MTons/Year [1]***	***Percent of Total***
Transportation Sector[1]	142,406	142,406	60.0%
Electricity Sector			
Purchased Energy[2]	61,556	55,424	23.4%
Water Demand and Treatment[3]	3,802	3,802	1.6%
Total Energy Emissions	65,358	59,226	25.0%
Recycling and Waste[4]	14,972	14,972	6.3%
Area Sources[1]	23,583	20,579	8.7%
Total all Sectors	**246,319**	**237,182**	**100%**
n Metric Tons (MMTons CO2e)	0.2	0.2	
Per Capita CO2e	11.8	11.4	0.04
Residents	8,769	8,769	
Employees	12,124	12,124	
Total	20,892	20,892	

Total IBC Emissions Inventory			
Source	*CO_{2e} Emissions MTons/Year [1]*	*With PDF 15-10 CO_{2e} Emissions MTons/Year [1]*	*Percent of Total*
Transportation Sector[1]	1,212,218	1,212,218	69.3%
Electricity Sector			
Purchased Energy[2]	346,519	340,387	19.5%
Water Demand and Treatment[3]	14,744	14,744	0.8%
Total Energy Emissions	361,264	355,131	20.3%
Recycling and Waste[4]	99,177	99,177	5.7%
Area Sources[1]	86,528	83,525	4.8%
Total all Sectors	**1,759,187**	**1,750,051**	**100%**
n Metric Tons (MMTons CO2e)	1.8	1.8	
Per Capita CO2e	14.9	14.9	
Residents	21,048	21,048	
Employees	96,709	96,709	
Total	117,757	117,757	

GHG Emissions Analysis -- Summary Report

Version 8 (5/06)

GHG Emissions Waste Management Analysis for
Prepared by:
Project Period for this Analysis: 01/00/00 to 01/00/00

GHG Emissions from Baseline Waste Management ($MTCO_2E$): 1,320

Commodity	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Glass	-	231	-	NA	9
Mixed Paper, Broad	-	1,588	-	NA	553
Mixed Metals	-	266	-	NA	10
Mixed Plastics	-	508	-	NA	19
Mixed Organics	NA	2,598	-	-	614
Mixed MSW	NA	248	-	NA	105
Concrete	-	260	NA	NA	10

GHG Emissions from Alternative Waste Management Scenario ($MTCO_2E$): 1,320

Commodity	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Glass	-	-	231	-	NA	9
Mixed Paper, Broad	NA	-	1,588	-	NA	553
Mixed Metals	NA	-	266	-	NA	10
Mixed Plastics	NA	-	508	-	NA	19
Mixed Organics	NA	NA	2,598	-	-	614
Mixed MSW	NA	NA	248	-	NA	105
Concrete	NA	-	260	NA	NA	10

Total Change in GHG Emissions: **0 $MTCO_2E$**

This is equivalent to…		
Removing	-	Passenger Cars from the Roadway Each Year

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA report:
Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks (EPA530-R-02-00
-- available on the Internet at http://www.epa.gov/mswclimate/greengas.pdf (1.1 Mb PDF file).

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

GHG Emissions Analysis -- Summary Report

Version 8 (5/06)

GHG Emissions Waste Management Analysis for
Prepared by:
Project Period for this Analysis: 01/00/00 to 01/00/00

GHG Emissions from Baseline Waste Management ($MTCO_2E$): 2,489

Commodity	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Glass	-	435	-	NA	17
Mixed Paper, Broad	-	2,993	-	NA	1,042
Mixed Metals	-	501	-	NA	19
Mixed Plastics	-	958	-	NA	36
Mixed Organics	NA	4,898	-	-	1,157
Mixed MSW	NA	468	-	NA	198
Concrete	-	490	NA	NA	19

GHG Emissions from Alternative Waste Management Scenario ($MTCO_2E$): 2,489

Commodity	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Glass	-	-	435	-	NA	17
Mixed Paper, Broad	NA	-	2,993	-	NA	1,042
Mixed Metals	NA	-	501	-	NA	19
Mixed Plastics	NA	-	958	-	NA	36
Mixed Organics	NA	NA	4,898	-	-	1,157
Mixed MSW	NA	NA	468	-	NA	198
Concrete	NA	-	490	NA	NA	19

Total Change in GHG Emissions: **0 $MTCO_2E$**

This is equivalent to…		
Removing	-	Passenger Cars from the Roadway Each Year

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA report:
Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks (EPA530-R-02-00
-- available on the Internet at http://www.epa.gov/mswclimate/greengas.pdf (1.1 Mb PDF file).

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

GHG Emissions Analysis -- Summary Report

Version 8 (5/06)

GHG Emissions Waste Management Analysis for
Prepared by:
Project Period for this Analysis: 01/00/00 to 01/00/00

GHG Emissions from Baseline Waste Management ($MTCO_2E$): 81,716

Commodity	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Glass	-	11,061	-	NA	420
Mixed Paper, Broad	-	135,328	-	NA	47,122
Mixed Metals	-	21,933	-	NA	834
Mixed Plastics	-	37,490	-	NA	1,425
Mixed Organics	NA	123,223	-	-	29,112
Mixed MSW	NA	3,977	-	NA	1,686
Concrete	-	29,402	NA	NA	1,117

GHG Emissions from Alternative Waste Management Scenario ($MTCO_2E$): 81,716

Commodity	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Glass	-	-	11,061	-	NA	420
Mixed Paper, Broad	NA	-	135,328	-	NA	47,122
Mixed Metals	NA	-	21,933	-	NA	834
Mixed Plastics	NA	-	37,490	-	NA	1,425
Mixed Organics	NA	NA	123,223	-	-	29,112
Mixed MSW	NA	NA	3,977	-	NA	1,686
Concrete	NA	-	29,402	NA	NA	1,117

Total Change in GHG Emissions: **0 $MTCO_2E$**

This is equivalent to…		
Removing	-	Passenger Cars from the Roadway Each Year

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA report:
Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks (EPA530-R-02-00
-- available on the Internet at http://www.epa.gov/mswclimate/greengas.pdf (1.1 Mb PDF file).

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

GHG Emissions Analysis -- Summary Report

Version 8 (5/06)

GHG Emissions Waste Management Analysis for
Prepared by:
Project Period for this Analysis: 01/00/00 to 01/00/00

GHG Emissions from Baseline Waste Management ($MTCO_2E$): 13,652

Commodity	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Glass	-	1,925	-	NA	73
Mixed Paper, Broad	-	21,730	-	NA	7,566
Mixed Metals	-	3,534	-	NA	134
Mixed Plastics	-	6,120	-	NA	233
Mixed Organics	NA	21,479	-	-	5,074
Mixed MSW	NA	935	-	NA	396
Concrete	-	4,596	NA	NA	175

GHG Emissions from Alternative Waste Management Scenario ($MTCO_2E$): 13,652

Commodity	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total $MTCO_2E$
Glass	-	-	1,925	-	NA	73
Mixed Paper, Broad	NA	-	21,730	-	NA	7,566
Mixed Metals	NA	-	3,534	-	NA	134
Mixed Plastics	NA	-	6,120	-	NA	233
Mixed Organics	NA	NA	21,479	-	-	5,074
Mixed MSW	NA	NA	935	-	NA	396
Concrete	NA	-	4,596	NA	NA	175

Total Change in GHG Emissions: **0 $MTCO_2E$**

This is equivalent to…		
Removing	-	Passenger Cars from the Roadway Each Year

Note: a negative value (i.e., a value in parentheses) indicates an emission reduction; a positive value indicates an emission increase.

a) For explanation of methodology, see the EPA report:
Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks (EPA530-R-02-00
-- available on the Internet at http://www.epa.gov/mswclimate/greengas.pdf (1.1 Mb PDF file).

b) Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.

California Integrated Waste Management Board

Jurisdiction Profile for City of Irvine

General Information

Jurisdiction:	Irvine
County:	Orange
Size:	65.0 Sq./Miles
Geographic Area:	Southern California
Rural/Urban:	Urban
(L)EA:	CIWMB

State Representatives

No Senate Representative data available

No Assembly Representative data available

US Senate Information | US Representative Information

County Information | City Information

Household Materials Generators (2004)

	Amount	Rank (of 530)
Population:	144,600	40
Population Density:	2,225 /sq mile	
Single Family Units:	31,109	46
Multi-Family Units:	16,655	44
Mobile Home Units:	1,000	129

Business Materials Generators

Taxable Sales (2000):	$3,982,449,000
Employment (2000):	115,486
Businesses (2000):	7,538

Household Materials Collection

Household Diversion (2006)

Residential Curbside Recyclable Collection: Yes

Residential Curbside Greenwaste Collection: Yes

Residential Curbside HHW Collection: No

Business Materials Collection

Business Diversion (2006)

Commercial On-Site Recyclable Pickup: Yes

Commercial On-Site Greenwaste Pickup: No

Top 4 Specific Materials in Household Disposal

(Based on 1999 Statewide Estimates)

Specific Material Type	*%*	*Tons*
Food	20.0%	10,161
Leaves and Grass	10.5%	5,325
Remainder/Composite Organic	9.5%	4,816
Remainder/Composite Paper	8.1%	4,094

More...

Top 4 Specific Materials in Business Disposal

(Based on 1999 Statewide Estimates)

Specific Material Type	*%*	*Tons/Yr*
Food	17.6%	25,479
Remainder/Composite Paper	12.5%	18,143
Uncoated Corrugated Cardboard	6.6%	9,617
Leaves and Grass	6.4%	9,194

More...

Household Disposal by Overall Materials

(Based on 2000 Statewide Estimates)

Material General Category	*%*	*Tons*
Other Organic	45.0%	22,860
Paper	27.5%	13,945
Plastic	8.8%	4,494
Metal	4.6%	2,351
Construction and Demolition	4.5%	2,275
Glass	4.0%	2,050

Business Disposal By General Material Category

(Based on 1999 Statewide Estimates)

Material Category	*%*	*Tons*
Paper	35.8%	51,835
Glass	2.9%	4,250
Metal	5.8%	8,330
Plastic	9.9%	14,325
Other Organic	32.3%	46,758
Construction and Demolition	7.8%	11,365

Mixed Residue	4.0%	2,033
Household Hazardous Waste	0.3%	164
Special Waste	0.0%	12

Household Disposal Rates (2007)
22% of overall disposal

Total Household Waste Disposal (Tons/Yr.)	70,708

Household Hazardous Waste	0.3%	378
Special Waste	0.1%	107
Mixed Residue	0.6%	869

Top 4 Business Types with the Most Disposal
(Based on 2000 Statewide Estimates)

Sector	*%*	*Tons/Yr*
Retail Trade-Restaurants	14.6%	20,708
Services-Business Services	11.5%	16,257
Services-Other Professional	9.1%	12,887
Retail Trade-Other	8.6%	12,118

More...

Business Disposal Rates (2004)
78.0% of overall disposal

Total Business Waste Disposal (Tons/Yr)	250,694

Waste Stream Information Profiles http://www.ciwmb.ca.gov/Profiles/
CIWMB Webmaster: webmaster@ciwmb.ca.gov (916) 341-6141 Disclaimer Information

SUMMARY - WASTE DISPOSAL

	CO2e (tons/Year)	CO2e (Mtons/Year)
Existing	90,076	81,716
Approved/Under Construction	2,744	2,489
Total Existing	92,820	84,205
Pending	1,455	1,320
Project	15,049	13,652.0
Project + Pending	16,504	14,972
Total All	109,324	99,177

Energy From Waste Disposal - Cumulative Base (2013 & 2030)

Jurisdiction Profile for the City of Irvine		
	Business	Residential
Other Organic	32.3%	45.0%
Paper	35.8%	27.5%
Plastic	9.9%	8.8%
Metal	5.8%	4.6%
Construction and Demolition	7.8%	4.5%
Glass	2.9%	4.0%
Mixed Residue	0.6%	4.0%
Household Hazardous Waste	0.3%	0.3%
Special Waste	0.1%	0.0%

Source: California Integrated Waste Management Board.2009. Jurisdiction Profile for Irvine. Based on 1999 and 2000 Statewide Estimates http://www.ciwmb.ca.gov/Profiles/Juris

Project-Generated Solid Waste		
Total Non-Residential SQFT	0	SQFT
Total Business (Tons/day)	0	tons/day
Total Commercial	0	lbs/day

* Based on a disposal rate of 0.045 lbs/sqft/day

Total Units	4,877	Units
Total Household (Tons/day)	30	tons/day
Total Residential	59,646	lbs/day

* Based on a generation rate of 12.23 lbs/household per day

Total	59,646	lbs/day
	30	Tons/day

Project-Generated Solid Waste by Type		
	lbs/day	tons/year
Other Organic	26,841	4,898
Paper	16,403	2,993
Plastic	5,249	958
Metal	2,744	501
Construction and Demolition	2,684	490
Glass	2,386	435
Mixed Residue	2,386	435
Household Hazardous Waste	179	33
Special Waste	0	0
	58,870	10,744
Conversion	0.0005	tons/lbs

WARM FIELDS		
Glass	435	
Mixed Paper (general)	2,993	
Mixed Metals	501	
Mixed Plastics	958	
Mixed Organics	4,898	
Mixed MSW	468	
Concrete[1]	490	
FROM WARM	**2,489**	**Metric Tons of CO2e**
	2,744	**Short Tons of CO2e**
metric tons to short tons conversion	1.102311	tons/metric ton

Energy From Waste Disposal - Existing (2008, 2013, & 2030)

Jurisdiction Profile for the City of Irvine		
	Business	Residential
Other Organic	32.3%	45.0%
Paper	35.8%	27.5%
Plastic	9.9%	8.8%
Metal	5.8%	4.6%
Construction and Demolition	7.8%	4.5%
Glass	2.9%	4.0%
Mixed Residue	0.6%	4.0%
Household Hazardous Waste	0.3%	0.3%
Special Waste	0.1%	0.0%

Source: California Integrated Waste Management Board.2009. Jurisdiction Profile for Irvine. Based on 1999 and 2000 Statewide Estimates http://www.ciwmb.ca.gov/Profiles/Juris

Project-Generated Solid Waste		
Total Non-Residential SQFT	44,518,463	SQFT
Total Business (Tons/day)	1,024	tons/day
Total Commercial	2,047,849	lbs/day
* Based on a disposal rate of 0.045 lbs/sqft/day		
Total Units	2,496	Units
Total Household (Tons/day)	15	tons/day
Total Residential	30,526	lbs/day
* Based on a generation rate of 12.23 lbs/household per day		
Total	2,078,375	lbs/day
	1,039	Tons/day

Project-Generated Solid Waste by Type			
	lbs/day		tons/year
Other Organic	675,192		123,223
Paper	741,525		135,328
Plastic	205,423		37,490
Metal	120,179		21,933
Construction and Demolition	161,106		29,402
Glass	60,609		11,061
Mixed Residue	13,508		2,465
Household Hazardous Waste	6,235		1,138
Special Waste	2,048		374
	1,985,825		362,413
Conversion	0.0005		tons/lbs

WARM FIELDS		
Glass	11,061	
Mixed Paper (general)	135,328	
Mixed Metals	21,933	
Mixed Plastics	37,490	
Mixed Organics	123,223	
Mixed MSW	3,977	
Concrete[1]	29,402	
FROM WARM	**81,716**	**Metric Tons of CO2e**
	90,076	**Short Tons of CO2e**
metric tons to short tons conversion	1.102311	tons/metric ton

Energy From Waste Disposal - Pending Only (2013 & 2030)

Jurisdiction Profile for the City of Irvine		
	Business	Residential
Other Organic	32.3%	45.0%
Paper	35.8%	27.5%
Plastic	9.9%	8.8%
Metal	5.8%	4.6%
Construction and Demolition	7.8%	4.5%
Glass	2.9%	4.0%
Mixed Residue	0.6%	4.0%
Household Hazardous Waste	0.3%	0.3%
Special Waste	0.1%	0.0%

Source: California Integrated Waste Management Board.2009. Jurisdiction Profile for Irvine. Based on 1999 and 2000 Statewide Estimates http://www.ciwmb.ca.gov/Profiles/Juris

Project-Generated Solid Waste		
Total Non-Residential SQFT	0	SQFT
Total Business (Tons/day)	0	tons/day
Total Commercial	0	lbs/day

* Based on a disposal rate of 0.045 lbs/sqft/day

Total Units	2,587	Units
Total Household (Tons/day)	16	tons/day
Total Residential	31,639	lbs/day

* Based on a generation rate of 12.23 lbs/household per day

Total	31,639	lbs/day
	16	Tons/day

Project-Generated Solid Waste by Type		
	lbs/day	tons/year
Other Organic	14,238	2,598
Paper	8,701	1,588
Plastic	2,784	508
Metal	1,455	266
Construction and Demolition	1,424	260
Glass	1,266	231
Mixed Residue	1,266	231
Household Hazardous Waste	95	17
Special Waste	0	0
	31,228	5,699
Conversion	0.0005	tons/lbs

WARM FIELDS		
Glass	231	
Mixed Paper (general)	1,588	
Mixed Metals	266	
Mixed Plastics	508	
Mixed Organics	2,598	
Mixed MSW	248	
Concrete[1]	260	
FROM WARM	**1,320**	**Metric Tons of CO2e**
	1,455	**Short Tons of CO2e**
metric tons to short tons conversion	1.102311	tons/metric ton

Energy From Waste Disposal - Potential Only (2030)

Jurisdiction Profile for the City of Irvine		
	Business	Residential
Other Organic	32.3%	45.0%
Paper	35.8%	27.5%
Plastic	9.9%	8.8%
Metal	5.8%	4.6%
Construction and Demolition	7.8%	4.5%
Glass	2.9%	4.0%
Mixed Residue	0.6%	4.0%
Household Hazardous Waste	0.3%	0.3%
Special Waste	0.1%	0.0%

Source: California Integrated Waste Management Board.2009. Jurisdiction Profile for Irvine. Based on 1999 and 2000 Statewide Estimates http://www.ciwmb.ca.gov/Profiles/Juris

Project-Generated Solid Waste		
Total Non-Residential SQFT	6,380,955	SQFT
Total Business (Tons/day)	147	tons/day
Total Commercial	293,524	lbs/day
* Based on a disposal rate of 0.045 lbs/sqft/day		
Total Units	4,158	Units
Total Household (Tons/day)	25	tons/day
Total Residential	50,852	lbs/day
* Based on a generation rate of 12.23 lbs/household per day		
Total	344,376	lbs/day
	172	Tons/day

Project-Generated Solid Waste by Type		
	lbs/day	tons/year
Other Organic	117,692	21,479
Paper	119,066	21,730
Plastic	33,534	6,120
Metal	19,364	3,534
Construction and Demolition	25,183	4,596
Glass	10,546	1,925
Mixed Residue	3,795	693
Household Hazardous Waste	1,033	189
Special Waste	294	54
	330,507	60,317
Conversion	0.0005	tons/lbs

WARM FIELDS		
Glass	1,925	
Mixed Paper (general)	21,730	
Mixed Metals	3,534	
Mixed Plastics	6,120	
Mixed Organics	21,479	
Mixed MSW	935	
Concrete[1]	4,596	
FROM WARM	**13,652**	**Metric Tons of CO2e**
	15,049	**Short Tons of CO2e**
metric tons to short tons conversion	1.102311	tons/metric ton

Energy Use from Water Demand - Existing

Table 5.14-4

Total project-related water demand	4,719	Gallons per minute
1 AFY = 325,851.429 Gallons	1,537,692,893	gallons per year
	4.2	million gallons per day
Energy-intensity	53,503	Kwh/MG day

CO2 Emissions from Water Demand

	11,938,138	lbs of CO2e/year
	32,707	lbs of CO2e/day
Project-related water-energy	5,969.1	tons of CO2e/year
	5,415.0	metrics tons of CO2e/year

Table 1-3: Electricity Use in Typical Urban Water Systems	Kwh/MG	
	Northern California	Southern California
Water Supply and Conveyance	150	8,900
Water Treatement	100	100
Water Distribution	1,200	1,200
Wastewater Treatment	2,500	2,500
Total	3,950	12,700

California Energy Emission Factors		
0.61	lbs of CO2/kwh	For California
0.0000067	lbs of CH4/kwh	For California
0.00000378	lbs of N20/kwh	For California
Coversion to CO2e	CH4	N20
	21	310
lbs of CO2e/kwh	**0.611**	

Sources

California Energy Commission. 2005, November. California's Water-Energy Relationship. CEC-700.2005-011-SF.

US Energy Information Administration (US EIA). 2002, April. Voluntary Reporting of Greenhouse Gases Program, Average Electricity Factors by State and Region. http://www.eia.doe.gov/oiaf/1605/ee-factors.html

Energy Intensity: Amount of energy consumed per unit of water to perform water management-related actions (i.e., desalting, pumping, presurizing, groundwater extraction, conveyance, and treatment)

Kwh/MG: kilowatt hours per million gallon of water

Conversion:	0.0005	lbs in a ton
	0.9071847	tons in a Metric Ton

Energy Use from Project-Related Water Demand

Table 5.14-5

Total project-related water demand	7,895	AFY
1 AFY = 325,851.429 Gallons	2,572,694,787	gallons per year
	7.0	million gallons per day
Energy-intensity	89,516	Kwh/MG day

CO2 Emissions from Water Demand

	19,973,550	lbs of CO2e/year
	54,722	lbs of CO2e/day
Project-related water-energy	9,986.8	tons of CO2e/year
	9,059.8	metrics tons of CO2e/year

Table 1-3: Electricity Use in Typical Urban Water Systems		Kwh/MG
	Northern California	Southern California
Water Supply and Conveyance	150	8,900
Water Treatement	100	100
Water Distribution	1,200	1,200
Wastewater Treatment	2,500	2,500
Total	3,950	12,700

California Energy Emission Factors		
0.61	lbs of CO2/kwh	For California
0.0000067	lbs of CH4/kwh	For California
0.00000378	lbs of N20/kwh	For California
Coversion to CO2e	CH4	N20
	21	310
lbs of CO2e/kwh	**0.611**	

Sources

California Energy Commission. 2005, November. California's Water-Energy Relationship. CEC-700.2005-011-SF.

US Energy Information Administration (US EIA). 2002, April. Voluntary Reporting of Greenhouse Gases Program, Average Electricity Factors by State and Region. http://www.eia.doe.gov/oiaf/1605/ee-factors.html

Energy Intensity: Amount of energy consumed per unit of water to perform water management-related actions (i.e., desalting, pumping, presurizing, groundwater extraction, conveyance, and treatment)

Kwh/MG: kilowatt hours per million gallon of water

Conversion:	0.0005	lbs in a ton
	0.9071847	tons in a Metric Ton

SUMMARY - WATER-RELATED INDIRECT ENERGY USE

	Tons/Year	Mtons/Year
Existing		
	5,969.1	5,415
Project Increase (Pending + Project) - may include Under Construction + Approved		
	4,017.7	3,645
Total		
	9,986.8	9,059.8

LST - Worst Case Construction Phase

Time Slice 3/24/2010-12/31/2010 Active Days: 203	2,899	1,449	1,686	446
	NOx	CO	PM10	PM2.5
Paving Off-Gas	0	0	0	0
Paving Off Road Diesel	131	71	11	11
Building Off Road Diesel	142	94	10	9
Fugitive Dust	0	0	1,464	304
Demo Off Road Diesel	181	104	10	10
Mass Grading Dust	0	0	80	17
Mass Grading Off Road Diesel	244	124	12	11
	699	393	1,587	362

Excludes on-road emissions (off-site)

Construction Localized Significance Thresholds - IBC

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
17	5.00	25	82

Source Receptor **Central Orange County**
Distance (meters) 25
NOx **183**
CO **1323**
PM10 **13**
PM2.5 **7**

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	5	183	167	180	202	246
	5	183	167	180	202	246
		183	167	180	202	246
CO	5	1323	1830	2498	4018	9336
	5	1323	1830	2498	4018	9336
		1323	1830	2498	4018	9336
PM10	5	13	39	55	88	188
	5	13	39	55	88	188
		13	39	55	88	188
PM2.5	5	7	9	15	32	109
	5	7	9	15	32	109
		7	9	15	32	109

Central Orange County
5.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	183	167	180	202	246
CO	1323	1830	2498	4018	9336
PM10	13	39	55	88	188
PM2.5	7	9	15	32	109

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
17	5	17	5
Distance Increment Below			
25			
Distance Increment Above			
25			

Operation Localized Significance Thresholds - IBC

SRA No.	Acres	Source Receptor Distance (meters)	Source Receptor Distance (Feet)
17	5.00	25	82

Source Receptor **Central Orange County**
Distance (meters) 25
NOx **183**
CO **1323**
PM10 **3**
PM2.5 **2**

	Acres	**25**	**50**	**100**	**200**	**500**
NOx	5	183	167	180	202	246
	5	183	167	180	202	246
		183	167	180	202	246
CO	5	1323	1830	2498	4018	9336
	5	1323	1830	2498	4018	9336
		1323	1830	2498	4018	9336
PM10	5	3	10	14	22	45
	5	3	10	14	22	45
		3	10	14	22	45
PM2.5	5	2	3	4	8	27
	5	2	3	4	8	27
		2	3	4	8	27

Central Orange County
5.00 Acres

	25	**50**	**100**	**200**	**500**
NOx	183	167	180	202	246
CO	1323	1830	2498	4018	9336
PM10	3	10	14	22	45
PM2.5	2	3	4	8	27

Acre Below		**Acre Above**	
SRA No.	Acres	SRA No.	Acres
17	5	17	5
Distance Increment Below			
25			
Distance Increment Above			
25			

TRAFFIC LAND USE TABLE

		Existing		2013 Pending		PENDING		Post-2030 Pending			Project Only
Land Use	Unit	No Project	Converted to match Project Description	No Project	With Project		Project - Existing (without Density Bonus)	No Project	Total Inventory	Converted to match Project Description	
Condominiums	DU	1,230	1,230	5,320	8,352	3,032		5,320	12,448	12,448	7,128
Apartments	DU	3,294	3,339	4,126	3,681	-445		4,126	3,743	3,743	-383
RESIDENTIAL TOTAL	DU	4,524	4,569	9,446	12,033	2,587	11,667	9,446	16,191	16,191	6,745
HOTEL/Extended-Stay Hotel	ROOM	2,496	2,496	3,456	3,293	-163	342	3,456	3,490	2,954	34
Commercial (EQ)	TSF	1,217.843	1,277.146	1,508.134	1,330.141	-177.993	377.699	1,508.134	1,648.932	1,794.480	141
Office	TSF	26,168.093	27,442.357	29,248.302	30,274.324	1,026.022	7,498.168	29,248.302	33,311.104	36,251.410	4,063
Manufacturing	TSF	14,395.144	15,096.120	13,865.388	13,672.740	-192.648	-2,657.136	13,865.388	11,439.961	12,449.744	-2,425
Warehouse	TSF	376.326	394.651	399.430	415.186	15.756	-2.500	399.430	371.033	403.783	-28
Mini-Warehouse	TSF	293.878	308.188	293.878	293.878	0.000	-293.878	293.878			-294
Restaurant	TSF			37.387				37.387			-37
Fast Food Restaurant	TSF			13.631				13.631			-14
Church/Synagogue	TSF			19.701				19.701			-20
NONRESIDENTIAL TOTAL	TSF	42,451.284	44,518.463	45,385.851	45,986.269	671.137	4,922.353	45,385.851	46,771.030	50,899.418	1,385
Park	ACRE					0	14		14.0		14

Source: Parson Brinkerhoff

PA-36: IRVINE BUSINESS CENTER

	EXISTING	CUMULATIVE BASELINE			E+CB	PENDING	P+E+CB	FULL BUILDOUT (2030)	POTENTIAL	INCREASE
	Existing (1) (2008)	Under Construction (2)	Approved (3)	Total 2 and 3	Total (2013)		sub- Total (2013)	Pending+ Potential+ Existing+ Cumulative Baseline	Increase (2030)	Potential + Pending (2030)
Residential Base Units	4,524	2,111	2,766	4,877	9,401	2,522	11,923	15,000	3,077	5,599
Density Bonus	45	0			45	65	110	1,191	1,081	1,191
Total	4,569	2,111	2,766		9,446	2,587	12,033	16,191	4,158	6,745
Non-Residential	44,518,463	0	0		44,518,463	0		50,899,418	6,380,955	6,380,955
Hotels	2496	0	0		2496	458		2,954		

	Without Density Bonus	With Density Bonus	SQFT
Increase from 1.	11,667	11,622	6,380,955
Increase from 1+2	9,556	9,511	6,380,955
Increase from 2 + 3	11,314	11,314	0
Increase from 1 + 2 + 3	6,790	6,745	6,380,955

SCENARIOS FOR AIR QUALITY MODELING

	Scenario Name	Notes	Units
Existing		Approved No Projec Doesn't include 45 Density Bonus Units, Under Construction or Approved Units	4,524
Existing (1) + Con (2) + App (3)		2030 Pending No Project	9,446
Pending		2013 Pending With Project - 2013 Pending No Project	2,587
Project		2030 Pending With Project - 2030 Pending No Project	6,745

SUMMARY - STATIONARY SOURCES (COMMERCIAL & RESIDENTIAL SECTOR)

2030 Analysis

SUMMER

		VOC	NOx	CO	SO2	PM10	PM2.5
Existing	Total	530.11	261.81	212.06	0.00	0.52	0.51
Approved	Total	262.32	47.83	21.90	0.00	0.10	0.10
Existing + Under Construction + Approved [Cumulative]							
	Total	792.43	309.64	233.96	0.00	0.62	0.61
Pending	Total	140.93	29.07	16.96	0.00	0.07	0.06
Project	Total	264.59	84.94	60.56	0.00	0.18	0.18
Net Increase: Pending + Project							
	Total	405.52	114.01	77.52	0.00	0.25	0.24
Total Emissions Inventory							
	Total	1,197.95	423.65	311.48	0.00	0.87	0.85

WINTER

		VOC	NOx	CO	SO2	PM10	PM2.5
Existing	Total	530.73	286.93	211.99	0.16	2.52	2.49
Approved	Total	263.78	74.78	31.83	0.17	2.27	2.25
Existing + Under Construction + Approved [Cumulative]							
	Total	794.51	361.71	243.82	0.33	4.79	4.74
Pending	Total	141.52	43.33	19.96	0.09	1.22	1.19
Project	Total	265.45	107.85	64.16	0.15	2.02	2.00
Net Increase: Pending + Project							
	Total	406.97	151.18	84.12	0.24	3.24	3.19
Total Emissions Inventory							
	Total	1,201.48	512.89	327.94	0.57	8.03	7.93

2030 Analysis

ANNUAL (Tons/Year)

		VOC	NOx	CO	SO2	PM10	PM2.5	CO2
Existing								
	Natural Gas	3.50	47.75	36.73	0.00	0.09	0.09	57,932
	Hearth	0.01	0.01	0.01	0.00	0.00	0.00	16
	Landscape	0.16	0.03	1.97	0.00	0.01	0.01	4
	Consumer Products	42.78						
	Architectural Coatings	50.31						
	Total	96.76	47.79	38.71	0.00	0.10	0.10	57,951
Approved								
	Natural Gas	0.67	8.73	3.71	0.00	0.02	0.02	11,140
	Hearth	0.02	0.01	0.01	0.00	0.00	0.00	17
	Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1
	Consumer Products	45.66						
	Architectural Coatings	1.52						
	Total	47.91	8.75	4.28	0.00	0.02	0.02	11,158
Existing + Under Construction + Approved [Cumulative]								
	Natural Gas	4.17	56.48	40.44	0.00	0.11	0.11	69,071
	Hearth	0.03	0.02	0.02	0.00	0.00	0.00	33
	Landscape	0.20	0.04	2.53	0.00	0.01	0.01	5
	Consumer Products	88.44	0.00	0.00	0.00	0.00	0.00	0
	Architectural Coatings	51.83	0.00	0.00	0.00	0.00	0.00	0
	Total	144.67	56.54	42.99	0.00	0.12	0.12	69,109
Pending								
	Natural Gas	0.41	5.30	2.53	0.00	0.01	0.01	6,712
	Hearth	0.00	0.01	0.00	0.00	0.00	0.00	9
	Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1
	Consumer Products	24.22						
	Architectural Coatings	1.05						
	Total	25.72	5.32	3.09	0.00	0.01	0.01	6,722
Project								
	Natural Gas	1.16	15.49	9.93	0.00	0.03	0.03	19,154
	Hearth	0.01	0.01	0.00	0.00	0.00	0.00	15
	Landscape	0.09	0.02	1.13	0.00	0.00	0.00	2
	Consumer Products	38.93						
	Architectural Coatings	8.11						
	Total	48.30	15.52	11.06	0.00	0.03	0.03	19,170
Net Increase: Pending + Project								
	Natural Gas	1.57	20.79	12.46	0.00	0.04	0.04	25,865
	Hearth	0.01	0.02	0.00	0.00	0.00	0.00	24
	Landscape	0.13	0.03	1.69	0.00	0.00	0.00	3
	Consumer Products	63.15	0.00	0.00	0.00	0.00	0.00	0
	Architectural Coatings	9.16	0.00	0.00	0.00	0.00	0.00	0
	Total	74.02	20.84	14.15	0.00	0.04	0.04	25,892
Total Emissions Inventory								
	Natural Gas	5.74	77.27	52.90	0.00	0.15	0.15	94,936
	Hearth	0.04	0.04	0.02	0.00	0.00	0.00	57
	Landscape	0.33	0.07	4.22	0.00	0.01	0.01	8
	Consumer Products	151.59	0.00	0.00	0.00	0.00	0.00	0
	Architectural Coatings	60.99	0.00	0.00	0.00	0.00	0.00	0
	Total	218.69	77.38	57.14	0.00	0.16	0.16	95,001

2008 Analysis

SUMMER

		VOC	NOx	CO	SO2	PM10	PM2.5
Existing	Total	530.22	261.80	212.87	0.00	0.51	0.50
Existing + Under Construction + Approved [Cumulative]							
	Total	530.22	261.80	212.87	0.00	0.51	0.50
Pending	Total						
Project	Total						
Net Increase: Pending + Project							
	Total	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions Inventory							
	Total	530.22	261.80	212.87	0.00	0.51	0.50

WINTER

		VOC	NOx	CO	SO2	PM10	PM2.5
Existing	Total	530.73	286.93	211.99	0.16	2.52	2.49
Approved	Total						
Existing + Under Construction + Approved [Cumulative]							
	Total	530.73	286.93	211.99	0.16	2.52	2.49
Pending	Total						
Project	Total						
Net Increase: Pending + Project							
	Total	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions Inventory							
	Total	530.73	286.93	211.99	0.16	2.52	2.49

2008 Analysis

ANNUAL (Tons/Year)

	VOC	NOx	CO	SO2	PM10	PM2.5	CO2
Existing							
Natural Gas	3.50	47.75	36.73	0.00	0.09	0.09	57,932
Hearth	0.01	0.01	0.01	0.00	0.00	0.00	16
Landscape	0.18	0.20	2.12	0.00	0.01	0.01	4
Consumer Products	42.78						
Architectural Coatings	50.31						
Total	96.76	47.78	38.86	0.00	0.10	0.10	57,951

2013 Analysis

SUMMER

		VOC	NOx	CO	SO2	PM10	PM2.5
Existing	Total	530.11	261.81	212.06	0.00	0.52	0.51
Approved	Total	262.45	47.85	23.44	0.00	0.10	0.10
Existing + Under Construction + Approved [Cumulative]							
	Total	792.56	309.66	235.50	0.00	0.62	0.61
Pending	Total	140.93	29.07	16.96	0.00	0.07	0.06
Project	Total						
Net Increase: Pending + Project							
	Total	140.93	29.07	16.96	0.00	0.07	0.06
Total Emissions Inventory							
	Total	933.49	338.73	252.46	0.00	0.69	0.67

WINTER

		VOC	NOx	CO	SO2	PM10	PM2.5
Existing	Total	530.73	286.93	211.99	0.16	2.52	2.49
Approved	Total	263.78	74.78	31.83	0.17	2.27	2.25
Existing + Under Construction + Approved [Cumulative]							
	Total	794.51	361.71	243.82	0.33	4.79	4.74
Pending	Total	141.52	43.33	19.96	0.09	1.22	1.19
Project	Total						
Net Increase: Pending + Project							
	Total	141.52	43.33	19.96	0.09	1.22	1.19
Total Emissions Inventory							
	Total	936.03	405.04	263.78	0.42	6.01	5.93

2013 Analysis

ANNUAL (Tons/Year)

	VOC	NOx	CO	SO2	PM10	PM2.5	CO2
Existing							
Natural Gas	3.50	47.75	36.73	0.00	0.09	0.09	57,932
Hearth	0.01	0.01	0.01	0.00	0.00	0.00	16
Landscape	0.16	0.03	1.97	0.00	0.01	0.01	4
Consumer Products	42.78						
Architectural Coatings	50.31						
Total	96.76	47.79	38.71	0.00	0.10	0.10	57,951
Approved							
Natural Gas	0.67	8.73	3.71	0.00	0.02	0.02	11,140
Hearth	0.02	0.01	0.01	0.00	0.00	0.00	17
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1
Consumer Products	45.66						
Architectural Coatings	1.52						
Total	47.91	8.75	4.28	0.00	0.02	0.02	11,158
Existing + Under Construction + Approved [Cumulative]							
Natural Gas	4.17	56.48	40.44	0.00	0.11	0.11	69,071
Hearth	0.03	0.02	0.02	0.00	0.00	0.00	33
Landscape	0.20	0.04	2.53	0.00	0.01	0.01	5
Consumer Products	88.44	0.00	0.00	0.00	0.00	0.00	0
Architectural Coatings	51.83	0.00	0.00	0.00	0.00	0.00	0
Total	144.67	56.54	42.99	0.00	0.12	0.12	69,109
Pending							
Natural Gas	0.41	5.30	2.53	0.00	0.01	0.01	6,712
Hearth	0.00	0.01	0.00	0.00	0.00	0.00	9
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1
Consumer Products	24.22						
Architectural Coatings	1.05						
Total	25.72	5.32	3.09	0.00	0.01	0.01	6,722
Net Increase: Pending + Project							
Natural Gas	0.41	5.30	2.53	0.00	0.01	0.01	6,712
Hearth	0.00	0.01	0.00	0.00	0.00	0.00	9
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1
Consumer Products	24.22	0.00	0.00	0.00	0.00	0.00	0
Architectural Coatings	1.05	0.00	0.00	0.00	0.00	0.00	0
Total	25.72	5.32	3.09	0.00	0.01	0.01	6,722
Total Emissions Inventory							
Natural Gas	4.58	61.78	42.97	0.00	0.12	0.12	75,783
Hearth	0.03	0.03	0.02	0.00	0.00	0.00	42
Landscape	0.24	0.05	3.09	0.00	0.01	0.01	6
Consumer Products	112.66	0.00	0.00	0.00	0.00	0.00	0
Architectural Coatings	52.88	0.00	0.00	0.00	0.00	0.00	0
Total	170.39	61.86	46.08	0.00	0.13	0.13	75,831

LAND USE ASSUMPTIONS FOR URBEMIS

		Existing	Under Construction & Approved	Existing + Approved + Construction	Pending	Project Increase	Increase Pending + Project	IBC Post-2030 Inventory
Condominiums	DU	1,230	4,877	5,320	2,587	3,754	6,341	12,448
Apartments	DU	3,339	0	4,126		404	404	3,743
RESIDENTIAL TOTAL	*DU*	*4,569*	*4,877*	*9,446*	*2,587*	*4,158*	*6,745*	*16,191*
HOTEL/Extended-Stay Hotel	ROOM	2,496		2,496	485		485	2,981
Commercial (EQ)	TSF	1,277.146		1,277.146		517.334	517.334	1,794.480
Office	TSF	27,442.357		27,442.357		5,863.621	5,863.621	36,251.410
Manufacturing	TSF	15,096.120		15,096.120				12,449.744
Warehouse	TSF	394.651		394.651				403.783
Mini-Warehouse	TSF	308.188		308.188				0.000
Total Warehouse	TSF	702.840		702.840				403.783
Restaurant	TSF							50,899.418
Fast Food Restaurant	TSF							
Church/Synagogue	TSF							
NONRESIDENTIAL TOTAL	*TSF*	*44,518.463*		*44,518.463*		*6,380.955*	*6,380.955*	*50,899.418*
Park	ACRE							

Note: Urbemis model is based on the Land Use Matrix provided by Parson Brinkerhoff. However, square-footage of the non-residential uses was increased proportionately for all non-residential uses because the hotel rooms did not indicate the square-footage. While it is assumed that the hotel rooms account for the remaining existing non-residential uses, air quality emissions from hotel rooms was added to the non-residential square-foot base and pending emissions. Consequently, air quality emissions are conservative because area-source emissions include 44,518,463 square feet of non-residential uses plus 2,496 hotel rooms in existing conditions and 50,899,418 square-feet of non-residential plus 2,981 hotel rooms by year 2030.

Greenhouse Gas Emissions - Transportation 2008

		Existing
Trips/day		493,014
VMT/day		3,769,187
	Running Emission Rate (lbs/mile)	
CO	0.01	34,410
PM10	0.00	490
NOx	0.00	5,692
ROG	0.00	2,352
CO2	1.51	5,679,943
SO2	0.00	58
	Starting Emissions (lbs/trip)	
CO	0.03	16,287
PM10	0.00	17
NOx	0.00	1,045
ROG	0.00	1,434
CO2	0.44	215,704
SO2	0.00	2
	Evaporative Emissions	
VOC (HS)	0.00	267
VOC (Dirunal)	0.01	3,982
VOC (Resting)	0.00	1,035
VOC (Running)	0.00	61
Total ROG		5,345

Greenhouse Gas Emissions - Transportation 2008

Total Emissions	SCAQMD Threshold	
CO	550	**50,697**
PM10	150	**508**
PM2.5	55	**503**
NOx	55	**6,737**
ROG	55	**9,131**
CO2		5,895,647
SO2	150	60

assumes PM2.5 is 99 percent of PM10 for mobile sources

	1 Ton = 2,000 lbs	
CO		8,872
PM10		89
NOx		88
ROG		1,179
CO2		1,598
SO2		1,031,738

	1 Ton = 0.9071847 Mtons	
CO		8,049
PM10		81
NOx		80
ROG		1,069
CO2		1,450
SO2		935,977

convert to MMTons **0.00**

Greenhouse Gas Emissions - Transportation 2008
Assumptions

SCAQMD. CEQA Air Quality Handbook. Appendix Table A9-5-F, Input Assumptions to Determine Speed by Trip Type.
Assumes annual is daily * 350 days a year to account for weekend trip reductions.
County Average Speeds (miles per hour)

	1987	2010
San Bernardino County:	26.0	23.0

Based on SCAQMD. 1993. CEQA Air Quality Handbook. Table A9-5-I, Estimating Temperatures Needed to Choose Composite Emission Factors:

	Orange (Area 1)
	CO 60
	NOx 70
	ROG/VOC 85

Starting emissions:	assumes that cars rest for an average of 480 minutes between trips, based on an 8 hour workday (60 minutes/hour * 8 hours = 480 minutes)
Hot Soak:	Assumes 20 minutes
Diurnal Loss	Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start
Resting Loss	Assumes 8 hours for partial day resting loss, based on an 8-hour workday
Evaportative	Assumes 60 minutes for evaportative running loss emissions

Greenhouse Gas Emissions - Transportation 2013

		Vehicle Miles Traveled		
		Existing	**Existing + Constructed + Approved**	**Pending**
	Trips/day	493,014	590,399	17,063
	VMT/day	3,769,187	4,206,172	102,347
	Running Emission Rate (lbs/mile)	**Emissions (lbs/day)**		
CO	0.01	23,051	25,723	626
PM10	0.00	474	529	13
NOx	0.00	3,872	4,321	105
ROG	0.00	1,496	1,669	41
CO2	1.51	5,681,696	6,340,410	154,279
SO2	0.00	58	65	2
		Emissions (lbs/day)		
	Starting Emissions (lbs/trip)			
CO	0.02	11,799	14,130	408
PM10	0.00	21	25	1
NOx	0.00	787	942	27
ROG	0.00	995	1,191	34
CO2	0.43	212,582	254,573	7,357
SO2	0.00	2	3	0
	Evaporative Emissions	**Emissions (lbs/day)**		
VOC (HS)	0.00	221	264	8
VOC (Dirunal)	0.01	2,974	3,561	103
VOC (Resting)	0.00	791	948	27
VOC (Running)	0.00	46	55	2
Total ROG		4,031	4,828	140

Greenhouse Gas Emissions - Transportation 2013

Total Emissions	SCAQMD Threshold	Emissions (lbs/day)		
CO	550	34,850	39,853	1,034
PM10	150	494	553	14
PM2.5	55	489	548	13
NOx	55	4,659	5,264	132
ROG	55	6,522	7,688	215
CO2		5,894,278	6,594,984	161,636
SO2	150	60	68	2

assumes PM2.5 is 99 percent of PM10 for mobile sources

	1 Ton = 2,000 lbs	Emissions (tons/year)		
CO		6,099	6,974	181
PM10		87	97	2
NOx		86	96	2
ROG		815	921	23
CO2		1,141	1,345	38
SO2		1,031,499	1,154,122	28,286

	1 Ton = 0.9071847 Mtons	Emissions (Mtons/year)		
CO		5,533	6,327	164
PM10		78	88	2
NOx		78	87	2
ROG		740	836	21
CO2		1,035	1,220	34
SO2		935,760	1,047,002	25,661
convert to MMTons		**0.00**	**0.00**	**0.00**

Greenhouse Gas Emissions - Transportation 2013
Assumptions

SCAQMD. CEQA Air Quality Handbook. Appendix Table A9-5-F, Input Assumptions to Determine Speed by Trip Type.
Assumes annual is daily * 350 days a year to account for weekend trip reductions.
County Average Speeds (miles per hour)

	1987	2010	2035	2013
San Bernardino County:	26.0	23.0	19.7	22.6

Based on SCAQMD. 1993. CEQA Air Quality Handbook. Table A9-5-I, Estimating Temperatures Needed to Choose Composite Emission

	Orange (Area 1)
CO	60
NOx	70
ROG/VOC	85

Starting emissions:	assumes that cars rest for an average of 480 minutes between trips, based on an 8 hour workday (60 minutes/hour * 8 hours = 480 minutes)
Hot Soak:	Assumes 20 minutes
Diurnal Loss	Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start
Resting Loss	Assumes 8 hours for partial day resting loss, based on an 8-hour workday
Evaportative	Assumes 60 minutes for evaportative running loss emissions

Greenhouse Gas Emissions - Transportation 2030

		Vehicle Miles Traveled				
		Existing	Existing + Constructed + Approved	Pending	Project	Total: Existing + Approved + Pending + Project
	Trips/day	493,014	590,399	17,063	88,874	696,336
	VMT/day	3,769,187	4,206,172	102,347	449,920	4,758,439
	Running Emission Rate (lbs/mile)	Emissions (lbs/day)				
CO	0.00	9,456	10,553	257	1,129	11,938
PM10	0.00	457	510	12	55	577
NOx	0.00	1,404	1,567	38	168	1,773
ROG	0.00	582	649	16	69	734
CO2	1.54	5,787,917	6,458,946	157,163	690,892	7,307,000
SO2	0.00	58	65	2	7	73
	Starting Emissions (lbs/trip)	Emissions (lbs/day)				
CO	0.01	4,830	5,784	167	871	6,822
PM10	0.00	346	414	12	62	488
NOx	0.00	318	381	11	57	450
ROG	0.00	366	439	13	66	517
CO2	0.43	211,160	252,871	7,308	38,065	298,244
SO2	0.00	2	3	0	0	3
	Evaporative Emissions	Emissions (lbs/day)				
VOC (HS)	0.00	116	139	4	21	164
VOC (Dirunal)	0.00	1,530	1,833	53	276	2,161
VOC (Resting)	0.00	452	541	16	82	639
VOC (Running)	0.00	27	33	1	5	38
Total ROG		2,126	2,546	74	383	3,003

Greenhouse Gas Emissions - Transportation 2030

Total Emissions	SCAQMD Threshold	Emissions (lbs/day)				
CO	550	14,286	16,337	424	1,999	18,760
PM10	150	803	924	24	117	1,065
PM2.5	55	795	915	24	116	1,054
NOx	55	1,723	1,948	49	225	2,223
ROG	55	3,074	3,634	102	519	4,254
CO2		5,999,078	6,711,817	164,471	728,957	7,605,245
SO2	150	60	68	2	7	77

assumes PM2.5 is 99 percent of PM10 for mobile sources

	1 Ton = 2,000 lbs	Emissions (tons/year)				
CO		2,500	2,859	74	350	3,283
PM10		140	162	4	20	186
NOx		139	160	4	20	185
ROG		301	341	9	39	389
CO2		538	636	18	91	745
SO2		1,049,839	1,174,568	28,782	127,567	1,330,918

	1 Ton = 0.9071847 Mtons	Emissions (Mtons/year)				
CO		2,268	2,594	67	317	2,978
PM10		127	147	4	19	169
NOx		126	145	4	18	167
ROG		274	309	8	36	353
CO2		488	577	16	82	675
SO2		952,397	1,065,550	26,111	115,727	1,207,388
convert to MMTons		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Greenhouse Gas Emissions - Transportation 2030
Assumptions

SCAQMD. CEQA Air Quality Handbook. Appendix Table A9-5-F, Input Assumptions to Determine Speed by Trip Type.
Assumes annual is daily * 350 days a year to account for weekend trip reductions.
County Average Speeds (miles per hour)

	1987	2010	2035	2013
San Bernardino County:	26.0	23.0	19.7	22.6

Based on SCAQMD. 1993. CEQA Air Quality Handbook. Table A9-5-I, Estimating Temperatures Needed to Choose

	Orange (Area 1)
CO	60
NOx	70
ROG/VOC	85

Starting emissions:	assumes that cars rest for an average of 480 minutes between trips, based on an 8 hour workday (60 minutes/hour * 8 hours = 480 minutes)
Hot Soak:	Assumes 20 minutes
Diurnal Loss	Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start
Resting Loss	Assumes 8 hours for partial day resting loss, based on an 8-hour workday
Evaportative	Assumes 60 minutes for evaportative running loss emissions

TABLE A9 - 5 - E

FREEWAY/NON-FREEWAY AND WORK/NON-WORK VMT AND ADT PERCENT ASSUMPTIONS, BY PERIOD OF DAY
(in Percent)

First estimate project related ADT. By using the following ADT rates determine work and nonwork related percent of ADT for that time period. Using these rates determine vehicle miles traveled by trip-type. By using the following VMT rates determine percent VMT on freeways and non-freeways for that time period. Use next table to determine speeds. Speeds are needed to determine emission factors to be used.

		Percent VMT By Road-Type and Period of the Day							
Travel Period of the Day		Am Peak		Off Peak		Pm Peak		Daily	
TypesTrip-Types	Year	1987	2010	1987	2010	1987	2010	1987	2010
Percent VMT Traveled									
on Freeways		51.1	51.1	52.2	52.2	47.0	47.0	50.6	50.6
on Non-freeways		48.9	48.9	47.8	47.8	53.0	53.0	49.4	49.4
		Percent ADT By Trip-Type and Period of the Day							
Percent Trips Associated With									
Work-ADT		58.88	58.95	26.47	26.6	32.46	32.61	- -	- -
Non work- ADT		41.12	41.05	73.53	73.4	67.54	67.38	- -	- -

Source: Based on LARTS (Prepared by CalTrans District 7, November 15, 1991)

TABLE A9 - 5 - F

INPUT ASSUMPTIONS TO DETERMINE SPEEDS BY TRIP-TYPE
(Miles per Hour)

Include an assumption for the road-type. Select recommended default for the travel period of the day for each pollutant. Include the appropriate speed for each trip-type. Select the emission factors from tables 9 - 5 - J, K, L, or N for that speed. Then use the formula at the beginning of Table A9 - 5. Weighted average between weekday and weekend speeds should be determined for each time period before selecting the emission factor.

		Traveling Speeds by Counties, Road-type and Period of the Day							
Travel Period of the Day		Am Peak*		Off Peak*		Pm Peak*		Daily	
Area Types Road-Types	Year	1987	2010	1987	2010	1987	2010	1987	2010
*Recommended Defaults		(CO, and NOx)		(ROCs)		(SOx, PM10 & Pb)			
Regional Average Speeds		22.8	21.2	31.8	30.4	19.6	17.4	25.4	23.2
HOV (mitigation)		*34.0*	*31.0*	*58.0*	*53.0*	*35.0*	*28.0*	*49.0*	*40.0*
Freeways		33.0	33.0	51.0	49.0	29.0	26.0	40.0	38.0
Non-Freeway		18.7	16.0	27.7	26.0	14.7	12.0	20.7	17.7
Major		17.0	15.0	29.0	28.0	15.0	12.0	21.0	18.0
Primary		21.0	15.0	29.0	25.0	15.0	11.0	22.0	17.0
Secondary		18.0	18.0	25.0	25.0	14.0	13.0	19.0	18.0
County Average Speeds									
Los Angeles		24.0	21.0	34.0	33.0	18.0	15.0	26.0	23.0
Orange County		22.0	21.0	36.0	36.0	19.0	18.0	27.0	26.0
Riverside		40.0	27.0	46.0	42.0	34.0	22.0	41.0	32.0
San Bernardino		34.0	27.0	39.0	35.0	30.0	20.0	35.0	28.0

* Use *AM Peak Speeds* to select emission factors for CO, and NOx, use *Off Peak Speeds* to select emission factors for ROC; use *PM Peak Speeds* for SOx, PM10 and Pb.

The District takes limited measurements of reactive organic compounds (ROCs). Temperature estimates are based on the 10 worst ozone exceedance days. Ozone is formed from reactions between ROC and NOx in the presence of sunlight. Greater levels of ozone are formed at higher temperatures. ROC emission increases are high during high temperatures due to evaporative and combustive emissions, with minimal evaporative emissions during cooler weather. For Areas 1 and 2, ROC emission factors were adjusted to 85°F, while for Area 3, these were adjusted to 100°F. (0.92 factor was used to convert Total Organic Compounds to Reactive Organic Gases.) Following are the pollutant concentrations exceedance day temperatures and selected temperatures for the composite emission factors:

Time of the Day	Exceedance Temperature 6-11	12-14	15-17	Temperatures For Each Area (°F)
Carbon Monoxide (CO)				
Orange (Area 1)	*60*	71	66	**60**
Los Angeles Coastal (Area 2)	*57.5*	70	65	**60**
Los Angeles Inland (Area 2)	*60.5*	73	64	**60**
Riverside (Area 3)	*64*	75	68	**60**
San Bernardino (Area 4)	*62.5*	79	73	**60**
Oxides of Nitrogen (NOx)				
Orange (Area 1)	*71*	82	77	**70**
Los Angeles Coastal (Area 2)	*67.5*	76	72	**75**
Los Angeles Inland (Area 2)	*82.5*	91	83	**75**
Riverside (Area 3)	*77*	87	81	**80**
San Bernardino (Area 4)	*82.5*	93	86	**80**
Reactive Organic Compounds (ROC)				
Orange (Area 1)	75	83	80	**85**
Los Angeles Coastal (Area 2)	71	78	75	**85**
Los Angeles Inland (Area 2)	83.5	93.5	88	**85**
Riverside (Area 3)	88.25	99.5	96	**100**
San Bernardino (Area 4)	86.0	99.5	97	**100**

Tables A9 - 5 - J - 1 thru 10, and Table A9 - 5 - L
Emission factors for passenger vehicles

Tables A9 - 5 - K - 1 thru 10, and Table A9 - 5 - L
Emission factors for trucks

Tables A9 - 5 - N - 1 thru 3
Emission factors for motorcycles

Tables A11 - 5 - H - 1 thru 10
Emission factors for buses

PA-36: IRVINE BUSINESS CENTER

DAILY					
POST 2030	**Trips**	**Sub- With Vs Without**	**VMT/1000**	**OD/10**	**Trip Length (miles)**
Approved No Project	493,014		3,769,187	451,042	8.36
Approved With Project	676,922	183,908	4,718,336	599,053	7.88
Pending No Project	590,399		4,206,172	529,066	7.95
Pending With Project	679,273	88,874	4,656,091	601,065	7.75
Year 2013					
Approved No Project	493,026		3,646,651	447,102	8.16
Approved With Project	590,858	97,832	4,154,466	526,666	7.89
Pending No Project	590,359		4,120,324	525,467	7.84
Pending With Project	607,422	17,063	4,222,671	540,271	7.82

SCENARIOS FOR AIR QUALITY MODELING	DAILY		**Trips**	**VMT**	trip length	annual VMT/person
Existing (5,524 units)	Approved No Project		493,014	3,769,187	7.65	15,198
Existing + Cumulative Base (11,667 units)	2030 Pending No Project		590,399	4,206,172	7.12	15,849
Pending (2,587 units)	2013 Pending With Project - 2013 Pending No Project		17,063	102,347	6.00	11,108
Potential (6,745 units	2030 Pending With Project - 2030 Pending No Project		88,874	449,920	5.06	9,368
Potential + Pending			105,937	552,266	5.21	9,648
Project Total (16,191 units)			696,336	4,758,438	6.83	14,749
		Increase	105,937	552,266	-0.29	-1,100

	Existing	Approved/Under Construction	Pending	Potential	Potential + Pending	Total Project
People	5,940	6,340	3,363	5,405	8,769	21,048
Employees	84,585	0	0	12,124	12,124	96,709
Total	90,525	6,340	3,363	17,529	20,892	117,757
People	1.3	people/unit				
Employees	1.9	Employees/1,000 SQFT				
		96,865				

BAAQMD. Source Inventory of Bay Area Greenhouse Gas Emissions

DISTILLATE FUEL (FUEL OIL, DIESEL)			
CO2	CH4	N2O	
22.384	0.000534	0.0001928	
1	21	310	CO2e (GWP)
22.384	0.011214	0.059768	22.454982
99.7%	**0.0%**	**0.3%**	

MOTOR GASOLINE			
CO2	CH4	N2O	
19.564	0.00055	0.0002	
1	21	310	CO2e
19.564	0.01155	0.062	19.63755
99.6%	**0.1%**	**0.3%**	

Title:	Orange County-2008
Version:	Emfac2007 V2.3 Nov, 1 2006
Run Date:	2/19/2009 14:02:59
Scen Year:	2008- All Model years in the range 1965 to 2008 selected
Season:	Annual
Area:	Orange County

Running Emissions (grams/mile)

Pollutant Name: Carbon Monoxide (CO) **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	20.418	42.354	0	0	4.257
15	4.017	4.394	5.202	12.598	16.185	28.383	4.744
20	3.571	3.911	4.447	9.461	11.891	25.832	**4.141**
23	3.352	3.672	4.102	8.254	10.155	25.002	3.862
25	3.222	3.53	3.907	7.593	9.244	24.707	3.7

Pollutant Name: PM10 **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.039	1.131	0	0	0.039
15	0.023	0.043	0.043	0.657	0.404	0.04	0.052
20	0.017	0.031	0.032	0.484	0.314	0.034	**0.038**
23	0.014	0.026	0.027	0.434	0.275	0.032	0.033
25	0.013	0.024	0.025	0.405	0.253	0.031	0.03

Pollutant Name: PM10 (Tire Wear) **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.008	0.008	0.009	0.02	0.009	0.004	0.008
20	0.008	0.008	0.009	0.02	0.009	0.004	**0.008**
23	0.008	0.008	0.009	0.02	0.009	0.004	0.008
25	0.008	0.008	0.009	0.02	0.009	0.004	0.008

Pollutant Name: PM10 (Break Wear) **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.013	0.013	0.013	0.018	0.013	0.006	0.013
20	0.013	0.013	0.013	0.018	0.013	0.006	**0.013**
23	0.013	0.013	0.013	0.018	0.013	0.006	0.013
25	0.013	0.013	0.013	0.018	0.013	0.006	0.013

Pollutant Name: Oxides of Nitrogen (NOx) **Temperature: 70F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.65	68.926	0	0	2.57
15	0.285	0.433	0.791	11.407	17.122	0.94	0.766
20	0.259	0.39	0.723	10.034	14.692	0.971	**0.685**
23	0.247	0.37	0.693	9.721	13.72	0.99	0.658
25	0.24	0.359	0.677	9.552	13.233	1.004	0.643

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.533	9.234	0	0	0.793
15	0.293	0.291	0.437	2.011	2.207	3.481	0.387
20	0.219	0.218	0.324	1.218	1.637	2.995	**0.283**
23	0.188	0.187	0.277	1.054	1.395	2.798	0.245
25	0.172	0.171	0.251	0.96	1.264	2.699	0.224

Pollutant Name: **Carbon Dioxide (CO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	824.898	4487.966	0	0	253.826
15	687.61	845.471	1134.037	1793.95	2326.995	171.255	837.547
20	557.937	686.366	913.883	1594.707	2273.433	151.204	**683.544**
23	502.238	617.999	820.204	1540.23	2251.621	141.577	618.429
25	472.098	580.997	769.754	1509.002	2240.145	136.01	583.173

Pollutant Name: **Sulfur Dioxide (SO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.008	0.043	0	0	0.002
15	0.007	0.008	0.011	0.017	0.022	0.002	0.008
20	0.005	0.007	0.009	0.015	0.022	0.002	**0.007**
23	0.005	0.006	0.008	0.015	0.022	0.002	0.006
25	0.005	0.006	0.007	0.014	0.022	0.002	0.006

Starting Emissions (grams/trip)

Pollutant Name: **Carbon Monoxide (CO)** **Temperature:** **60F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	1.124	1.094	2.476	7.077	4.291	5.612	1.696
10	1.932	1.959	4.557	10.741	7.316	5.594	2.888
20	3.464	3.603	8.48	17.639	12.995	5.622	5.143
30	4.886	5.13	12.085	23.965	18.178	5.737	7.227
40	6.197	6.542	15.37	29.719	22.865	5.939	9.139
50	7.398	7.839	18.337	34.9	27.057	6.227	10.88
60	8.488	9.019	20.984	39.509	30.753	6.602	12.449
120	11.542	12.167	21.298	33.321	25.966	8.227	14.558
180	8.509	9.098	18.858	35.504	27.147	9.657	11.92
240	9.055	9.688	19.779	37.582	28.306	11.731	12.636
300	9.556	10.227	20.652	39.556	29.441	13.576	13.3
360	10.013	10.715	21.477	41.424	30.554	15.191	13.913
420	10.425	11.153	22.254	43.187	31.644	16.577	14.475
480	10.794	11.54	22.982	44.845	32.711	17.732	**14.985**
540	11.118	11.876	23.663	46.399	33.755	18.658	15.444
600	11.398	12.161	24.295	47.847	34.776	19.354	15.851
660	11.634	12.395	24.879	49.191	35.775	19.82	16.207
720	11.826	12.579	25.416	50.429	36.75	20.057	16.512

Pollutant Name: **PM10** **Temperature:** **60F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.001	0.001	0.001	0	0.015	0.001
10	0.001	0.002	0.002	0.001	0.001	0.014	0.002
20	0.002	0.004	0.004	0.002	0.001	0.011	0.003
30	0.004	0.006	0.006	0.002	0.001	0.008	0.005
40	0.004	0.008	0.007	0.003	0.002	0.006	0.006
50	0.005	0.01	0.009	0.003	0.002	0.005	0.007
60	0.006	0.011	0.01	0.004	0.002	0.004	0.008
120	0.009	0.016	0.014	0.005	0.003	0.01	0.012
180	0.01	0.018	0.015	0.006	0.003	0.016	0.013
240	0.01	0.019	0.016	0.006	0.004	0.021	0.014
300	0.011	0.02	0.017	0.006	0.004	0.025	0.014
360	0.011	0.021	0.017	0.007	0.004	0.029	0.015
420	0.012	0.021	0.018	0.007	0.004	0.033	0.016
480	0.012	0.022	0.019	0.007	0.004	0.035	**0.016**
540	0.012	0.023	0.019	0.007	0.004	0.037	0.017
600	0.013	0.023	0.02	0.008	0.004	0.039	0.017
660	0.013	0.024	0.02	0.008	0.004	0.04	0.017
720	0.013	0.024	0.02	0.008	0.005	0.04	0.018

Pollutant Name: **Oxides of Nitrogen (NOx)** **Temperature:** **70F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.254	0.395	0.814	0.702	0.714	0.22	0.418
10	0.295	0.445	1.001	1.041	1.07	0.246	0.504
20	0.369	0.534	1.332	1.636	1.694	0.292	0.655
30	0.43	0.608	1.604	2.122	2.204	0.331	0.779
40	0.479	0.668	1.818	2.498	2.597	0.364	0.877
50	0.514	0.712	1.972	2.764	2.875	0.39	0.948
60	0.537	0.741	2.067	2.92	3.038	0.408	0.992
120	0.561	0.783	2.137	2.941	3.06	0.412	1.029
180	0.563	0.786	2.135	2.929	3.048	0.403	1.03
240	0.558	0.78	2.121	2.911	3.03	0.392	1.023
300	0.552	0.771	2.101	2.886	3.007	0.378	1.012
360	0.544	0.759	2.074	2.856	2.977	0.361	0.998
420	0.533	0.744	2.041	2.819	2.941	0.342	0.981
480	0.521	0.726	2.001	2.777	2.898	0.319	**0.961**
540	0.507	0.705	1.955	2.728	2.85	0.294	0.937
600	0.49	0.681	1.903	2.673	2.796	0.266	0.91
660	0.472	0.654	1.844	2.612	2.736	0.235	0.879
720	0.452	0.624	1.779	2.545	2.669	0.201	0.845

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.085	0.071	0.154	0.468	0.285	1.259	0.123
10	0.134	0.116	0.274	0.649	0.429	1.303	0.19
20	0.226	0.201	0.496	0.988	0.697	1.413	0.316
30	0.31	0.279	0.697	1.298	0.939	1.555	0.431
40	0.386	0.349	0.875	1.578	1.155	1.728	0.536
50	0.454	0.413	1.032	1.829	1.344	1.932	0.628
60	0.51	0.466	1.163	2.023	1.493	2.045	0.705
120	0.686	0.65	1.529	2.42	1.793	2.355	0.93
180	0.772	0.73	1.653	2.579	1.908	2.544	1.026
240	0.818	0.774	1.75	2.734	2.02	2.735	1.087
300	0.863	0.817	1.844	2.885	2.129	2.925	1.147
360	0.907	0.859	1.936	3.032	2.234	3.113	1.206
420	0.95	0.9	2.026	3.175	2.337	3.3	1.263
480	0.993	0.94	2.113	3.314	2.436	3.487	**1.319**
540	1.034	0.98	2.198	3.45	2.532	3.672	1.374
600	1.074	1.019	2.281	3.581	2.625	3.855	1.427
660	1.113	1.056	2.361	3.709	2.715	4.038	1.479
720	1.151	1.093	2.439	3.832	2.802	4.22	1.529

Pollutant Name: **Carbon Dioxide (CO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	11.034	13.834	17.001	8.679	3.975	26.992	12.939
10	13.567	16.553	22.011	12.32	5.727	29.66	16.034
20	18.952	22.451	32.485	19.521	9.194	34.857	22.583
30	24.759	28.963	43.567	26.615	12.61	39.865	29.611
40	30.988	36.088	55.255	33.601	15.976	44.686	37.118
50	37.641	43.826	67.55	40.479	19.291	49.32	45.105
60	44.716	52.179	80.453	47.251	22.555	53.766	53.571
120	91.796	111.295	160.809	76.847	36.81	74.401	109.065
180	105.09	127.167	185.315	88.315	42.398	75.913	124.951
240	118.074	142.765	209.082	99.106	47.655	77.34	140.442
300	130.747	158.089	232.109	109.222	52.584	78.68	155.539
360	143.109	173.138	254.397	118.661	57.183	79.934	170.24
420	155.16	187.913	275.945	127.424	61.452	81.101	184.547
480	166.901	202.414	296.754	135.511	65.392	82.183	**198.458**
540	178.331	216.641	316.823	142.921	69.002	83.178	211.975
600	189.45	230.593	336.153	149.656	72.283	84.087	225.097
660	200.259	244.271	354.743	155.714	75.234	84.91	237.824
720	210.757	257.675	372.594	161.096	77.856	85.647	250.156

Pollutant Name: **Sulfur Dioxide (SO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
30	0	0	0.001	0.001	0	0	0
40	0	0	0.001	0.001	0	0.001	0
50	0	0	0.001	0.001	0	0.001	0.001
60	0.001	0.001	0.001	0.001	0.001	0.001	0.001
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.001	0.001	0.001
240	0.001	0.002	0.002	0.002	0.001	0.001	0.002
300	0.001	0.002	0.003	0.002	0.001	0.001	0.002
360	0.002	0.002	0.003	0.002	0.001	0.001	0.002
420	0.002	0.002	0.003	0.002	0.001	0.001	0.002
480	0.002	0.002	0.003	0.002	0.001	0.001	**0.002**
540	0.002	0.002	0.003	0.002	0.001	0.001	0.002
600	0.002	0.002	0.004	0.002	0.001	0.001	0.002
660	0.002	0.003	0.004	0.002	0.001	0.001	0.003
720	0.002	0.003	0.004	0.002	0.001	0.001	0.003

Hot Soak Emissions (grams/trip)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.094	0.07	0.048	0.017	0.086	0.234	0.076
10	0.175	0.129	0.089	0.032	0.159	0.436	0.142
20	0.303	0.225	0.156	0.056	0.272	0.759	**0.246**
30	0.396	0.295	0.207	0.073	0.35	0.999	0.322
40	0.432	0.323	0.227	0.079	0.379	1.094	0.352

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (aboute 25% of in-use trips).

Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **All** **Relative Humidity:** **All**

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.07	0.053	0.041	0.004	0.002	0.13	0.061
80	0.139	0.103	0.077	0.009	0.004	0.306	0.122
100	0.261	0.193	0.144	0.017	0.007	0.568	**0.229**

Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **All** **Relative Humidity:** **All**

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.03	0.023	0.018	0.002	0.001	0.052	0.026
80	0.054	0.043	0.033	0.004	0.002	0.105	0.049
100	0.132	0.105	0.081	0.009	0.003	0.281	**0.119**

Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.026	0.31	0.278	0.194	0.431	0.104	0.163
2	0.031	0.162	0.147	0.107	0.236	0.14	0.095
3	0.036	0.115	0.104	0.079	0.171	0.159	0.075
4	0.04	0.093	0.084	0.065	0.139	0.17	0.066
5	0.042	0.08	0.073	0.057	0.12	0.178	0.061
10	0.048	0.057	0.052	0.041	0.082	0.2	0.052
15	0.051	0.053	0.048	0.036	0.07	0.212	0.052
20	0.053	0.053	0.048	0.034	0.065	0.222	0.053
25	0.054	0.055	0.05	0.033	0.062	0.23	0.055
30	0.055	0.056	0.051	0.034	0.062	0.232	0.055
35	0.055	0.056	0.051	0.034	0.063	0.233	0.055
40	0.055	0.057	0.051	0.034	0.063	0.235	0.056
45	0.056	0.057	0.052	0.034	0.063	0.236	0.056
50	0.055	0.057	0.052	0.034	0.064	0.234	0.056
55	0.055	0.058	0.052	0.034	0.064	0.231	0.056
60	0.054	0.058	0.053	0.035	0.064	0.229	**0.056**

Summary of Emission Rates

	Running Emissions (lbs/mile)	Starting Emissions (lbs/trip)	Hot Soak Emissions (lbs/trip)	Partial Day Diurnal Loss Emissions (lbs/hour)	Partial Day Resting Loss Emissions (lbs/hour)	Evaporative Resting Loss Emissions (lbs/minute)
Carbon Monoxide (CO)	0.009	0.033				
Particulate Matter (PM10)	0.000	0.000				
Oxides of Nitrogen (NOx)	0.002	0.002				
Reactive Organic Gases (ROG)	0.001	0.003	0.001	0.008	0.002	0.000
Carbon Dioxide (CO2)	1.507	0.438				
Sulfur Oxide (SO2)	0.000	0.000				

Hot Soak:	Assumes 20 minutes
Diurnal Loss	Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start
Resting Loss	Assumes 8 hours for partial day resting loss, based on an 8-hour workday
Evaportative	Assumes 60 minutes for evaportative running loss emissions

1 gram = 0.0022046 lbs

0.0022046

Title:	Orange County-2013.
Version:	Emfac2007 V2.3 Nov, 1 2006
Run Date:	2/19/2009 14:02:39
Scen Year:	2013- All Model years in the range 1969 to 2013 selected
Season:	Annual
Area:	Orange County

Running Emissions (grams/mile)

Pollutant Name: Carbon Monoxide (CO) **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	20.58	40.855	0	0	4.256
15	2.365	3.15	3.828	7.695	14.438	21.899	3.146
20	2.131	2.832	3.319	5.73	10.604	19.974	**2.774**
23	2.011	2.669	3.082	5.021	9.054	19.288	2.599
25	1.938	2.571	2.944	4.634	8.241	19.005	2.496

Pollutant Name: PM10 **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.038	0.839	0	0	0.032
15	0.023	0.05	0.052	0.417	0.369	0.027	0.049
20	0.017	0.036	0.038	0.314	0.287	0.024	**0.036**
23	0.014	0.031	0.032	0.283	0.251	0.022	0.031
25	0.013	0.028	0.029	0.265	0.231	0.021	0.028

Pollutant Name: PM10 (Tire Wear) **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.008	0.008	0.009	0.021	0.009	0.004	0.008
20	0.008	0.008	0.009	0.021	0.009	0.004	**0.008**
23	0.008	0.008	0.009	0.021	0.009	0.004	0.008
25	0.008	0.008	0.009	0.021	0.009	0.004	0.008

Pollutant Name: PM10 (Break Wear) **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.013	0.013	0.013	0.018	0.013	0.006	0.013
20	0.013	0.013	0.013	0.018	0.013	0.006	**0.013**
23	0.013	0.013	0.013	0.018	0.013	0.006	0.013
25	0.013	0.013	0.013	0.018	0.013	0.006	0.013

Pollutant Name: Oxides of Nitrogen (NOx) **Temperature: 70F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.734	74.3	0	0	2.846
15	0.163	0.292	0.561	7.653	15.561	0.934	0.524
20	0.147	0.263	0.511	6.666	13.358	0.936	**0.466**
23	0.14	0.249	0.49	6.42	12.477	0.941	0.445
25	0.136	0.241	0.478	6.283	12.037	0.945	0.434

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.524	8.197	0	0	0.766
15	0.15	0.192	0.309	1.353	2.044	3.208	0.247
20	0.111	0.142	0.228	0.829	1.515	2.717	**0.18**
23	0.095	0.122	0.195	0.723	1.291	2.518	0.155
25	0.086	0.111	0.177	0.662	1.169	2.416	0.142

Pollutant Name: **Carbon Dioxide (CO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	862.969	4616.954	0	0	268.51
15	684.683	848.807	1132.141	1833.929	2261.329	183.224	837.793
20	555.425	688.871	911.841	1627.189	2197.863	161.987	**683.755**
23	499.925	620.15	818.136	1572.197	2172.018	152.304	618.775
25	469.9	582.957	767.682	1540.453	2158.42	146.929	583.588

Pollutant Name: **Sulfur Dioxide (SO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.009	0.044	0	0	0.003
15	0.007	0.008	0.011	0.018	0.022	0.002	0.008
20	0.005	0.007	0.009	0.016	0.021	0.002	**0.007**
23	0.005	0.006	0.008	0.015	0.021	0.002	0.006
25	0.005	0.006	0.007	0.015	0.021	0.002	0.006

Starting Emissions (grams/trip)

Pollutant Name: **Carbon Monoxide (CO)** **Temperature:** **60F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.612	0.727	1.649	4.375	3.955	4.448	1.061
10	1.138	1.367	3.112	7.341	6.883	4.921	1.917
20	2.138	2.586	5.879	12.913	12.377	5.85	3.54
30	3.07	3.724	8.437	18	17.388	6.759	5.045
40	3.935	4.782	10.786	22.604	21.916	7.646	6.431
50	4.733	5.76	12.926	26.724	25.962	8.511	7.7
60	5.464	6.658	14.857	30.361	29.525	9.355	8.85
120	7.737	9.366	16.618	25.303	24.864	12.101	10.787
180	5.598	6.872	13.943	26.519	25.926	10.845	8.622
240	5.977	7.347	14.732	27.705	26.974	12.421	9.156
300	6.32	7.776	15.461	28.861	28.008	13.84	9.646
360	6.627	8.16	16.133	29.988	29.028	15.101	10.093
420	6.9	8.497	16.745	31.085	30.034	16.205	10.496
480	7.137	8.789	17.299	32.153	31.026	17.151	**10.856**
540	7.339	9.036	17.795	33.191	32.003	17.939	11.173
600	7.505	9.236	18.232	34.199	32.967	18.57	11.446
660	7.637	9.391	18.611	35.178	33.917	19.043	11.676
720	7.733	9.5	18.931	36.128	34.853	19.359	11.863

Pollutant Name: **PM10** **Temperature:** **60F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.001	0.001	0.001	0	0.011	0.001
10	0.001	0.003	0.002	0.001	0.001	0.01	0.002
20	0.002	0.005	0.004	0.002	0.001	0.008	0.003
30	0.003	0.007	0.006	0.002	0.002	0.006	0.005
40	0.004	0.009	0.008	0.003	0.002	0.005	0.006
50	0.005	0.011	0.01	0.003	0.002	0.004	0.008
60	0.006	0.013	0.011	0.004	0.003	0.003	0.009
120	0.009	0.02	0.017	0.005	0.004	0.008	0.014
180	0.01	0.022	0.018	0.006	0.004	0.012	0.015
240	0.011	0.023	0.019	0.006	0.004	0.016	0.016
300	0.012	0.025	0.02	0.006	0.004	0.019	0.017
360	0.012	0.026	0.021	0.006	0.004	0.022	0.018
420	0.013	0.027	0.022	0.006	0.004	0.024	0.018
480	0.013	0.028	0.023	0.007	0.004	0.026	**0.019**
540	0.014	0.029	0.024	0.007	0.005	0.028	0.02
600	0.014	0.03	0.024	0.007	0.005	0.029	0.02
660	0.014	0.03	0.025	0.007	0.005	0.029	0.02
720	0.014	0.03	0.025	0.007	0.005	0.03	0.021

Pollutant Name: **Oxides of Nitrogen (NOx)** **Temperature:** **70F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.181	0.312	0.796	0.548	0.706	0.187	0.352
10	0.204	0.343	0.924	0.82	1.059	0.219	0.41
20	0.244	0.4	1.15	1.297	1.679	0.276	0.512
30	0.277	0.447	1.338	1.686	2.184	0.324	0.596
40	0.303	0.485	1.486	1.987	2.574	0.362	0.662
50	0.323	0.514	1.595	2.199	2.85	0.391	0.711
60	0.336	0.534	1.665	2.323	3.011	0.411	0.743
120	0.356	0.569	1.746	2.34	3.033	0.414	0.778
180	0.357	0.571	1.745	2.331	3.022	0.408	0.778
240	0.354	0.567	1.733	2.317	3.004	0.399	0.773
300	0.35	0.561	1.715	2.299	2.981	0.388	0.765
360	0.345	0.552	1.691	2.276	2.951	0.375	0.754
420	0.338	0.54	1.661	2.248	2.916	0.359	0.74
480	0.33	0.527	1.625	2.215	2.874	0.341	**0.724**
540	0.32	0.511	1.582	2.178	2.827	0.321	0.705
600	0.309	0.492	1.533	2.136	2.773	0.299	0.683
660	0.297	0.471	1.479	2.09	2.714	0.274	0.658
720	0.283	0.448	1.418	2.038	2.648	0.247	0.631

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.038	0.04	0.103	0.262	0.254	0.927	0.07
10	0.066	0.071	0.191	0.406	0.394	1.021	0.116
20	0.119	0.129	0.354	0.672	0.654	1.216	0.203
30	0.167	0.182	0.502	0.911	0.888	1.418	0.282
40	0.211	0.231	0.635	1.123	1.095	1.628	0.354
50	0.25	0.275	0.753	1.308	1.276	1.845	0.418
60	0.284	0.313	0.855	1.456	1.42	1.985	0.472
120	0.4	0.453	1.176	1.75	1.707	2.327	0.645
180	0.452	0.511	1.272	1.862	1.816	2.493	0.711
240	0.479	0.542	1.348	1.97	1.921	2.666	0.754
300	0.506	0.572	1.422	2.075	2.024	2.836	0.795
360	0.532	0.602	1.494	2.177	2.123	3.004	0.836
420	0.557	0.631	1.565	2.276	2.22	3.17	0.876
480	0.582	0.66	1.634	2.372	2.313	3.333	**0.915**
540	0.607	0.688	1.702	2.465	2.404	3.495	0.954
600	0.631	0.716	1.769	2.555	2.491	3.654	0.991
660	0.654	0.743	1.833	2.641	2.575	3.811	1.028
720	0.677	0.77	1.897	2.725	2.657	3.966	1.063

Pollutant Name: **Carbon Dioxide (CO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	11.382	14.321	18.749	5.448	3.818	20.233	13.382
10	13.366	16.676	22.861	8.72	5.867	22.676	15.939
20	17.745	21.92	31.711	15.202	9.923	27.451	21.513
30	22.676	27.875	41.398	21.599	13.924	32.078	27.7
40	28.158	34.542	51.922	27.912	17.87	36.556	34.499
50	34.191	41.921	63.283	34.141	21.761	40.887	41.912
60	40.775	50.011	75.481	40.286	25.598	45.07	49.937
120	89.463	110.93	159.762	67.007	42.305	64.19	107.441
180	102.079	126.464	183.123	78.101	49.113	67.071	122.748
240	114.535	141.829	206.015	88.539	55.52	69.784	137.808
300	126.828	157.025	228.437	98.324	61.525	72.329	152.621
360	138.96	172.053	250.39	107.453	67.128	74.706	167.189
420	150.931	186.912	271.873	115.929	72.33	76.916	181.511
480	162.739	201.602	292.887	123.75	77.13	78.958	**195.586**
540	174.386	216.123	313.431	130.916	81.529	80.832	209.415
600	185.872	230.476	333.506	137.428	85.526	82.538	222.998
660	197.196	244.66	353.111	143.285	89.121	84.077	236.335
720	208.358	258.675	372.246	148.488	92.315	85.447	249.425

Pollutant Name: **Sulfur Dioxide (SO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
40	0	0	0.001	0.001	0	0	0
50	0	0	0.001	0.001	0	0.001	0
60	0	0.001	0.001	0.001	0.001	0.001	0.001
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.001	0.001	0.001
240	0.001	0.001	0.002	0.001	0.001	0.001	0.001
300	0.001	0.002	0.002	0.001	0.001	0.001	0.002
360	0.001	0.002	0.003	0.002	0.001	0.001	0.002
420	0.002	0.002	0.003	0.002	0.001	0.001	0.002
480	0.002	0.002	0.003	0.002	0.001	0.001	**0.002**
540	0.002	0.002	0.003	0.002	0.001	0.001	0.002
600	0.002	0.002	0.004	0.002	0.001	0.001	0.002
660	0.002	0.003	0.004	0.002	0.001	0.001	0.002
720	0.002	0.003	0.004	0.002	0.001	0.001	0.003

Hot Soak Emissions (grams/trip)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.072	0.067	0.046	0.01	0.072	0.185	0.063
10	0.133	0.124	0.085	0.019	0.133	0.345	0.118
20	0.229	0.214	0.147	0.034	0.227	0.603	**0.203**
30	0.298	0.279	0.193	0.044	0.292	0.796	0.264
40	0.324	0.304	0.211	0.048	0.317	0.874	0.288

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (aboute 25% of in-use trips).

Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **All** **Relative Humidity:** **All**

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.052	0.049	0.04	0.003	0.001	0.125	0.051
80	0.095	0.087	0.07	0.006	0.003	0.287	0.093
100	0.175	0.16	0.128	0.011	0.006	0.529	**0.171**

Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **All** **Relative Humidity:** **All**

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.025	0.025	0.021	0.002	0.001	0.047	0.025
80	0.042	0.043	0.036	0.003	0.001	0.095	0.042
100	0.088	0.09	0.075	0.006	0.003	0.271	**0.091**

Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.016	0.331	0.307	0.202	0.556	0.028	0.167
2	0.018	0.171	0.159	0.107	0.294	0.066	0.091
3	0.021	0.12	0.112	0.075	0.207	0.086	0.069
4	0.023	0.096	0.09	0.06	0.163	0.098	0.059
5	0.025	0.082	0.077	0.051	0.137	0.105	0.053
10	0.03	0.056	0.053	0.033	0.086	0.124	0.042
15	0.032	0.049	0.047	0.028	0.07	0.132	0.04
20	0.033	0.048	0.046	0.026	0.062	0.137	0.04
25	0.034	0.049	0.046	0.025	0.058	0.142	0.041
30	0.034	0.049	0.047	0.025	0.058	0.143	0.041
35	0.034	0.049	0.047	0.025	0.058	0.144	0.041
40	0.034	0.049	0.047	0.025	0.059	0.145	0.042
45	0.035	0.05	0.047	0.025	0.059	0.146	0.042
50	0.034	0.05	0.048	0.025	0.059	0.146	0.042
55	0.034	0.05	0.048	0.025	0.06	0.145	0.042
60	0.034	0.051	0.048	0.025	0.06	0.145	**0.042**

Summary of Emission Rates

	Running Emissions (lbs/mile)	Starting Emissions (lbs/trip)	Hot Soak Emissions (lbs/trip)	Partial Day Diurnal Loss Emissions (lbs/hour)	Partial Day Resting Loss Emissions (lbs/hour)	Evaporative Resting Loss Emissions (lbs/minute)
Carbon Monoxide (CO)	0.006	0.024				
Particulate Matter (PM10)	0.000	0.000				
Oxides of Nitrogen (NOx)	0.001	0.002				
Reactive Organic Gases (ROG)	0.000	0.002	0.000	0.006	0.002	0.000
Carbon Dioxide (CO2)	1.507	0.431				
Sulfur Oxide (SO2)	0.000	0.000				

Hot Soak:	Assumes 20 minutes
Diurnal Loss	Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start
Resting Loss	Assumes 8 hours for partial day resting loss, based on an 8-hour workday
Evaportative	Assumes 60 minutes for evaportative running loss emissions

1 gram = 0.0022046 lbs

0.0022046

Title:	Orange County-2030.
Version:	Emfac2007 V2.3 Nov, 1 2006
Run Date:	2/12/2009 9:30:28
Scen Year:	2030- All Model years in the range 1986 to 2030 selected
Season:	Annual
Area:	Orange County

Running Emissions (grams/mile)

Pollutant Name: Carbon Monoxide (CO) **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	20.041	38.233	0	0	4.459
15	0.794	1.343	1.675	2.222	8.741	17.903	1.268
20	0.727	1.228	1.506	1.629	6.416	16.365	**1.138**
23	0.69	1.165	1.419	1.456	5.476	15.766	1.076
25	0.667	1.126	1.367	1.364	4.983	15.485	1.038

Pollutant Name: PM10 **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.037	0.382	0	0	0.02
15	0.025	0.056	0.06	0.135	0.254	0.019	0.045
20	0.018	0.04	0.043	0.113	0.197	0.017	**0.033**
23	0.015	0.034	0.037	0.104	0.172	0.016	0.028
25	0.013	0.031	0.033	0.099	0.158	0.015	0.026

Pollutant Name: PM10 (Tire Wear) **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.008	0.008	0.009	0.022	0.009	0.004	0.009
20	0.008	0.008	0.009	0.022	0.009	0.004	**0.009**
23	0.008	0.008	0.009	0.022	0.009	0.004	0.009
25	0.008	0.008	0.009	0.022	0.009	0.004	0.009

Pollutant Name: PM10 (Break Wear) **Temperature: 60F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0	0	0	0	0
15	0.013	0.013	0.013	0.019	0.013	0.006	0.013
20	0.013	0.013	0.013	0.019	0.013	0.006	**0.013**
23	0.013	0.013	0.013	0.019	0.013	0.006	0.013
25	0.013	0.013	0.013	0.019	0.013	0.006	0.013

Pollutant Name: Oxides of Nitrogen (NOx) **Temperature: 70F** **Relative Humidity: 70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.714	81.514	0	0	3.582
15	0.048	0.094	0.18	2.419	9.975	0.939	0.193
20	0.044	0.085	0.164	2.046	8.618	0.921	**0.169**
23	0.041	0.081	0.157	1.932	8.078	0.915	0.16
25	0.04	0.078	0.153	1.866	7.809	0.914	0.155

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	3.352	6.911	0	0	0.765
15	0.042	0.075	0.103	0.439	1.166	3.051	0.095
20	0.031	0.054	0.076	0.284	0.87	2.553	**0.07**
23	0.026	0.046	0.064	0.257	0.743	2.35	0.06
25	0.023	0.041	0.058	0.241	0.675	2.247	0.056

Pollutant Name: **Carbon Dioxide (CO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	894.491	4785.766	0	0	313.032
15	682.439	854.902	1134.577	1911.26	2023.698	190.618	853.412
20	553.509	693.497	913.092	1680.937	1927.419	168.656	**696.538**
23	498.16	624.163	818.942	1621.768	1888.212	158.96	630.792
25	468.22	586.644	768.264	1587.306	1867.583	153.723	595.172

Pollutant Name: **Sulfur Dioxide (SO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
0	0	0	0.009	0.046	0	0	0.003
15	0.007	0.008	0.011	0.018	0.019	0.002	0.008
20	0.005	0.007	0.009	0.016	0.019	0.002	**0.007**
23	0.005	0.006	0.008	0.015	0.018	0.002	0.006
25	0.005	0.006	0.007	0.015	0.018	0.002	0.006

Starting Emissions (grams/trip)

Pollutant Name: **Carbon Monoxide (CO)** **Temperature:** **60F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.13	0.224	0.622	1.133	3.147	3.365	0.335
10	0.258	0.443	1.229	2.22	6.166	4.329	0.644
20	0.502	0.865	2.395	4.255	11.82	6.162	1.235
30	0.733	1.265	3.501	6.107	16.963	7.866	1.791
40	0.952	1.643	4.544	7.774	21.595	9.443	2.311
50	1.157	2	5.527	9.257	25.715	10.89	2.795
60	1.349	2.335	6.447	10.556	29.323	12.209	3.244
120	2.103	3.647	9.594	8.945	24.847	16.315	4.539
180	1.485	2.595	7.023	9.206	25.574	12.254	3.424
240	1.607	2.815	7.607	9.476	26.324	13.364	3.683
300	1.716	3.008	8.124	9.755	27.098	14.385	3.914
360	1.81	3.177	8.574	10.042	27.896	15.318	4.118
420	1.89	3.319	8.956	10.338	28.718	16.162	4.295
480	1.956	3.436	9.27	10.643	29.565	16.918	**4.444**
540	2.009	3.527	9.517	10.956	30.435	17.585	4.565
600	2.047	3.593	9.696	11.278	31.328	18.163	4.659
660	2.071	3.633	9.808	11.608	32.246	18.653	4.726
720	2.081	3.648	9.852	11.947	33.188	19.055	4.765

Pollutant Name: **PM10** **Temperature:** **60F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.046	0.107	0.635	0.218	0.886	0.165	0.193
10	0.049	0.113	0.674	0.328	1.335	0.207	0.21
20	0.055	0.124	0.745	0.522	2.123	0.281	0.242
30	0.06	0.134	0.805	0.68	2.765	0.342	0.268
40	0.064	0.142	0.855	0.802	3.262	0.39	0.289
50	0.067	0.149	0.895	0.888	3.612	0.425	0.306
60	0.07	0.154	0.925	0.939	3.817	0.448	0.317
120	0.075	0.167	1.005	0.953	3.874	0.453	0.34
180	0.078	0.173	1.014	0.949	3.859	0.451	0.345
240	0.077	0.172	1.007	0.944	3.838	0.444	0.343
300	0.076	0.17	0.994	0.937	3.808	0.435	0.339
360	0.075	0.167	0.977	0.927	3.772	0.424	0.333
420	0.074	0.163	0.955	0.917	3.727	0.412	0.326
480	0.072	0.158	0.928	0.904	3.676	0.397	**0.318**
540	0.069	0.153	0.896	0.889	3.616	0.381	0.308
600	0.067	0.147	0.86	0.873	3.549	0.362	0.296
660	0.063	0.139	0.819	0.855	3.475	0.342	0.284
720	0.06	0.132	0.773	0.834	3.393	0.32	0.269

Pollutant Name: **Oxides of Nitrogen (NOx)** **Temperature:** **70F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.042	0.099	0.597	0.205	0.835	0.154	0.181
10	0.045	0.105	0.634	0.309	1.258	0.193	0.197
20	0.051	0.115	0.7	0.492	2.001	0.263	0.226
30	0.056	0.124	0.757	0.641	2.606	0.32	0.251
40	0.059	0.132	0.804	0.756	3.074	0.365	0.271
50	0.062	0.138	0.842	0.837	3.404	0.398	0.287
60	0.065	0.142	0.87	0.884	3.597	0.419	0.297
120	0.07	0.154	0.943	0.891	3.623	0.422	0.318
180	0.07	0.155	0.943	0.888	3.609	0.418	0.319
240	0.069	0.154	0.936	0.883	3.589	0.411	0.316
300	0.069	0.152	0.925	0.876	3.562	0.403	0.313
360	0.067	0.149	0.909	0.867	3.527	0.393	0.307
420	0.066	0.146	0.888	0.857	3.486	0.382	0.301
480	0.064	0.142	0.863	0.845	3.437	0.368	**0.293**
540	0.062	0.137	0.834	0.832	3.382	0.353	0.284
600	0.06	0.131	0.8	0.816	3.319	0.337	0.274
660	0.057	0.125	0.762	0.799	3.25	0.318	0.262
720	0.054	0.118	0.719	0.78	3.173	0.298	0.248

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.005	0.009	0.033	0.054	0.163	0.637	0.019
10	0.01	0.017	0.065	0.104	0.319	0.783	0.034
20	0.02	0.033	0.127	0.198	0.604	1.064	0.063
30	0.029	0.048	0.185	0.281	0.856	1.33	0.089
40	0.037	0.062	0.24	0.353	1.075	1.581	0.114
50	0.044	0.076	0.291	0.413	1.261	1.817	0.136
60	0.051	0.088	0.339	0.463	1.414	1.988	0.157
120	0.08	0.144	0.55	0.561	1.711	2.371	0.237
180	0.092	0.165	0.593	0.595	1.815	2.52	0.259
240	0.098	0.175	0.63	0.628	1.916	2.68	0.275
300	0.103	0.186	0.667	0.66	2.014	2.837	0.291
360	0.109	0.196	0.704	0.691	2.108	2.99	0.307
420	0.114	0.206	0.74	0.721	2.2	3.141	0.322
480	0.12	0.216	0.776	0.75	2.288	3.288	**0.337**
540	0.125	0.226	0.812	0.778	2.372	3.432	0.352
600	0.13	0.236	0.847	0.804	2.453	3.572	0.367
660	0.136	0.246	0.883	0.83	2.531	3.71	0.382
720	0.141	0.255	0.917	0.854	2.606	3.844	0.397

Pollutant Name: **Carbon Dioxide (CO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.21	15.367	21.663	2.852	3.038	13.326	14.537
10	13.709	17.262	24.532	5.688	6.06	15.525	16.504
20	17.207	21.681	31.144	11.312	12.053	19.843	21.019
30	21.372	26.939	38.921	16.874	17.978	24.053	26.305
40	26.203	33.035	47.862	22.372	23.836	28.156	32.363
50	31.701	39.969	57.967	27.807	29.627	32.151	39.193
60	37.866	47.742	69.237	33.179	35.351	36.039	46.796
120	88.224	111.159	159.552	56.432	60.126	53.502	107.307
180	100.144	126.187	181.329	66.67	71.034	57.729	121.972
240	112.044	141.189	203.022	76.304	81.298	61.707	136.569
300	123.925	156.164	224.629	85.333	90.919	65.437	151.098
360	135.787	171.112	246.152	93.758	99.896	68.92	165.559
420	147.629	186.034	267.59	101.579	108.228	72.154	179.952
480	159.452	200.93	288.942	108.796	115.918	75.14	**194.278**
540	171.256	215.799	310.21	115.409	122.963	77.878	208.535
600	183.041	230.641	331.392	121.417	129.364	80.368	222.725
660	194.806	245.457	352.49	126.821	135.122	82.611	236.847
720	206.551	260.246	373.503	131.62	140.236	84.605	250.901

Pollutant Name: **Sulfur Dioxide (SO2)** **Temperature:** **85F** **Relative Humidity:** **70%**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0
40	0	0	0.001	0	0	0	0
50	0	0	0.001	0	0.001	0	0
60	0	0	0.001	0	0.001	0.001	0
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.001	0.001	0.001
240	0.001	0.001	0.002	0.001	0.001	0.001	0.001
300	0.001	0.002	0.002	0.001	0.001	0.001	0.002
360	0.001	0.002	0.003	0.001	0.001	0.001	0.002
420	0.001	0.002	0.003	0.001	0.002	0.001	0.002
480	0.002	0.002	0.003	0.001	0.002	0.001	**0.002**
540	0.002	0.002	0.003	0.001	0.002	0.001	0.002
600	0.002	0.002	0.003	0.001	0.002	0.001	0.002
660	0.002	0.002	0.004	0.001	0.002	0.001	0.002
720	0.002	0.003	0.004	0.001	0.002	0.001	0.002

Hot Soak Emissions (grams/trip)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.026	0.046	0.035	0.004	0.044	0.185	0.034
10	0.048	0.085	0.066	0.007	0.081	0.345	0.062
20	0.083	0.147	0.113	0.012	0.138	0.602	**0.107**
30	0.106	0.19	0.147	0.015	0.178	0.792	0.139
40	0.115	0.206	0.159	0.017	0.193	0.868	0.151

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (aboute 25% of in-use trips).

Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **All** **Relative Humidity:** **All**

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.02	0.039	0.038	0.001	0.001	0.138	0.031
80	0.031	0.059	0.057	0.002	0.002	0.306	0.049
100	0.056	0.103	0.1	0.003	0.004	0.563	**0.088**

Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **All** **Relative Humidity:** **All**

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
60	0.012	0.026	0.026	0.001	0.001	0.054	0.019
80	0.014	0.04	0.041	0.001	0.001	0.104	0.028
100	0.025	0.069	0.071	0.002	0.002	0.3	**0.052**

Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: **Total Organic Gases (ROG)** **Temperature:** **85F** **Relative Humidity:** **All**

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.009	0.23	0.253	0.071	0.753	0.005	0.123
2	0.007	0.118	0.13	0.036	0.385	0.038	0.064
3	0.008	0.083	0.092	0.025	0.263	0.055	0.047
4	0.009	0.067	0.074	0.02	0.203	0.066	0.039
5	0.01	0.058	0.063	0.017	0.167	0.073	0.035
10	0.012	0.04	0.043	0.011	0.095	0.088	0.027
15	0.013	0.035	0.038	0.01	0.073	0.093	0.025
20	0.013	0.034	0.036	0.009	0.063	0.097	0.024
25	0.014	0.033	0.036	0.009	0.057	0.099	0.024
30	0.014	0.033	0.036	0.009	0.058	0.1	0.024
35	0.014	0.033	0.036	0.009	0.058	0.101	0.024
40	0.014	0.034	0.036	0.009	0.058	0.101	0.024
45	0.014	0.034	0.036	0.009	0.059	0.102	0.024
50	0.014	0.034	0.037	0.009	0.059	0.103	0.024
55	0.014	0.034	0.037	0.009	0.059	0.103	0.025
60	0.014	0.034	0.037	0.009	0.06	0.104	**0.025**

Summary of Emission Rates

	Running Emissions (lbs/mile)	Starting Emissions (lbs/trip)	Hot Soak Emissions (lbs/trip)	Partial Day Diurnal Loss Emissions (lbs/hour)	Partial Day Resting Loss Emissions (lbs/hour)	Evaporative Resting Loss Emissions (lbs/minute)
Carbon Monoxide (CO)	0.003	0.010				
Particulate Matter (PM10)	0.000	0.001				
Oxides of Nitrogen (NOx)	0.000	0.001				
Reactive Organic Gases (ROG)	0.000	0.001	0.000	0.003	0.001	0.000
Carbon Dioxide (CO2)	1.536	0.428				
Sulfur Oxide (SO2)	0.000	0.000				

Hot Soak:	Assumes 20 minutes
Diurnal Loss	Assumes 16 hours for partial day diurnal loss based on 16 hours between work end and next day start
Resting Loss	Assumes 8 hours for partial day resting loss, based on an 8-hour workday
Evaportative	Assumes 60 minutes for evaportative running loss emissions

1 gram = 0.0022046 lbs

0.0022046

SUMMARY - TRANSPORTATION

2030 Analysis

	VOC	NOx	CO	SO2	PM10	PM2.5
Daily						
Existing	3,074	1,723	14,286	60	803	795
Existing + Approved/Under Construction	3,634	1,948	16,337	68	924	915
Approved/Under Construction Only	560	225	2,051	8	121	120
Pending	102	49	424	2	24	24
Project	519	225	1,999	7	117	116
Pending + Project	621	274	2,423	9	141	140
Total All	4,254	2,223	18,760	77	1,065	1,054
Tons/Year						
Existing	538	302	2,500	11	141	139
Existing + Approved/Under Construction	636	341	2,859	12	162	160
Approved/Under Construction Only	98	39	359	1	21	21
Pending	18	9	74	0	4	4
Project	91	39	350	1	20	20
Pending + Project	109	48	424	2	25	25
Total All	744	389	3,283	13	186	184
MTons/Year	0.91					
	VOC	NOx	CO	SO2	PM10	PM2.5
Existing	488	274	2,268	10	127	126
Existing + Approved/Under Construction	577	309	2,594	11	147	145
Approved/Under Construction Only	89	36	326	1	19	19
Pending	16	8	67	0	4	4
Project	82	36	317	1	19	18
Pending + Project	99	43	385	1	22	22
Total All	675	353	2,978	12	169	167

[redacted]
CO2

[redacted]
CO2
5,999,078
6,711,817
712,739
164,471
728,957
893,428
7,605,245

[redacted]
CO2
1,049,839
1,174,568
124,729
28,782
127,567
156,350
1,330,918

[redacted]
CO2
952,398
1,065,550
113,153
26,111
115,727
141,838
1,207,388

SUMMARY - TRANSPORTATION

2008 Analysis

	VOC	NOx	CO	SO2	PM10	PM2.5	CO2
Daily							
Existing	9,131	6,737	50,697	60	508	503	5,895,647
Tons/Year							
Existing	1,598	1,179	8,872	11	89	88	1,031,738
MTons/Year	0.91						
Existing	1,450	1,070	8,049	10	81	80	935,977

SUMMARY - TRANSPORTATION

2013 Analysis

	VOC	NOx	CO	SO2	PM10	PM2.5	CO2
Daily							
Existing	6,522	4,659	34,850	60	494	489	5,894,278
Existing + Approved/Under Construction	7,688	5,264	39,853	68	553	548	6,594,984
Approved/Under Construction Only	1,166	605	5,003	8	59	59	700,706
Pending	215	132	1,034	2	14	13	161,636
Total All	7,903	5,396	40,887	70	567	561	6,756,620
Tons/Year							
Existing	1,141	815	6,099	11	86	86	1,031,499
Existing + Approved/Under Construction	1,345	921	6,974	12	97	96	1,154,122
Approved/Under Construction Only	204	106	876	1	10	10	122,624
Pending	38	23	181	0	2	2	28,286
Total All	1,383	944	7,155	12	99	98	1,182,409
MTons/Year	0.91						
	VOC	NOx	CO	SO2	PM10	PM2.5	CO2
Existing	1,035	740	5,533	10	78	78	935,760
Existing + Approved/Under Construction	1,221	836	6,327	11	88	87	1,047,002
Approved/Under Construction Only	185	96	794	1	9	9	111,242
Pending	34	21	164	0	2	2	25,661
Total All	1,255	857	6,491	11	90	89	1,072,663

Average Trip Length for IBC Trips

				AM	PM	DY
Year 2013	Approved	No Project	VMT (in 1000s)	894,910,676	1,092,332,779	3,646,650,547
			OD (in 10s)	880,991	1,297,869	4,471,024
			Average Trip Length (miles)	***10.16***	***8.42***	***8.16***
		With Project	VMT (in 1000s)	1,017,502,362	1,251,311,004	4,154,465,806
			OD (in 10s)	1,047,187	1,530,942	5,266,657
			Average Trip Length (miles)	***9.72***	***8.17***	***7.89***
	Pending	No Project	VMT (in 1000s)	1,003,629,345	1,240,527,697	4,120,324,312
			OD (in 10s)	1,035,753	1,529,934	5,254,669
			Average Trip Length (miles)	***9.69***	***8.11***	***7.84***
		With Project	VMT (in 1000s)	1,032,261,194	1,270,040,715	4,222,671,230
			OD (in 10s)	1,073,773	1,571,924	5,402,705
			Average Trip Length (miles)	***9.61***	***8.08***	***7.82***
Post-2030	Approved	No Project	VMT (in 1000s)	921,188,114	1,125,744,448	3,769,186,964
			OD (in 10s)	886,449	1,310,365	4,510,421
			Average Trip Length (miles)	***10.39***	***8.59***	***8.36***
		With Project	VMT (in 1000s)	1,141,176,421	1,413,849,840	4,718,336,351
			OD (in 10s)	1,175,705	1,739,921	5,990,527
			Average Trip Length (miles)	***9.71***	***8.13***	***7.88***
	Pending	No Project	VMT (in 1000s)	1,016,011,545	1,261,954,485	4,206,171,867
			OD (in 10s)	1,033,755	1,536,699	5,290,663
			Average Trip Length (miles)	***9.83***	***8.21***	***7.95***
		With Project	VMT (in 1000s)	1,123,144,668	1,397,015,807	4,656,091,384
			OD (in 10s)	1,176,965	1,744,910	6,010,652
			Average Trip Length (miles)	***9.54***	***8.01***	***7.75***

Source files:

y13ApprovedNP: V:\11986-IBCVision\2013-FutureConditions\Traffic Model\Approved\noProj\ITAM3\OUT\VMT-VHT-OD\...*.VMT and *.OD

y13ApprovedWP: V:\11986-IBCVision\2013-FutureConditions\Traffic Model\Approved\wProj\ITAM8.1\ITAM3\OUT\VMT-VHT-OD\...*.VMT and *.OD

y13PendingNP: V:\11986-IBCVision\2013-FutureConditions\Traffic Model\Pending\noProj\ITAM3\OUT\VMT-VHT-OD\...*.VMT and *.OD

y13PendingWP: V:\11986-IBCVision\2013-FutureConditions\Traffic Model\Pending\wProj\ITAM8.1\ITAM3\OUT\VMT-VHT-OD\...*.VMT and *.OD

p30ApprovedNP: V:\11986-IBCVision\2030P-FutureConditions\Traffic Model\Approved\noProj\ITAM3\OUT\VMT-VHT-OD\...*.VMT and *.OD

p30ApprovedWP: V:\11986-IBCVision\2030P-FutureConditions\Traffic Model\Approved\wProj\ITAM8.1\ITAM3\VMT-VHT-OD\...*.VMT and *.OD

p30PendingNP: V:\11986-IBCVision\2030P-FutureConditions\Traffic Model\Pending\noProj\ITAM3\OUT\VMT-VHT-OD\...*.VMT and *.OD

p30PendingWP: V:\11986-IBCVision\2030P-FutureConditions\Traffic Model\Pending\wProj\ITAM8.1\ITAM3\OUT\VMT-VHT-OD\...*.VMT and *.OD

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2008_Existing Baseline\Irvine Business Center- Existing.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	96.78	47.78	38.86	0.00	0.10	0.10	57,951.23

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	96.78	47.78	38.86	0.00	0.10	0.10	57,951.23

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	3.50	47.75	36.73	0.00	0.09	0.09	57,931.59
Hearth	0.01	0.01	0.01	0.00	0.00	0.00	16.13
Landscape	0.18	0.02	2.12	0.00	0.01	0.01	3.51
Consumer Products	42.78						
Architectural Coatings	50.31						
TOTALS (tons/year, unmitigated)	96.78	47.78	38.86	0.00	0.10	0.10	57,951.23

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%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2008_Existing Baseline\Irvine Business Center- Existing.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.22	261.80	212.87	0.00	0.51	0.50	317,452.62

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.22	261.80	212.87	0.00	0.51	0.50	317,452.62

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	19.20	261.67	201.24	0.00	0.48	0.47	317,433.36
Hearth - No Summer Emissions							
Landscape	0.97	0.13	11.63	0.00	0.03	0.03	19.26
Consumer Products	234.39						
Architectural Coatings	275.66						
TOTALS (lbs/day, unmitigated)	530.22	261.80	212.87	0.00	0.51	0.50	317,452.62

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%

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2008_Existing Baseline\Irvine Business Center- Existing.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.73	286.93	211.99	0.16	2.52	2.49	349,685.12

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.73	286.93	211.99	0.16	2.52	2.49	349,685.12

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	19.20	261.67	201.24	0.00	0.48	0.47	317,433.36
Hearth	1.48	25.26	10.75	0.16	2.04	2.02	32,251.76
Landscaping - No Winter Emissions							
Consumer Products	234.39						
Architectural Coatings	275.66						
TOTALS (lbs/day, unmitigated)	530.73	286.93	211.99	0.16	2.52	2.49	349,685.12

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%

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2013_Existing_Cumulative+Pending\Irvine Business Center- Construction.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	47.91	8.75	4.28	0.00	0.02	0.02	11,158.03

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	47.91	8.75	4.28	0.00	0.02	0.02	11,158.03

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.67	8.73	3.71	0.00	0.02	0.02	11,139.79
Hearth	0.02	0.01	0.01	0.00	0.00	0.00	17.21
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.03
Consumer Products	45.66						
Architectural Coatings	1.52						
TOTALS (tons/year, unmitigated)	47.91	8.75	4.28	0.00	0.02	0.02	11,158.03

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%

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2013_Existing_Cumulative+Pending\Irvine Business Center- Construction.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	262.45	47.85	23.44	0.00	0.10	0.10	61,045.56

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	262.45	47.85	23.44	0.00	0.10	0.10	61,045.56

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	3.69	47.81	20.35	0.00	0.09	0.09	61,039.94
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	250.19						
Architectural Coatings	8.32						
TOTALS (lbs/day, unmitigated)	262.45	47.85	23.44	0.00	0.10	0.10	61,045.56

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%

2/19/2009 02:59:31 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2013_Existing_Cumulative+Pending\Irvine Business Center- Construction.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	263.78	74.78	31.83	0.17	2.27	2.25	95,465.82

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	263.78	74.78	31.83	0.17	2.27	2.25	95,465.82

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	3.69	47.81	20.35	0.00	0.09	0.09	61,039.94
Hearth	1.58	26.97	11.48	0.17	2.18	2.16	34,425.88
Landscaping - No Winter Emissions							
Consumer Products	250.19						
Architectural Coatings	8.32						
TOTALS (lbs/day, unmitigated)	263.78	74.78	31.83	0.17	2.27	2.25	95,465.82

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%

2/19/2009 02:58:41 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2013_Existing_Cumulative+Pending\Irvine Business Center- Existing.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	96.76	47.79	38.71	0.00	0.10	0.10	57,951.31

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	96.76	47.79	38.71	0.00	0.10	0.10	57,951.31

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	3.50	47.75	36.73	0.00	0.09	0.09	57,931.59
Hearth	0.01	0.01	0.01	0.00	0.00	0.00	16.13
Landscape	0.16	0.03	1.97	0.00	0.01	0.01	3.59
Consumer Products	42.78						
Architectural Coatings	50.31						
TOTALS (tons/year, unmitigated)	96.76	47.79	38.71	0.00	0.10	0.10	57,951.31

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%

2/19/2009 02:58:20 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2013_Existing_Cumulative+Pending\Irvine Business Center- Existing.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.11	261.81	212.06	0.00	0.52	0.51	317,453.02

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.11	261.81	212.06	0.00	0.52	0.51	317,453.02

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	19.20	261.67	201.24	0.00	0.48	0.47	317,433.36
Hearth - No Summer Emissions							
Landscape	0.86	0.14	10.82	0.00	0.04	0.04	19.66
Consumer Products	234.39						
Architectural Coatings	275.66						
TOTALS (lbs/day, unmitigated)	530.11	261.81	212.06	0.00	0.52	0.51	317,453.02

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%

2/19/2009 02:58:32 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2013_Existing_Cumulative+Pending\Irvine Business Center- Existing.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.73	286.93	211.99	0.16	2.52	2.49	349,685.12

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.73	286.93	211.99	0.16	2.52	2.49	349,685.12

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	19.20	261.67	201.24	0.00	0.48	0.47	317,433.36
Hearth	1.48	25.26	10.75	0.16	2.04	2.02	32,251.76
Landscaping - No Winter Emissions							
Consumer Products	234.39						
Architectural Coatings	275.66						
TOTALS (lbs/day, unmitigated)	530.73	286.93	211.99	0.16	2.52	2.49	349,685.12

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%

2/19/2009 03:00:59 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2013_Existing_Cumulative+Pending\Irvine Business Center- Pending.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	25.72	5.32	3.09	0.00	0.01	0.01	6,721.67

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	25.72	5.32	3.09	0.00	0.01	0.01	6,721.67

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.41	5.30	2.53	0.00	0.01	0.01	6,711.51
Hearth	0.00	0.01	0.00	0.00	0.00	0.00	9.13
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.03
Consumer Products	24.22						
Architectural Coatings	1.05						
TOTALS (tons/year, unmitigated)	25.72	5.32	3.09	0.00	0.01	0.01	6,721.67

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%

2/19/2009 03:00:34 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2013_Existing_Cumulative+Pending\Irvine Business Center- Pending.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	140.93	29.07	16.96	0.00	0.07	0.06	36,781.00

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	140.93	29.07	16.96	0.00	0.07	0.06	36,781.00

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	2.22	29.03	13.87	0.00	0.06	0.05	36,775.38
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	132.71						
Architectural Coatings	5.75						
TOTALS (lbs/day, unmitigated)	140.93	29.07	16.96	0.00	0.07	0.06	36,781.00

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%

2/19/2009 03:00:46 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2013_Existing_Cumulative+Pending\Irvine Business Center- Pending.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	141.52	43.33	19.96	0.09	1.22	1.19	55,036.56

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	141.52	43.33	19.96	0.09	1.22	1.19	55,036.56

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	2.22	29.03	13.87	0.00	0.06	0.05	36,775.38
Hearth	0.84	14.30	6.09	0.09	1.16	1.14	18,261.18
Landscaping - No Winter Emissions							
Consumer Products	132.71						
Architectural Coatings	5.75						
TOTALS (lbs/day, unmitigated)	141.52	43.33	19.96	0.09	1.22	1.19	55,036.56

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%

2/18/2009 02:17:34 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Construction.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	47.91	8.75	4.28	0.00	0.02	0.02	11,158.03

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	47.91	8.75	4.28	0.00	0.02	0.02	11,158.03

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.67	8.73	3.71	0.00	0.02	0.02	11,139.79
Hearth	0.02	0.01	0.01	0.00	0.00	0.00	17.21
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.03
Consumer Products	45.66						
Architectural Coatings	1.52						
TOTALS (tons/year, unmitigated)	47.91	8.75	4.28	0.00	0.02	0.02	11,158.03

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%

2/18/2009 10:38:00 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Pending.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	262.32	47.83	21.90	0.00	0.10	0.10	61,042.75

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	262.32	47.83	21.90	0.00	0.10	0.10	61,042.75

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	3.69	47.81	20.35	0.00	0.09	0.09	61,039.94
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	250.19						
Architectural Coatings	8.32						
TOTALS (lbs/day, unmitigated)	262.32	47.83	21.90	0.00	0.10	0.10	61,042.75

Area Source Changes to Defaults

2/18/2009 02:17:26 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Construction.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	263.78	74.78	31.83	0.17	2.27	2.25	95,465.82

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	263.78	74.78	31.83	0.17	2.27	2.25	95,465.82

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	3.69	47.81	20.35	0.00	0.09	0.09	61,039.94
Hearth	1.58	26.97	11.48	0.17	2.18	2.16	34,425.88
Landscaping - No Winter Emissions							
Consumer Products	250.19						
Architectural Coatings	8.32						
TOTALS (lbs/day, unmitigated)	263.78	74.78	31.83	0.17	2.27	2.25	95,465.82

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%

2/18/2009 02:16:29 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Existing.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	96.76	47.79	38.71	0.00	0.10	0.10	57,951.31

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	96.76	47.79	38.71	0.00	0.10	0.10	57,951.31

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	3.50	47.75	36.73	0.00	0.09	0.09	57,931.59
Hearth	0.01	0.01	0.01	0.00	0.00	0.00	16.13
Landscape	0.16	0.03	1.97	0.00	0.01	0.01	3.59
Consumer Products	42.78						
Architectural Coatings	50.31						
TOTALS (tons/year, unmitigated)	96.76	47.79	38.71	0.00	0.10	0.10	57,951.31

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%

2/18/2009 10:23:02 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Existing.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.11	261.81	212.06	0.00	0.52	0.51	317,453.02

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.11	261.81	212.06	0.00	0.52	0.51	317,453.02

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	19.20	261.67	201.24	0.00	0.48	0.47	317,433.36
Hearth - No Summer Emissions							
Landscape	0.86	0.14	10.82	0.00	0.04	0.04	19.66
Consumer Products	234.39						
Architectural Coatings	275.66						
TOTALS (lbs/day, unmitigated)	530.11	261.81	212.06	0.00	0.52	0.51	317,453.02

Area Source Changes to Defaults

2/18/2009 02:16:20 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Existing.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.73	286.93	211.99	0.16	2.52	2.49	349,685.12

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	530.73	286.93	211.99	0.16	2.52	2.49	349,685.12

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	19.20	261.67	201.24	0.00	0.48	0.47	317,433.36
Hearth	1.48	25.26	10.75	0.16	2.04	2.02	32,251.76
Landscaping - No Winter Emissions							
Consumer Products	234.39						
Architectural Coatings	275.66						
TOTALS (lbs/day, unmitigated)	530.73	286.93	211.99	0.16	2.52	2.49	349,685.12

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%

2/18/2009 02:18:24 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Pending.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	25.72	5.32	3.09	0.00	0.01	0.01	6,721.67

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	25.72	5.32	3.09	0.00	0.01	0.01	6,721.67

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.41	5.30	2.53	0.00	0.01	0.01	6,711.51
Hearth	0.00	0.01	0.00	0.00	0.00	0.00	9.13
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.03
Consumer Products	24.22						
Architectural Coatings	1.05						
TOTALS (tons/year, unmitigated)	25.72	5.32	3.09	0.00	0.01	0.01	6,721.67

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%

2/18/2009 10:47:22 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Pending.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	140.93	29.07	16.96	0.00	0.07	0.06	36,781.00

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	140.93	29.07	16.96	0.00	0.07	0.06	36,781.00

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	2.22	29.03	13.87	0.00	0.06	0.05	36,775.38
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	132.71						
Architectural Coatings	5.75						
TOTALS (lbs/day, unmitigated)	140.93	29.07	16.96	0.00	0.07	0.06	36,781.00

Area Source Changes to Defaults

2/18/2009 02:18:13 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Pending.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	141.52	43.33	19.96	0.09	1.22	1.19	55,036.56

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	141.52	43.33	19.96	0.09	1.22	1.19	55,036.56

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	2.22	29.03	13.87	0.00	0.06	0.05	36,775.38
Hearth	0.84	14.30	6.09	0.09	1.16	1.14	18,261.18
Landscaping - No Winter Emissions							
Consumer Products	132.71						
Architectural Coatings	5.75						
TOTALS (lbs/day, unmitigated)	141.52	43.33	19.96	0.09	1.22	1.19	55,036.56

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%

2/18/2009 02:19:25 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Project.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	48.30	15.52	11.06	0.00	0.03	0.03	19,170.29

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	48.30	15.52	11.06	0.00	0.03	0.03	19,170.29

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	1.16	15.49	9.93	0.00	0.03	0.03	19,153.56
Hearth	0.01	0.01	0.00	0.00	0.00	0.00	14.68
Landscape	0.09	0.02	1.13	0.00	0.00	0.00	2.05
Consumer Products	38.93						
Architectural Coatings	8.11						
TOTALS (tons/year, unmitigated)	48.30	15.52	11.06	0.00	0.03	0.03	19,170.29

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%

3/11/2009 05:23:04 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2030\PDF 15-10\Irvine Business Center- Project_NonResidentia
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	7.44	8.06	7.32	0.00	0.01	0.01	9,657.10

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	7.44	8.06	7.32	0.00	0.01	0.01	9,657.10

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.58	8.05	6.76	0.00	0.01	0.01	9,656.07
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.03
Consumer Products	0.00						
Architectural Coatings	6.82						
TOTALS (tons/year, unmitigated)	7.44	8.06	7.32	0.00	0.01	0.01	9,657.10

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%

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\2030\PDF 15-10\Irvine Business Center- Project.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	40.84	7.46	3.73	0.00	0.01	0.01	9,513.20

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	40.84	7.46	3.73	0.00	0.01	0.01	9,513.20

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.57	7.44	3.17	0.00	0.01	0.01	9,497.49
Hearth	0.01	0.01	0.00	0.00	0.00	0.00	14.68
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.03
Consumer Products	38.93						
Architectural Coatings	1.29						
TOTALS (tons/year, unmitigated)	40.84	7.46	3.73	0.00	0.01	0.01	9,513.20

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%

2/18/2009 02:07:00 PM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Project.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	264.59	84.94	60.56	0.00	0.18	0.18	104,962.26

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	264.59	84.94	60.56	0.00	0.18	0.18	104,962.26

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	6.35	84.86	54.38	0.00	0.16	0.16	104,951.02
Hearth - No Summer Emissions							
Landscape	0.49	0.08	6.18	0.00	0.02	0.02	11.24
Consumer Products	213.31						
Architectural Coatings	44.44						
TOTALS (lbs/day, unmitigated)	264.59	84.94	60.56	0.00	0.18	0.18	104,962.26

Area Source Changes to Defaults

2/18/2009 02:19:00 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: P:\COI-21\Technical Studies\Air\Modeling\Stationary-URBEMIS\Irvine Business Center- Project.urb924
Project Name: Irvine Busines Center
Project Location: Orange 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

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	265.45	107.85	64.16	0.15	2.02	2.00	134,301.61

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	265.45	107.85	64.16	0.15	2.02	2.00	134,301.61

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	6.35	84.86	54.38	0.00	0.16	0.16	104,951.02
Hearth	1.35	22.99	9.78	0.15	1.86	1.84	29,350.59
Landscaping - No Winter Emissions							
Consumer Products	213.31						
Architectural Coatings	44.44						
TOTALS (lbs/day, unmitigated)	265.45	107.85	64.16	0.15	2.02	2.00	134,301.61

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%