AQ10 The construction contractor shall use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.

AQ11 The construction contractor shall cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce PM_{10} and deposition of particulate matter during transportation.

AQ12 The construction contractor shall remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter.

AQ13 The construction contractor shall route and schedule construction traffic to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads.

AQ14 The construction contractor shall install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area.

7.2 OPERATIONAL IMPACTS

No adverse operational impacts were identified and no avoidance, minimization, and/or mitigation measures are required.

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Appendix A

Wind and Climate Information

SANTA ANA FIRE STN, CALIFORNIA

Period of Record General Climate Summary - Precipitation

Station:(047888) SANTA ANA FIRE STN														
From Year=1906 To Year=2010														
	Precipitation											Total Snowfall		
	Mean	High	Year	Low	Year	1 Day Max.		>= 0.01 in.	>= 0.10 in.	>= 0.50 in.	>= 1.00 in.	Mean	High	Year
	in.	in.	-	in.	-	in.	dd/yyyy or yyyymmdd	# Days	# Days	# Days	# Days	in.	in.	-
January	2.76	13.48	1995	0.00	1945	4.22	26/1956	6	5	2	1	0.0	0.0	1936
February	3.09	13.99	1998	0.00	1961	4.69	16/1927	6	5	2	1	0.0	0.0	1918
March	2.23	10.02	1941	0.00	1956	3.42	07/1952	5	4	2	1	0.0	0.0	1935
April	1.04	6.06	1926	0.00	1928	3.52	06/1926	3	2	1	0	0.0	0.0	1940
May	0.25	2.48	1998	0.00	1924	1.19	22/1921	1	1	0	0	0.0	0.0	1917
June	0.06	1.31	1993	0.00	1922	1.26	05/1993	0	0	0	0	0.0	0.0	1935
July	0.01	0.22	1945	0.00	1920	0.22	08/1945	0	0	0	0	0.0	0.0	1935
August	0.06	2.08	1977	0.00	1916	1.79	17/1977	0	0	0	0	0.0	0.0	1916
September	0.23	3.91	1939	0.00	1921	2.81	25/1939	1	0	0	0	0.0	0.0	1943
October	0.46	4.85	2004	0.00	1937	3.15	20/2004	2	1	0	0	0.0	0.0	1936
November	1.27	6.90	1965	0.00	1929	2.90	01/1927	3	2	1	0	0.0	0.0	1935
December	2.20	8.63	1938	0.00	1929	3.72	22/1945	5	4	2	1	0.0	0.0	1916
Annual	13.68	32.36	1941	3.55	1961	4.69	19270216	34	23	10	3	0.0	0.0	1949
Winter	8.05	21.53	1998	0.79	1961	4.69	19270216	17	13	6	2	0.0	0.0	1936
Spring	3.53	14.50	1941	0.01	1997	3.52	19260406	10	7	3	1	0.0	0.0	1946
Summer	0.14	2.08	1977	0.00	1922	1.79	19770817	1	0	0	0	0.0	0.0	1935
Fall	1.96	7.37	1946	0.00	1971	3.15	20041020	6	3	1	0	0.0	0.0	1945

Table updated on Oct 28, 2010
For monthly and annual means, thresholds, and sums:
Months with 5 or more missing days are not considered
Years with 1 or more missing months are not considered
Seasons are climatological not calendar seasons
Winter = Dec., Jan., and Feb. Spring = Mar., Apr., and May
Summer = Jun., Jul., and Aug. Fall = Sep., Oct., and Nov.

SANTA ANA FIRE STN, CALIFORNIA

Period of Record General Climate Summary - Temperature

Station:(047888) SANTA ANA FIRE STN													
From Year=1906 To Year=2010													
	Monthly Averages			Daily Extremes				Monthly Extremes				Max. Temp.	
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year	>= 90 F	<= 32
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-	# Days	# Da
January	68.0	43.0	55.7	96	31/2003	22	01/1919	64.2	2003	45.0	1949	0.1	0
February	68.9	44.9	56.9	95	20/1995	25	14/1949	63.5	1995	48.8	1949	0.2	0
March	70.6	46.6	58.6	98	25/1988	29	02/1939	65.8	2004	51.8	1952	0.4	0
April	73.0	49.9	61.5	104	05/1989	31	11/1953	67.9	1992	55.1	1967	1.0	0
May	75.2	53.9	64.6	105	03/2004	35	04/1950	71.4	1997	58.9	1917	1.3	0
June	78.6	57.4	68.0	112	14/1917	39	08/1950	74.1	1981	63.7	1952	1.3	0
July	83.5	60.8	72.2	110	01/1985	39	05/1923	80.0	2006	67.0	1918	4.1	0
August	84.7	61.6	73.1	105	10/1935	45	17/1918	77.6	1983	67.4	1918	5.4	0
September	83.9	59.2	71.5	111	21/1939	40	09/1917	80.0	1984	65.7	1933	6.1	0
October	79.4	54.4	66.9	106	16/1958	34	12/1924	72.4	2008	58.9	1920	3.6	0
November	74.2	47.4	60.8	101	01/1966	24	28/1919	67.8	2008	55.0	1919	0.9	0
December	68.8	43.5	56.2	95	03/1958	22	31/1918	61.0	1977	50.5	1918	0.1	0
Annual	75.7	51.9	63.8	112	19170614	22	19181231	67.2	1997	60.7	1949	24.6	0
Winter	68.6	43.8	56.2	96	20030131	22	19181231	60.7	1986	50.9	1917	0.4	0
Spring	72.9	50.2	61.6	105	20040503	29	19390302	67.1	2004	57.2	1922	2.7	0
Summer	82.3	59.9	71.1	112	19170614	39	19230705	76.2	2006	67.1	1918	10.9	0
Fall	79.2	53.7	66.4	111	19390921	24	19191128	71.5	2008	60.2	1920	10.6	0

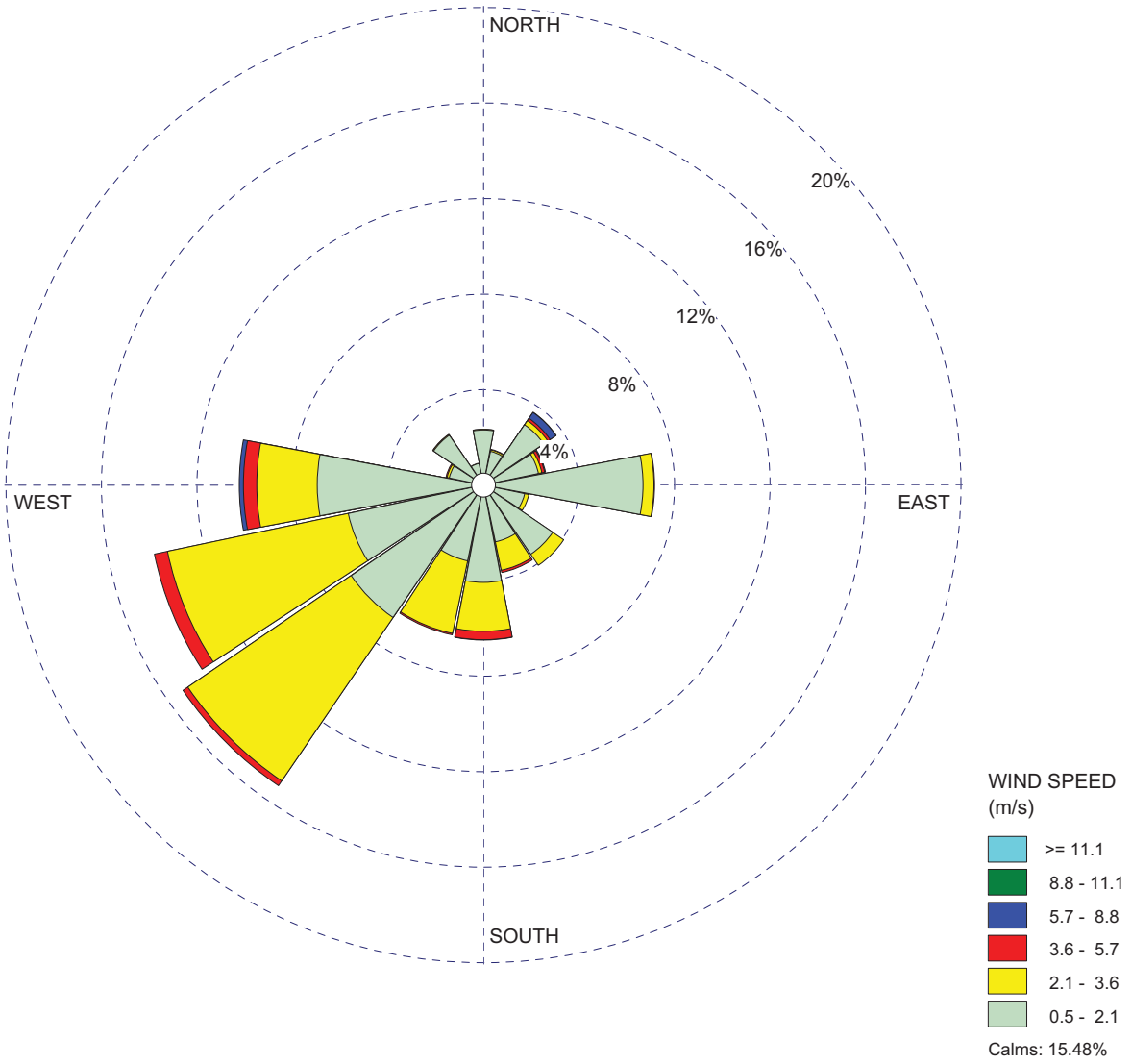
Table updated on Oct 28, 2010
For monthly and annual means, thresholds, and sums:
Months with 5 or more missing days are not considered
Years with 1 or more missing months are not considered
Seasons are climatological not calendar seasons
Winter = Dec., Jan., and Feb. Spring = Mar., Apr., and May
Summer = Jun., Jul., and Aug. Fall = Sep., Oct., and Nov.

WIND ROSE PLOT:

I-405 Freeway Expansion

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	1981 **Jan 1 - Dec 31** **00:00 - 23:00**	**TAHA**	
		MODELER:	
	CALM WINDS: **15.48%**	TOTAL COUNT: **8760 hrs.**	
	AVG. WIND SPEED: **1.54 m/s**	DATE: **12/8/2010**	PROJECT NO.: **2010-069**

WRPLOT View - Lakes Environmental Software

Appendix B

Ambient Air Data

2007 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2007

Source/Receptor Area No.	Location	Station No. State Code	Station No. District Code	Carbon Monoxide a) No. Days of Data	Carbon Monoxide Max. Conc. in ppm 1-hour	Carbon Monoxide Max Conc. in ppm 8-hour	Ozone No. Days of Data	Ozone Max. Conc. in ppm 1-hour	Ozone Max. Conc. in ppm 8-hour	Ozone Fourth High Conc. ppm 8-hour	No. Days Standard Exceeded: Health Advisory ≥ 0.15 ppm 1-hour	Federal b): > 0.12 ppm 1-hour	Federal b): > 0.08 ppm 8-hour	Federal b): > 0.075 ppm 8-hour	State c): > 0.09 ppm 1-hour	State c): > 0.070 ppm 8-hour	Nitrogen Dioxide d) No. Days of Data	Nitrogen Dioxide Max Conc. in ppm 1-hour	Nitrogen Dioxide Annual Average AAM Conc. ppm	Sulfur Dioxide e) No. Days of Data	Sulfur Dioxide Max. Conc. in ppm 1-hour	Sulfur Dioxide Max. Conc. in ppm 24-hour	Sulfur Dioxide Annual Average AAM Conc. ppm
LOS ANGELES COUNTY																							
1	Central LA	70087	087	359	3	2.2	355	0.115	0.102	0.072	0	0	2	3	3	6	360	0.10	0.0299	351	0.01	0.003	0.0009
2	Northwest Coastal LA County	70091	091	365	3	2.0	360	0.117	0.087	0.067	0	0	1	2	2	2	353	0.08	0.0200	--	--	--	--
3	Southwest Coastal LA County	70111	820	361	3	2.4	361	0.087	0.074	0.066	0	0	0	0	0	1	331*	0.08	0.0140	361	0.02	0.009	0.0028
4	South Coastal LA County 1	70072	072	347*	3	2.6	365	0.099	0.073	0.056	0	0	0	0	1	1	365	0.11	0.0207	365	0.11	0.011	0.0027
4	South Coastal LA County 2	70110	077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	West San Fernando Valley	70074	074	358	4	2.8	358	0.129	0.104	0.092	0	1	8	28	21	43	358	0.08	0.0186	--	--	--	--
7	East San Fernando Valley	70069	069	365	4	2.8	365	0.116	0.096	0.088	0	0	6	13	13	19	363	0.09	0.0289	365	0.01	0.003	0.0010
8	West San Gabriel Valley	70088	088	365	3	2.3	365	0.149	0.100	0.089	0	3	6	11	13	21	365	0.09	0.0246	--	--	--	--
9	East San Gabriel Valley 1	70060	060	365	3	1.8	365	0.158	0.112	0.096	1	3	13	20	22	28	365	0.12	0.0253	--	--	--	--
9	East San Gabriel Valley 2	70591	591	365	2	2.0	364	0.147	0.116	0.104	0	3	14	26	25	40	365	0.11	0.0227	--	--	--	--
10	Pomona/Walnut Valley	70075	075	365	3	2.0	365	0.153	0.108	0.102	1	2	10	18	19	25	365	0.10	0.0318	--	--	--	--
11	South San Gabriel Valley	70185	085	365	5	2.9	364	0.135	0.100	0.079	0	2	2	5	6	9	361	0.11	0.0249	--	--	--	--
12	South Central LA County	70084	084	365	8	5.1	365	0.102	0.077	0.056	0	0	0	1	1	2	365	0.10	0.0291	--	--	--	--
13	Santa Clarita Valley	70090	090	361	2	1.2	357	0.135	0.110	0.101	0	2	16	44	31	64	339*	0.08	0.0196	--	--	--	--
ORANGE COUNTY																							
16	North Orange County	30177	3177	360	6	2.9	365	0.152	0.107	0.082	1	1	2	8	7	9	365	0.08	0.0219	--	--	--	--
17	Central Orange County	30178	3176	346*	4	2.9	365	0.127	0.099	0.073	0	1	1	1	2	7	359	0.10	0.0208	--	--	--	--
18	North Coastal Orange County	30195	3195	362	5	3.1	362	0.082	0.072	0.065	0	0	0	0	0	2	362	0.07	0.0132	358	0.01	0.004	0.0010
19	Saddleback Valley	30002	3812	364	3	2.2	365	0.108	0.089	0.080	0	0	2	5	5	10	--	--	--	--	--	--	
RIVERSIDE COUNTY																							
22	Norco/Corona	33155	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
23	Metropolitan Riverside County 1	33144	4144	364	4	2.9	365	0.131	0.111	0.099	0	2	15	46	31	69	364	0.07	0.0206	323*	0.02	0.002	0.0017
23	Metropolitan Riverside County 2	33146	4146	365	4	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Mira Loma	33165	5214	359	3	2.1	360	0.118	0.104	0.092	0	0	10	23	16	48	349*	0.07	0.0181	--	--	--	--
24	Perris Valley	33149	4149	--	--	--	365	0.139	0.116	0.103	0	4	37	73	66	88	--	--	--	--	--	--	--
25	Lake Elsinore	33158	4158	365	2	1.4	359	0.130	0.108	0.097	0	3	19	35	26	55	358	0.06	0.0174	--	--	--	--
29	Banning Airport	33164	4164	--	--	--	365	0.129	0.113	0.095	0	1	12	43	28	63	363	0.08	0.0147	--	--	--	--
30	Coachella Valley 1**	33137	4137	365	2	0.8	365	0.126	0.101	0.097	0	1	20	58	29	83	365	0.06	0.0103	--	--	--	--
30	Coachella Valley 2**	33155	4157	--	--	--	365	0.106	0.094	0.087	0	0	6	29	8	48	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																							
32	Northwest San Bernardino Valley	36175	5175	365	2	1.7	365	0.145	0.115	0.112	0	7	18	35	32	55	327*	0.10	0.0276	--	--	--	--
33	Southwest San Bernardino Valley	36025	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	36197	5197	359	3	1.8	359	0.144	0.122	0.112	0	9	19	43	40	60	358	0.09	0.0239	359	0.01	0.004	0.0019
34	Central San Bernardino Valley 2	36203	5203	365	4	2.3	365	0.153	0.121	0.117	1	8	24	51	48	74	351	0.08	0.0245	--	--	--	--
35	East San Bernardino Valley	36204	5204	--	--	--	365	0.149	0.124	0.112	0	7	25	58	54	79	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	36181	5181	--	--	--	365	0.171	0.137	0.126	4	13	59	93	67	115	--	--	--	--	--	--	--
38	East San Bernardino Mountains	36001	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM					8	5.1		0.171	0.137	0.126	4	13	59	93	67	115		0.12	0.0318		0.11	0.011	0.0028
SOUTH COAST AIR BASIN					8	5.1		0.171	0.137	0.126	5	18	79	108	96	128		0.12	0.0318		0.11	0.011	0.0028

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data; may not be representative. ** Salton Sea Air Basin.

a) - The federal 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded, either.

b) - The federal 1-hour ozone standard was revoked and replaced by the 8-hour average ozone standard effective June 15, 2005. U.S. EPA has revised the federal 8-hour ozone standard from 0.084 ppm to 0.075 ppm, effective May 27, 2008.

c) - The 8-hour average California ozone standard of 0.070 ppm was established effective May 17, 2006.

d) - The federal standard is annual arithmetic mean NO_2 > 0.0534 ppm. California Air Resources Board has revised the NO_2 1-hour state standard from 0.25 ppm to 0.18 ppm and has established a new annual standard of 0.030 ppm, effective March 20, 2008.

e) - The state standards are 1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm. The federal standards are annual arithmetic mean SO_2 > 0.03 ppm, 24-hour average > 0.14 ppm, and 3-hour average > 0.50 ppm. The federal and state SO_2 standards were not exceeded.

South Coast Air Quality Management District
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The map showing the locations of source/receptor areas can be accessed via the Internet at http://www.aqmd.gov/telemweb/areamap.aspx. Locations of source/receptor areas are shown on the "South Coast Air Quality Management District Air Monitoring Areas" map available free of charge from SCAQMD Public Information.

2007 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2007

Source/Receptor Area No.	Location	Station No. State Code	Station No. District Code	Suspended Particulates PM10 f) No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standards Federal > 150 µg/m³ 24-hour	State > 50 µg/m³ 24-hour	Annual Average Conc. i) (AAM) µg/m³	Fine Particulates PM2.5 g) No. Days of Data	Max. Conc. in µg/m³ 24-hour	98th Percentile Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Federal Standard Current > 35 j) µg/m³ 24-hour	Old > 65 j) µg/m³ 24-hour	Annual Average Conc. k) (AAM) µg/m³	Particulates h) No. Days of Data	Max. Conc. in µg/m³ 24-hour	Annual Average Conc. (AAM) µg/m³	Lead h) Max. Monthly Average Conc. l) µg/m³	Max. Quarterly Average Conc. l) µg/m³	Sulfate h) Max. Conc. in µg/m³ 24-hour	%Samples Exceeding State Standard ≥ 25 µg/m³ 24-hour
LOS ANGELES COUNTY																					
1	Central LA	70087	087	56	78	0	5(9)	33.3	324	64.2	51.2	20(0.6)	0	16.8	58	194	73.5	0.04	0.03	10.5	0
2	Northwest Coastal LA County	70091	091	--	--	--	--	--	--	--	--	--	--	--	57	180	57.6	--	--	9.7	0
3	Southwest Coastal LA County	70111	820	56	96	0	2(4)	27.7	--	--	--	--	--	--	55	286	51.8	0.02	0.01	10.5	0
4	South Coastal LA County 1	70072	072	57	75+	0+	5(9)+	30.2+	332	82.9	40.8	12(3.6)	1(0.3)	14.6	59	732	76.5	0.02	0.01	11.1	0
4	South Coastal LA County 2	70110	077	56	123+	0+	17(30)+	41.7+	326	68.0	33.7	6(1.8)	1(0.3)	13.7	58	694	79.4	0.02	0.01	11.7	0
6	West San Fernando Valley	70074	074	--	--	--	--	--	95	43.3	33.4	1(1.1)	0	13.1	--	--	--	--	--	--	--
7	East San Fernando Valley	70069	069	54	109	0	11(20)	40.0	98	56.5	47.7	9(9.2)	0	16.8	--	--	--	--	--	--	--
8	West San Gabriel Valley	70088	088	--	--	--	--	--	108	68.9	45.4	3(2.8)	1(0.9)	14.3	56	123	46.3	--	--	22.4	0
9	East San Gabriel Valley 1	70060	060	55	83+	0+	11(20)+	35.6+	292*	63.8	49.3	19(6.5)	0	15.9	58	243	77.8	--	--	37.0++	1(1.7)++
9	East San Gabriel Valley 2	70591	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	70075	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	70185	085	--	--	--	--	--	101	63.6	49.5	5(5.0)	0	16.7	55	196	76.0	0.05	0.02	25.4++	1(1.7)++
12	South Central LA County	70084	084	--	--	--	--	--	106	49.0	46.1	4(3.8)	0	15.9	59	327	78.8	0.03	0.02	12.5	0
13	Santa Clarita Valley	70090	090	57	131+	0+	5(9)+	29.9+	--	--	--	--	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																					
16	North Orange County	30177	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	30178	3176	58	75+	0+	5(9)+	31.0+	336	79.4	46.5	14(4.2)	1(0.3)	14.5	--	--	--	--	--	--	--
18	North Coastal Orange County	30195	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	30002	3812	57	74	0	3(5)	23.0	98	46.9	35.0	2(2.0)	0	11.3	--	--	--	--	--	--	--
RIVERSIDE COUNTY																					
22	Norco/Corona	33155	4155	58	93+	0+	10(17)+	39.6+	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	33144	4144	116	118+	0+	66(57)+	54.6+	295*	75.7	54.3	33(11.2)	3(1.0)	19.1	57	237	111.0	0.02	0.01	13.0	0
23	Metropolitan Riverside County 2	33146	4146	--	--	--	--	--	101	68.6	57.3	8(7.9)	1(1.0)	18.1	60	674	88.9	0.02	0.01	9.3	0
23	Mira Loma	33165	5214	56	142	0	41(73)	68.5	110	69.7	60.1	13(11.8)	1(0.9)	21.0	--	--	--	--	--	--	--
24	Perris Valley	33149	4149	57	120+	0+	32(56)+	54.8+	--	--	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	33158	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	33164	4164	48*	78	0	7(15)	33.3	--	--	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	33137	4137	54	83	0	6(11)	30.5	104	32.5	20.5	0	0	8.7	--	--	--	--	--	--	--
30	Coachella Valley 2**	33155	4157	84*	146+	0+	51(61)+	53.5+	97	26.8	26.5	0	0	9.8	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																					
32	Northwest San Bernardino Valley	36175	5175	--	--	--	--	--	--	--	--	--	--	--	60	206	63.5	0.02	0.01	7.6	0
33	Southwest San Bernardino Valley	36025	5817	58	115+	0+	14(24)+	43.4+	102	72.8	53.0	6(5.9)	1(1.0)	17.9	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	36197	5197	56	111+	0+	33(59)+	54.9+	107	77.5	64.9	10(9.3)	2(1.9)	19.0	58	242	96.2	--	--	20.3	0
34	Central San Bernardino Valley 2	36203	5203	57	136+	0+	28(49)+	51.4+	99	72.1	68.4	11(11.1)	3(3.0)	18.3	59	536	106.9	0.04	0.02	13.6	0
35	East San Bernardino Valley	36204	5204	60	97	0	19(32)	39.7	--	--	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	36181	5181	54	89	0	2(4)	27.2	--	--	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	36001	5818	--	--	--	--	--	54	45.4	34.0	1(1.9)	0	10.4	--	--	--	--	--	--	--
DISTRICT MAXIMUM					146+	0+	66+	68.5+		82.9	68.4	33	3	21.0		732	111.0	0.05	0.03	37.0	1++
SOUTH COAST AIR BASIN					142+	0+	79+	68.5+		82.9	68.4	48	8	21.0		732	111.0	0.05	0.03	37.0	1++

µg/m³ - Micrograms per cubic meter of air. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data; may not be representative. ** Salton Sea Air Basin.

f) - PM10 samples were collected every 6 days at all sites except for Station Numbers 4144 and 4157 where samples were collected every 3 days.

g) - PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 077, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

h) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

i) - Federal annual PM10 standard (AAM > 50 µg/m³) was revoked effective December 17, 2006. State standard is annual average (AAM) > 20 µg/m³.

j) - U.S. EPA has revised the federal 24-hour PM2.5 standard from 65 µg/m³ to 35 µg/m³; effective December 17, 2006.

k) - Federal PM2.5 standard is annual average (AAM) > 15 µg/m³. State standard is annual average (AAM) > 12 µg/m³.

l) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³.

\+ - The following PM10 data samples were excluded from compliance consideration in accordance with the EPA Exceptional Event Regulation: 210 and 157 ug/m3 on March 22 and April 6, respectively, at Coachella Valley 2 (high wind events); 167 ug/m3 on April 12 at Perris Valley (high wind event); 165 and 155 ug/m3 on July 5 at East San Gabriel 1 and Central San Bernardino Valley 1, respectively (fireworks displays); and high concentrations throughout the District on October 21, with a maximum concentration of 559 ug/m3 at Metropolitan Riverside County 1 (high wind and wildfire event).

++ - High sulfate concentrations were recorded on July 5, 2008, due to the 4th of July firework activities.

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2008 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2008

Source/Receptor Area		Station No.		Carbon Monoxide a)			Ozone										Nitrogen Dioxide d)			Sulfur Dioxide e)			
											No. Days Standard Exceeded												
											Health Advisory	Federal b)			State c)								
No.	Location	State Code	District Code	No. Days of Data	Max. Conc. in ppm 1-hour	Max Conc. in ppm 8-hour	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 8-hour	Fourth High Conc. ppm 8-hour	≥ 0.150 ppm 1-hour	Old > 0.12 ppm 1-hour	Old > 0.08 ppm 8-hour	Current > 0.075 ppm 8-hour	Current > 0.09 ppm 1-hour	Current > 0.070 ppm 8-hour	No. Days of Data	Max Conc. in ppm 1-hour	Annual Average AAM Conc. ppm	No. Days of Data	Max. Conc. in ppm 1-hour	Max. Conc. in ppm 24-hour	Annual Average AAM Conc. ppm
LOS ANGELES COUNTY																							
1	Central LA	70087	087	366	3	2.1	356	0.109	0.090	0.073	0	0	1	3	3	7	343	0.12	0.0275	366	0.01	0.002	0.0003
2	Northwest Coastal LA County	70091	091	366	3	2.0	366	0.11	0.097	0.073	0	0	1	2	3	8	364	0.09	0.0184	--	--	--	--
3	Southwest Coastal LA County	70111	820	358	4	2.5	360	0.086	0.075	0.065	0	0	0	0	0	1	359	0.09	0.0143	357	0.02	0.005	0.0014
4	South Coastal LA County 1	70072	072	366	3	2.6	366	0.093	0.074	0.064	0	0	0	0	0	1	366	0.13	0.0208	366	0.09	0.012	0.0022
4	South Coastal LA County 2	70110	077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	West San Fernando Valley	70074	074	366	4	2.9	366	0.123	0.103	0.095	0	0	14	25	23	40	366	0.09	0.0180	--	--	--	--
7	East San Fernando Valley	70069	069	366	3	2.6	366	0.133	0.109	0.092	0	1	8	17	20	35	364	0.11	0.0285	366	0.01	0.003	0.0008
8	West San Gabriel Valley	70088	088	366	3	2.1	366	0.122	0.100	0.091	0	0	6	16	16	26	365	0.11	0.0235	--	--	--	--
9	East San Gabriel Valley 1	70060	060	366	2	1.6	366	0.135	0.111	0.101	0	7	14	28	34	39	366	0.10	0.0230	--	--	--	--
9	East San Gabriel Valley 2	70591	591	366	3	3.0	366	0.156	0.118	0.112	2	12	25	45	48	61	366	0.10	0.0182	--	--	--	--
10	Pomona/Walnut Valley	70075	075	366	3	2.0	366	0.141	0.110	0.100	0	5	19	35	32	47	366	0.11	0.0302	--	--	--	--
11	South San Gabriel Valley	70185	085	357	3	2.1	366	0.107	0.093	0.077	0	0	1	5	7	13	341	0.10	0.0263	--	--	--	--
12	South Central LA County+	70084+	084+	310*	6*	4.3*	310*	0.078*	0.060*	0.055*	0*	0*	0*	0*	0*	0*	305*	0.12*	0.0301*	--	--	--	--
13	Santa Clarita Valley	70090	090	363	2	1.1	363	0.160	0.131	0.108	2	8	35	60	54	81	363	0.07	0.0165	--	--	--	--
ORANGE COUNTY																							
16	North Orange County	30177	3177	366	5	2.9	366	0.104	0.084	0.078	0	0	0	5	7	15	361	0.08	0.0206	--	--	--	--
17	Central Orange County	30178	3176	366	4	3.6	366	0.105	0.086	0.076	0	0	1	4	2	10	366	0.09	0.0203	--	--	--	--
18	North Coastal Orange County	30195	3195	366	3	2.0	366	0.094	0.079	0.075	0	0	0	3	0	6	365	0.08	0.0132	366	0.01	0.003	0.0011
19	Saddleback Valley	30002	3812	365	2	1.1	365	0.118	0.104	0.092	0	0	6	15	9	25	--	--	--	--	--	--	--
RIVERSIDE COUNTY																							
22	Norco/Corona	33155	4155	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	33144	4144	366	3	2.0	366	0.146	0.116	0.111	0	8	38	64	54	88	366	0.09	0.0192	366	0.01	0.003	0.0009
23	Metropolitan Riverside County 2	33146	4146	366	7	2.0	--	--	--	--	--	--	--	--	--	--	70*	0.09*	0.0258*	--	--	--	--
23	Mira Loma	33165	5214	366	3	1.9	366	0.135	0.107	0.104	0	4	23	47	38	62	366	0.10	0.0174	--	--	--	--
24	Perris Valley	33149	4149	--	--	--	366	0.142	0.114	0.106	0	4	41	77	65	94	--	--	--	--	--	--	--
25	Lake Elsinore	33158	4158	365	1	1.0	365	0.139	0.118	0.108	0	6	32	69	49	92	362	0.06	0.0129	--	--	--	--
29	Banning Airport	33164	4164	--	--	--	365	0.149	0.120	0.108	0	10	45	74	57	95	366	0.08	0.0128	--	--	--	--
30	Coachella Valley 1**	33137	4137	366	1	0.6	366	0.11	0.101	0.098	0	0	20	51	26	70	366	0.05	0.0093	--	--	--	--
30	Coachella Valley 2**	33157	4157	--	--	--	355	0.12	0.092	0.090	0	0	11	27	11	44	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																							
32	Northwest San Bernardino Valley	36175	5175	365	2	1.6	365	0.155	0.122	0.111	2	9	30	50	51	65	365	0.09	0.0235	--	--	--	--
33	Southwest San Bernardino Valley	36025	5817	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	36197	5197	363	2	1.9	364	0.162	0.124	0.111	1	8	35	58	55	82	364	0.10	0.0207	364	0.01	0.003	0.0018
34	Central San Bernardino Valley 2	36203	5203	366	2	1.8	366	0.157	0.122	0.113	2	11	43	62	62	90	366	0.09	0.0217	--	--	--	--
35	East San Bernardino Valley	36204	5204	--	--	--	366	0.154	0.120	0.112	1	12	50	75	72	100	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	36181	5181	--	--	--	362	0.176	0.126	0.120	2	16	67	97	78	115	--	--	--	--	--	--	--
38	East San Bernardino Mountains	36001	5818	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM				366	7	4.3	366	0.176	0.131	0.120	2	16	67	97	78	115		0.13	0.0302		0.09	0.012	0.0022
SOUTH COAST AIR BASIN					7	4.3		0.176	0.131	0.120	7	28	80	120	102	140		0.13	0.0302		0.09	0.012	0.0022

ppm - Parts Per Million parts of air, by volume. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data; may not be representative. ** Salton Sea Air Basin.

\+ Site was relocated.

a) - The federal 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded, either.

b) - The federal 1-hour ozone standard was revoked and replaced by the 8-hour average ozone standard effective June 15, 2005. U.S. EPA has revised the federal 8-hour ozone standard from 0.084 ppm to 0.075 ppm, effective May 27, 2008.

c) - The 8-hour average California ozone standard of 0.070 ppm was established effective May 17, 2006.

d) - The federal standard is annual arithmetic mean NO_2 > 0.0534 ppm. California Air Resources Board has revised the NO_2 1-hour state standard from 0.25 ppm to 0.18 ppm and has established a new annual standard of 0.030 ppm, effective March 20, 2008.

e) - The state standards are 1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm. The federal standards are annual arithmetic mean SO_2 > 0.03 ppm, 24-hour average > 0.14 ppm, and 3-hour average > 0.50 ppm. The federal and state SO_2 standards were not exceeded.

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182
www.aqmd.gov

Maps showing the source/receptor area boundaries can be accessed via the Internet by entering your address in the AQMD Current Hourly Air Quality Map, accessed from http://www2.aqmd.gov/webappl/gisaqi2/VEMap3D.aspx or at http://www.aqmd.gov/map/MapAQMD2.pdf . A map is also available free of charge from the AQMD Public Information Center at 1-800-CUT-SMOG.

2008 AIR QUALITY
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

2008

Source/Receptor Area No.	Location	Station No. State Code	Station No. District Code	Suspended Particulates PM10 f) No. Days of Data	Max. Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Standards Federal > 150 µg/m³ 24-hour	No. (%) Samples Exceeding Standards State > 50 µg/m³ 24-hour	Annual Average Conc. i) (AAM) µg/m³	Fine Particulates PM2.5 g) No. Days of Data	Max. Conc. in µg/m³ 24-hour	98th Percentile Conc. in µg/m³ 24-hour	No. (%) Samples Exceeding Federal Standard Current > 35 j) µg/m³ 24-hour	No. (%) Samples Exceeding Federal Standard Old > 65 j) µg/m³ 24-hour	Annual Average Conc. k) (AAM) µg/m³	Particulates TSP h) No. Days of Data	Max. Conc. in µg/m³ 24-hour	Annual Average Conc. (AAM) µg/m³	Lead h) Max. Monthly Average Conc. l) µg/m³	Lead h) Max. Quarterly Average Conc. l) µg/m³	Sulfate h) Max. Conc. in µg/m³ 24-hour	Sulfate h) %Samples Exceeding State Standard ≥ 25 µg/m³ 24-hour
LOS ANGELES COUNTY																					
1	Central LA	70087	087	45*	66*	0*	2(4%)*	30.9*	337	78.3	40.4	10(3.0)	1(0.3)	15.7	63	112	65.6	0.02	0.02	14.4	0
2	Northwest Coastal LA County	70091	091	--	--	--	--	--	--	--	--	--	--	--	56	88	45.9	--	--	11.1	0
3	Southwest Coastal LA County	70111	820	60	50	0	0(0%)	25.6	--	--	--	--	--	--	54	85	42.4	0.01	0.01	14.0	0
4	South Coastal LA County 1	70072	072	57	62	0	1(2%)	29.1	346	57.2	38.9	8(2.3)	0	14.2	61	117	55.7	0.01	0.01	11.0	0
4	South Coastal LA County 2	70110	077	58	81	0	9(16%)	35.8	349	60.9	36.4	7(2.0)	0	13.7	59	130	61.2	0.01	0.01	13.2	0
6	West San Fernando Valley	70074	074	--	--	--	--	--	113	50.5	26.2	2(1.8)	0	11.9	--	--	--	--	--	--	--
7	East San Fernando Valley	70069	069	54	66	0	7(13%)	35.6	116	57.5	34.6	2(1.7)	0	14.1	--	--	--	--	--	--	--
8	West San Gabriel Valley	70088	088	--	--	--	--	--	118	66.0	32.1	2(1.7)	1(0.9)	12.9	55	108	46.7	--	--	14.1	0
9	East San Gabriel Valley 1	70060	060	49	98	0	13(27%)	35.3	321	53.1	34.8	5(1.6)	0	14.1	59	146	74.9	--	--	18.7	0
9	East San Gabriel Valley 2	70591	591	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10	Pomona/Walnut Valley	70075	075	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
11	South San Gabriel Valley	70185	085	--	--	--	--	--	114.	47.3	38.0	4(3.5)	0	15.0	57	119	63.2	0.02	0.02	10.1	0
12	South Central LA County+	70084+	084+	--	--	--	--	--	118	44.2	36.5	3(2.5)	0	15.5	51	103	70.4	0.03	0.02	10.6	0
13	Santa Clarita Valley	70090	090	57	91	0	2(4%)	25.8	--	--	--	--	--	--	--	--	--	--	--	--	--
ORANGE COUNTY																					
16	North Orange County	30177	3177	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	Central Orange County	30178	3176	58	61	0	3(5%)	28.6	336	67.9	39.4	13(3.9)	1(0.3)	13.7	--	--	--	--	--	--	--
18	North Coastal Orange County	30195	3195	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Saddleback Valley	30002	3812	55	42	0	0(0%)	22.6	120	32.6	27.1	0	0	10.4	--	--	--	--	--	--	--
RIVERSIDE COUNTY																					
22	Norco/Corona	33155	4155	61	86	0	9(15%)	34.4	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	33144	4144	120	115	0	49(41%)	46.6	348	57.7	41.5	14(4.0)	0	16.4	59	222	100.6	0.01	0.01	9.1	0
23	Metropolitan Riverside County 2	33146	4146	--	--	--	--	--	116	43.0	39.1	4(3.4)	0	13.4	63	130	69.4	0.01	0.01	7.1	0
23	Mira Loma	33165	5214	61	135	0	35(57%)	57.4	111	50.9	47.1	10(9.0)	0	18.2	--	--	--	--	--	--	--
24	Perris Valley	33149	4149	45*	85*	0*	12(27%)*	38.3*	--	--	--	--	--	--	--	--	--	--	--	--	--
25	Lake Elsinore	33158	4158	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
29	Banning Airport	33164	4164	56	51	0	1(2%)	26.1	--	--	--	--	--	--	--	--	--	--	--	--	--
30	Coachella Valley 1**	33137	4137	47*	75*	0*	4(9%)*	23.2*	110	18.1	17.1	0	0	7.2	--	--	--	--	--	--	--
30	Coachella Valley 2**	33157	4157	112	128	0	25(22%)	39.9	113	21.6	18.8	0	0	8.4	--	--	--	--	--	--	--
SAN BERNARDINO COUNTY																					
32	Northwest San Bernardino Valley	36175	5175	--	--	--	--	--	--	--	--	--	--	--	54	87	52.2	0.01	0.01	8.4	0
33	Southwest San Bernardino Valley	36025	5817	62	90	0	15(24%)	38.8	113	54.2	45.0	6(5.3)	0	15.8	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	36197	5197	60	75	0	14(23%)	40.3	112	49.0	47.1	6(5.4)	0	15.4	57	139	80	--	--	9.5	0
34	Central San Bernardino Valley 2	36203	5203	60	76	0	19(32%)	42.7	110	43.5	40.1	3(2.7)	0	13.5	59	166	83.6	0.02	0.02	8.6	0
35	East San Bernardino Valley	36204	5204	61	58	0	4(7%)	29.0	--	--	--	--	--	--	--	--	--	--	--	--	--
37	Central San Bernardino Mountains	36181	5181	39*	41*	0*	0(0%)*	23.9*	--	--	--	--	--	--	--	--	--	--	--	--	--
38	East San Bernardino Mountains	36001	5818	--	--	--	--	--	58	36.8	33.3	1(1.7)	0	9.2							
DISTRICT MAXIMUM					135	0	49	57.4		78.3	47.1	14	1	18.2		222	100.6	0.03	0.02	18.7	0
SOUTH COAST AIR BASIN					135	0	68	57.4		78.3	47.1	28	2	18.2		222	100.6	0.03	0.02	18.7	0

µg/m³ - Micrograms per cubic meter of air. AAM = Annual Arithmetic Mean -- - Pollutant not monitored.

* Less than 12 full months of data; may not be representative. ** Salton Sea Air Basin.

\+ Site was relocated.

f) - PM10 samples were collected every 6 days at all sites except for Station Numbers 4144 and 4157 where samples were collected every 3 days.

g) - PM2.5 samples were collected every 3 days at all sites except for the following sites: Station Numbers 060, 072, 077, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every 6 days.

h) - Total suspended particulates, lead, and sulfate were determined from samples collected every 6 days by the high volume sampler method, on glass fiber filter media.

i) - Federal annual PM10 standard (AAM > 50 µg/m³) was revoked effective December 17, 2006. State standard is annual average (AAM) > 20 µg/m³.

j) - U.S. EPA has revised the federal 24-hour PM2.5 standard from 65 µg/m³ to 35 µg/m³; effective December 17, 2006.

k) - Federal PM2.5 standard is annual average (AAM) > 15 µg/m³. State standard is annual average (AAM) > 12 µg/m³.

l) - Federal lead standard is quarterly average > 1.5 µg/m³; and state standard is monthly average ≥ 1.5 µg/m³. U.S. EPA has established the federal standard of 0.15 ug/m3, rolling 3-month average, as of October 15, 2008.

Maps showing the source/receptor area boundaries can be accessed via the Internet by entering your address in the AQMD Current Hourly Air Quality Map, accessed from http://www2.aqmd.gov/webappl/gisaqi2/VEMap3D.aspx or at http://www.aqmd.gov/map/MapAQMD2.pdf . A map is also available free of charge from the AQMD Public Information Center at 1-800-CUT-SMOG.

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Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

Costa Mesa-Mesa Verde Drive

FAQs

Year:	2007		2008		2009	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Oct 19	0.074	Nov 21	0.081	Dec 18	0.065
Second High:	Jan 9	0.073	Oct 28	0.077	Jan 7	0.062
Third High:	Oct 24	0.069	Nov 18	0.077	Nov 11	0.061
Fourth High:	Dec 4	0.069	Nov 17	0.074	Nov 25	0.061
# Days Above State Standard:		0		0		0
Annual Average:		0.013		0.013		0.013
Year Coverage:		96		95		98

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All averages are expressed in parts per million.
National exceedances are shown in **orange** . State exceedances are shown in **yellow** .
An exceedance is not necessarily a violation.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* There was insufficient (or no) data available to determine the value.

Switch: Hourly Ozone | 8-Hour Ozone | PM2.5 | PM10 | Carbon Monoxide | Sulfur Dioxide | Hydrogen Sulfide

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Highest 4 Daily Maximum Hourly Ozone Measurements

Costa Mesa-Mesa Verde Drive

FAQs

Year:	2007		2008		2009	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Aug 12	0.082	Apr 27	0.094	Aug 27	0.087
Second High:	Sep 3	0.082	Apr 28	0.085	Sep 24	0.085
Third High:	May 19	0.080	Apr 17	0.084	Aug 26	0.083
Fourth High:	May 18	0.075	Apr 26	0.084	Aug 30	0.081
# Days Above State Standard:		0		0		0
California Designation Value:		0.08		0.09		0.09
Expected Peak Day Conc.:		0.081		0.087		0.090
# Days Above Nat'l Standard:		*0*		*0*		*0*
National Design Value:		*0.080*		*0.084*		*0.085*
Year Coverage:		95		96		98

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All concentrations are expressed in parts per million.
The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics* .
State exceedances are shown in **yellow** . Exceedances of the revoked national 1-hour standard are shown in *orange* .
An exceedance is not necessarily a violation.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* There was insufficient (or no) data available to determine the value.

Switch: 8-Hour Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | Sulfur Dioxide | Hydrogen Sulfide

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Highest 4 Daily 24-Hour PM10 Averages

Anaheim-Pampas Lane

FAQs

Year:	2007		2008		2009	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Oct 21	489.0	Nov 14	61.0	Jan 1	63.0
Second High:	Oct 27	75.0	Oct 27	59.0	Jan 7	49.0
Third High:	Apr 12	69.0	Dec 3	51.0	Mar 2	48.0
Fourth High:	Jan 24	63.0	Oct 21	47.0	Aug 29	45.0
California:						
First High:	Oct 21	488.0	Nov 14	61.0	Jan 1	62.0
Second High:	Oct 27	75.0	Oct 27	58.0	Jan 7	49.0
Third High:	Apr 12	69.0	Dec 3	51.0	Mar 2	48.0
Fourth High:	Jan 24	62.0	Oct 15	46.0	Aug 29	45.0
Measured:						
# Days Above Nat'l Standard:		1		0		0
# Days Above State Standard:		6		3		1
Estimated:						
3-Yr Avg # Days Above Nat'l Std:		2.0		2.0		2.0
# Days Above Nat'l Standard:		6.1		0.0		0.0
# Days Above State Standard:		37.3		*		*
State 3-Yr Maximum Average:		38		38		38
State Annual Average:		38.4		*		*
National 3-Year Average:		*33*		*34*		*
National Annual Average:		*38.6*		*28.6*		*
Year Coverage:		99		99		87

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All concentrations are expressed in micrograms per cubic meter.
The national annual average PM10 standard was revoked in December 2006 and is no longer in effect.
Statistics related to the revoked standard are shown in *italics* or *italics* .
National exceedances are shown in **orange** . State exceedances are shown in **yellow** .
An exceedance is not necessarily a violation.
Statistics may include data that are related to an exceptional event.
State and national statistics may differ for the following reasons:
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
State and national statistics may therefore be based on different samplers.
State statistics for 1998 and later are based on *local* conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on *local* conditions).
National statistics are based on *standard* conditions.
State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.
3-Year statistics represent the listed year and the 2 years before the listed year.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* There was insufficient (or no) data available to determine the value.

Switch: Hourly Ozone | 8-Hour Ozone | PM2.5 | Carbon Monoxide | Nitrogen Dioxide | Sulfur Dioxide | Hydrogen Sulfide

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Highest 4 Daily Maximum State 24-Hour Sulfur Dioxide Averages

Costa Mesa-Mesa Verde Drive

FAQs

Year:	2007		2008		2009	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
First High:	Oct 8	0.004	May 2	0.003	Jan 17	0.004
Second High:	May 8	0.003	May 3	0.003	Jan 20	0.003
Third High:	Jul 13	0.002	Sep 30	0.003	Mar 17	0.003
Fourth High:	Aug 29	0.002	Jan 11	0.003	Feb 4	0.003
Annual Average:		0.000		0.001		0.001
Year Coverage:		94		94		95

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All averages are expressed in parts per million.
State exceedances are shown in **yellow** .
An exceedance is not necessarily a violation.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* There was insufficient (or no) data available to determine the value.

Switch: Hourly Ozone | 8-Hour Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | Hydrogen Sulfide

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Highest 4 Daily Maximum 8-Hour Carbon Monoxide Averages

Costa Mesa-Mesa Verde Drive

FAQs

Year:	2007		2008		2009	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Oct 24	3.13	Jan 19	1.97	Jan 18	2.16
Second High:	Oct 25	2.59	Feb 9	1.97	Dec 18	2.13
Third High:	Dec 4	2.54	Jan 11	1.93	Dec 19	2.04
Fourth High:	Dec 16	2.44	Jan 3	1.93	Feb 3	1.91
California:						
First High:	Oct 24	3.13	Jan 19	1.97	Jan 18	2.16
Second High:	Oct 25	2.59	Feb 9	1.97	Dec 18	2.13
Third High:	Dec 4	2.54	Jan 11	1.93	Dec 19	2.04
Fourth High:	Dec 16	2.44	Jan 2	1.93	Feb 3	1.91
# Days Above Nat'l Standard:		0		0		0
# Days Above State Standard:		0		0		0
Year Coverage:		95		95		96

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All averages are expressed in parts per million.
National exceedances are shown in **orange** . State exceedances are shown in **yellow** .
An exceedance is not necessarily a violation.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* There was insufficient (or no) data available to determine the value.

Switch: Hourly Ozone | 8-Hour Ozone | PM2.5 | PM10 | Nitrogen Dioxide | Sulfur Dioxide | Hydrogen Sulfide

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Highest 4 Daily 24-Hour PM2.5 Averages

Anaheim-Pampas Lane

FAQs

Year:	2007		2008		2009	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Nov 19	79.4	Nov 16	67.8	Jan 1	64.5
Second High:	Nov 18	60.9	Jan 12	39.4	Jan 8	43.0
Third High:	Oct 26	50.8	Jan 11	39.2	Jan 2	36.6
Fourth High:	Mar 16	48.9	Dec 31	37.3	Nov 8	35.7
California:						
First High:	Nov 19	79.4	Nov 16	67.8	Jan 1	64.5
Second High:	Nov 18	60.9	Jan 12	55.1	Jan 8	43.0
Third High:	Oct 26	50.8	Jul 4	48.7	Jan 2	36.6
Fourth High:	Mar 16	48.9	Feb 8	44.8	Nov 8	35.7
Estimated Days > Nat'l 24-Hr Std:		15.7		*		4.3
Measured Days > Nat'l 24-Hr Std:		14		5		4
Nat'l 24-Hr Std Design Value:		42		38		37
Nat'l 24-Hr Std 98th Percentile:		46.5		31.2		32.1
National Annual Std Design Value:		14.4		*		*
National Annual Average:		14.3		*		11.7
State Ann'l Std Designation Value:		*		*		*
State Annual Average:		*		*		*
Year Coverage:		92		74		88

Go Backward One Year | New Top 4 Summary | Go Forward One Year

Notes: All concentrations are expressed in micrograms per cubic meter.
National exceedances are shown in **orange** . State exceedances are shown in **yellow** .
An exceedance is not necessarily a violation.
State and national statistics may differ for the following reasons:
State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods.
State and national statistics may therefore be based on different samplers.
State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.
Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.
* There was insufficient (or no) data available to determine the value.

Switch: Hourly Ozone | 8-Hour Ozone | PM10 | Carbon Monoxide | Nitrogen Dioxide | Sulfur Dioxide | Hydrogen Sulfide

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Appendix C

Regional Construction Emissions

Road Construction Emissions Model

Version 6.3.2

Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

Input Type		
Project Name	I-405 Roadway Expansion	
Construction Start Year	2015	Enter a Year between 2005 and 2025 (inclusive)
Project Type	2	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	54.0	months
Predominant Soil/Site Type: Enter 1, 2, or 3	2	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	14	miles
Total Project Area	485.0	acres
Maximum Area Disturbed/Day	4.5	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	622.0	yd^3/day
Soil Exported	604.0	yd^3/day
Average Truck Capacity	20.0	yd^3 (assume 20 if unknown)

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months	2005	%	2006	%	2007
Grubbing/Land Clearing		5.40	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		24.30	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		16.20	0.00	0.00	0.00	0.00	0.00
Paving		8.10	0.00	0.00	0.00	0.00	0.00
Totals	0.00	54.00					

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions	User Override of Soil Hauling Defaults	Default Values
User Input		
Miles/round trip		30
Round trips/day		61
Vehicle miles traveled/day (calculated)		1839

Hauling Emissions	ROG	NOx	CO	PM10	PM2.5	CO2

Emission rate (grams/mile)	0.62	7.07	3.64	0.29	0.23	1889.54
Emission rate (grams/trip)	8.29	6.79	129.76	0.01	0.01	167.47
Pounds per day	4.8	30.5	49.8	1.2	0.9	7699.1
Tons per contruction period	1.41	9.05	14.79	0.34	0.27	2286.64

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values
Miles/ one-way trip		20
One-way trips/day		2
No. of employees: Grubbing/Land Clearing		38
No. of employees: Grading/Excavation		41
No. of employees: Drainage/Utilities/Sub-Grade		40
No. of employees: Paving		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.094	0.169	1.799	0.033	0.018	426.460
Emission rate - Grading/Excavation (grams/mile)	0.083	0.150	1.620	0.033	0.018	426.260
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.067	0.122	1.349	0.033	0.018	425.732
Emission rate - Paving (grams/mile)	0.061	0.110	1.244	0.033	0.018	425.410
Emission rate - Grubbing/Land Clearing (grams/trip)	0.631	0.264	6.163	0.140	0.013	193.430
Emission rate - Grading/Excavation (grams/trip)	0.576	0.239	5.617	0.140	0.013	193.777
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.491	0.200	4.763	0.140	0.013	194.263
Emission rate - Paving (grams/trip)	0.455	0.182	4.387	0.140	0.013	194.510
Pounds per day - Grubbing/Land Clearing	0.519	0.646	7.980	0.155	0.064	1472.917
Tons per const. Period - Grub/Land Clear	0.034	0.043	0.527	0.010	0.004	97.213
Pounds per day - Grading/Excavation	0.464	0.575	7.209	0.155	0.064	1472.371
Tons per const. Period - Grading/Excavation	0.138	0.171	2.141	0.046	0.019	437.294
Pounds per day - Drainage/Utilities/Sub-Grade	0.382	0.468	6.030	0.155	0.064	1470.786
Tons per const. Period - Drain/Util/Sub-Grade	0.076	0.093	1.194	0.031	0.013	291.216
Pounds per day - Paving	0.365	0.424	5.560	0.155	0.064	1563.508
Tons per const. Period - Paving	0.036	0.042	0.550	0.015	0.006	154.787
tons per construction period	0.284	0.348	4.412	0.102	0.042	980.510

Water truck default values can be overriden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Day	Default Values Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		1		40
Grading/Excavation - Exhaust		1		40
Drainage/Utilities/Subgrade		1		40

	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.69	8.02	4.18	0.32	0.26	1885.03
Emission rate - Grading/Excavation (grams/mile)	0.62	7.07	3.64	0.29	0.23	1889.54
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.52	5.73	2.90	0.24	0.18	1895.82
Pounds per day - Grubbing/Land Clearing	0.06	0.71	0.37	0.03	0.02	166.08
Tons per const. Period - Grub/Land Clear	0.02	0.21	0.11	0.01	0.01	49.33
Pound per day - Grading/Excavation	0.05	0.62	0.32	0.03	0.02	166.48
Tons per const. Period - Grading/Excavation	0.02	0.18	0.10	0.01	0.01	49.44
Pound per day - Drainage/Utilities/Subgrade	0.05	0.50	0.26	0.02	0.02	167.03

Tons per const. Period - Drainage/Utilities/Subgrade	0.01	0.10	0.05	0.00	0.00	33.07

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		4.5	45.0	3.0	9.4	0.6
Fugitive Dust - Grading/Excavation		4.5	45.0	13.4	9.4	2.8
Fugitive Dust - Drainage/Utilities/Subgrade		4.5	45.0	8.9	9.4	1.9

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Dozers	1.38	5.84	11.27	0.46	0.43	1245.79
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.46	5.39	12.19	0.47	0.43	1623.76
0.00	28	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	2.8	11.2	23.5	0.9	0.9	2869.5
	Grubbing/Land Clearing	tons per phase	0.2	0.7	1.5	0.1	0.1	189.4

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00

	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.47	3.24	3.17	0.17	0.16	547.36
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.63	3.82	4.48	0.25	0.23	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	0	Other Construction Equipment	0.12	0.83	0.87	0.06	0.06	129.50
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.44	2.69	3.13	0.17	0.16	458.86
	1	Scrapers	1.37	5.08	11.13	0.43	0.39	1623.76
0.00	28	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	3.0	15.7	22.8	1.1	1.0	3407.4
	Grading	tons per phase	0.9	4.7	6.8	0.3	0.3	1012.0

	Default							
Drainage/Utilities/Subgrade	Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.56	3.81	3.68	0.20	0.19	647.87
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00

	1	Plate Compactors	0.02	0.09	0.11	0.00	0.00	14.83
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	1.24	4.63	9.46	0.36	0.33	1623.76
0.00	28	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
	1	Trenchers	0.52	2.45	3.22	0.26	0.24	353.84
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	2.3	11.0	16.5	0.8	0.8	2640.3
	Drainage	tons per phase	0.5	2.2	3.3	0.2	0.2	522.8

Paving	Default Number of Vehicles		ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	*Program-estimate*	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Pavers	0.54	2.70	3.26	0.26	0.24	386.18
	1	Paving Equipment	0.41	2.03	2.45	0.20	0.18	291.96
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	2	Rollers	0.64	3.96	4.17	0.31	0.29	599.72
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
0.00	28	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00

		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	1.6	8.7	9.9	0.8	0.7	1277.9
	Paving	tons per phase	0.2	0.9	1.0	0.1	0.1	126.5
Total Emissions all Phases (tons per construction period) =>			1.7	8.4	12.6	0.6	0.6	1850.7

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C285 through C317, E285 through E317, and G285 through G317.

Equipment		Default Values Horsepower		Default Values Load Factor		Default Values Hours/day
Aerial Lifts		60		0.46		8
Air Compressors		106		0.48		8
Bore/Drill Rigs		291		0.75		8
Cement and Mortar Mixers		10		0.56		8
Concrete/Industrial Saws		19		0.73		8
Cranes		399		0.43		8
Crushing/Proc. Equipment		142		0.78		8
Excavators		168		0.57		8
Forklifts		145		0.30		8
Generator Sets		549		0.74		8
Graders		174		0.61		8
Off-Highway Tractors		267		0.65		8
Off-Highway Trucks		479		0.57		8
Other Construction Equipment		75		0.62		8
Other General Industrial Equipment		238		0.51		8
Other Material Handling Equipment		191		0.59		8
Pavers		100		0.62		8
Paving Equipment		104		0.53		8
Plate Compactors		8		0.43		8
Pressure Washers		1		0.60		8
Pumps		53		0.74		8
Rollers		95		0.56		8
Rough Terrain Forklifts		93		0.60		8
Rubber Tired Dozers		357		0.59		8
Rubber Tired Loaders		157		0.54		8
Scrapers		313		0.72		8
Signal Boards		20		0.78		8
Skid Steer Loaders		44		0.55		8
Surfacing Equipment		362		0.45		8
Sweepers/Scrubbers		91		0.68		8
Tractors/Loaders/Backhoes		108		0.55		8
Trenchers		63		0.75		8
Welders		45		0.45		8

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for -> I-405 Roadway Expansion Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	3.4	19.6	24.8	46.1	1.1	45.0	10.3	0.9	9.4	4,508.5
Grading/Excavation	8.4	73.9	55.3	47.5	2.5	45.0	11.4	2.0	9.4	12,743.5
Drainage/Utilities/Sub-Grade	2.8	17.6	18.0	46.0	1.0	45.0	10.2	0.9	9.4	4,278.4
Paving	2.0	14.4	10.5	0.9	0.9	-	0.8	0.8	-	2,841.6
Maximum (pounds/day)	8.4	73.9	55.3	47.5	2.5	45.0	11.4	2.0	9.4	12,743.5
Total (tons/construction project)	3.1	25.4	20.5	23.7	1.0	22.7	5.6	0.8	4.7	4,724.3

Notes:

Project Start Year ->	2015
Project Length (months) ->	54
Total Project Area (acres) ->	485
Maximum Area Disturbed/Day (acres) ->	5
Total Soil Imported/Exported (yd^3/day)->	1226

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> I-405 Roadway Expansion Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	1.6	8.9	11.3	21.0	0.5	20.5	4.7	0.4	4.3	2,049.3
Grading/Excavation	3.8	33.6	25.1	21.6	1.1	20.5	5.2	0.9	4.3	5,792.5
Drainage/Utilities/Sub-Grade	1.3	8.0	8.2	20.9	0.5	20.5	4.6	0.4	4.3	1,944.7
Paving	0.9	6.5	4.8	0.4	0.4	-	0.4	0.4	-	1,291.7
Maximum (kilograms/day)	3.8	33.6	25.1	21.6	1.1	20.5	5.2	0.9	4.3	5,792.5
Total (megagrams/construction project)	2.9	23.0	18.6	21.5	0.9	20.6	5.0	0.7	4.3	4,285.1

Notes:

Project Start Year ->	2015
Project Length (months) ->	54
Total Project Area (hectares) ->	196
Maximum Area Disturbed/Day (hectares) ->	2
Total Soil Imported/Exported (meters ^{3}/day)->	937

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Appendix D

Regional Operational Emissions

Existing Operational Emissions

Existing 2009	Northbound						Southbound					
Morning Peak Period 6:00-9:00AM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	91672	8442	C	B	65	65	108749	10206	E	D	45	55
Brookhurst to SR-22 East	156842	30233	F	D	43	53	138978	26110	F	D	17	47
SR-22 East to I-605	112890	13910	F	D	35	55	108042	10947	F	D	31	51

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	25	583	156	99097	6	1	9	6	1	0
Brookhurst to SR-22 East	30	871	199	130144	8	1	13	8	1	0
SR-22 East to I-605	24	684	143	100199	6	1	10	6	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	20	596	139	89944	6	1	9	6	1	0
Brookhurst to SR-22 East	65	1204	214	199894	14	2	20	14	1	0
SR-22 East to I-605	26	695	140	102509	7	1	10	7	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	54	14	9126	1	0	1	1	0	0
Brookhurst to SR-22 East	6	163	41	26054	2	0	3	2	0	0
SR-22 East to I-605	3	76	20	12277	1	0	1	1	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	56	14	9008	1	0	1	1	0	0
Brookhurst to SR-22 East	6	150	40	25059	1	0	2	1	0	0
SR-22 East to I-605	3	66	18	11236	1	0	1	1	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
213	5197	1139	814546	53	8	88	54

Existing 2009	Northbound						Southbound					
Evening Peak Period 3:00-7:00PM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	120960	20118	F	F	30	40	113467	15383	D	D	53	63
Brookhurst to SR-22 East	212996	44443	F	E	45	55	199850	42077	F	E	50	60
SR-22 East to I-605	141126	19955	F	D	47	55	154950	19594	F	F	45	55

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	30	791	157	117104	8	1	12	8	1	0
Brookhurst to SR-22 East	40	1167	273	176166	11	2	18	11	2	0
SR-22 East to I-605	26	766	183	116975	7	1	12	7	1	0

Existing Operational Emissions

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	22	614	156	97783	6	1	10	6	1	0
Brookhurst to SR-22 East	38	1077	265	167878	10	2	17	10	2	0
SR-22 East to I-605	29	849	198	128157	8	1	13	8	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	4	115	25	16946	1	0	2	1	0	0
Brookhurst to SR-22 East	9	242	63	39225	2	0	4	2	0	0
SR-22 East to I-605	4	109	28	17612	1	0	2	1	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	4	93	25	15788	1	0	1	1	0	0
Brookhurst to SR-22 East	10	242	64	40383	2	0	4	2	0	0
SR-22 East to I-605	4	107	28	17293	1	0	2	1	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
220	6171	1465	951312	59	10	106	61

Existing 2009	**Northbound**						**Southbound**					
Non-Peak Periods	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	237220	10553	A	A	65	65	289387	3822	A	A	65	65
Brookhurst to SR-22 East	438718	40789	A	A	65	65	486990	26194	A	A	65	65
SR-22 East to I-605	265683	8506	A	A	65	65	350480	4349	A	A	65	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	65	1508	404	256433	15	3	24	15	2	0
Brookhurst to SR-22 East	121	2789	748	474251	28	5	44	28	4	1
SR-22 East to I-605	73	1689	453	287202	17	3	26	17	2	1

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	80	1840	493	312825	19	3	29	19	2	1
Brookhurst to SR-22 East	134	3096	830	526433	31	5	48	31	4	1
SR-22 East to I-605	97	2228	597	378866	22	4	35	22	3	1

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	3	67	18	11407	1	0	1	1	0	0
Brookhurst to SR-22 East	11	259	70	44093	3	0	4	3	0	0
SR-22 East to I-605	2	54	14	9194	1	0	1	1	0	0

Southbound HOV Emissions

Existing Operational Emissions

Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	24	7	4132	0	0	0	0	0	0
Brookhurst to SR-22 East	7	167	45	28316	2	0	3	2	0	0
SR-22 East to I-605	1	28	7	4701	0	0	0	0	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
596	13751	3686	2337851	138	24	232	143

Total Existing 2009 Emissions								
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**	**CO2e (Metric tons/day)**
1,030	25,119	6,290	4,103,709	250	42	426	258	1864

Future 2020 Operational Emissions

2020 Baseline - No Build	Northbound						Southbound					
Morning Peak Period 6:00-9:00AM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	112413	18736	E	E	45	45	141883	23646	F	F	13	13
Brookhurst to SR-22 East	198814	49700	F	F	16	16	199311	49826	F	F	14	14
SR-22 East to I-605	129722	38454	F	F	24	40	130650	38765	F	F	19	39

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	9	288	58	93393	3	1	9	9	1	0
Brookhurst to SR-22 East	40	894	153	357954	14	4	34	32	2	0
SR-22 East to I-605	17	445	75	146433	5	1	14	13	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	36	621	105	243559	10	3	23	22	1	0
Brookhurst to SR-22 East	47	850	143	326712	13	3	31	29	2	0
SR-22 East to I-605	21	495	82	173925	7	2	16	16	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	48	10	15565	0	0	2	1	0	0
Brookhurst to SR-22 East	10	224	38	89482	4	1	8	8	0	0
SR-22 East to I-605	3	103	20	32539	1	0	3	3	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	6	104	18	40591	2	0	4	4	0	0
Brookhurst to SR-22 East	12	213	36	81675	3	1	8	7	0	0
SR-22 East to I-605	3	105	20	33055	1	0	3	3	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
205	4390	755	1634883	62	16	164	149

2020 Baseline - No Build	Northbound						Southbound					
Evening Peak Period 3:00-7:00PM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	166590	27766	F	F	25	25	152852	25477	E	E	39	39
Brookhurst to SR-22 East	283262	70812	F	F	12	12	254254	63560	F	F	15	15
SR-22 East to I-605	173520	51430	F	F	25	42	172186	50986	F	F	22	43

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	21	561	94	182753	7	2	17	17	1	0
Brookhurst to SR-22 East	78	1274	217	509998	21	5	48	46	2	1

SR-22 East to I-605	21	584	98	190356	7	2	18	18	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	13	416	78	130338	4	1	13	12	1	0
Brookhurst to SR-22 East	55	1058	177	398586	16	4	37	35	2	1
SR-22 East to I-605	24	614	102	206702	8	2	19	19	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	3	93	16	30459	1	0	3	3	0	0
Brookhurst to SR-22 East	20	318	54	127493	5	1	12	11	1	0
SR-22 East to I-605	4	135	26	43027	1	0	4	4	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	69	13	21724	1	0	2	2	0	0
Brookhurst to SR-22 East	14	264	44	99641	4	1	9	9	1	0
SR-22 East to I-605	4	133	26	42499	1	0	4	4	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
259	5520	946	1983576	75	20	199	183

2020 Baseline - No Build	**Northbound**						**Southbound**					
Non-Peak Periods	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	378165	16933	A	A	65	65	353455	9062	A	A	65	65
Brookhurst to SR-22 East	647815	71981	B	A	65	65	581469	64610	A	A	65	65
SR-22 East to I-605	384026	73270	A	A	65	65	395402	58278	A	A	65	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	48	1010	266	409563	13	4	35	34	3	1
Brookhurst to SR-22 East	81	1730	456	701603	21	7	60	59	5	1
SR-22 East to I-605	48	1025	270	415911	13	4	36	35	3	1

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	44	944	249	382802	12	4	33	32	3	1
Brookhurst to SR-22 East	73	1552	409	629748	19	6	54	53	5	1
SR-22 East to I-605	50	1056	278	428232	13	4	37	36	3	1

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	45	12	18339	1	0	2	2	0	0

Brookhurst to SR-22 East	9	192	51	77958	2	1	7	7	1	0
SR-22 East to I-605	9	196	52	79354	2	1	7	7	1	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	24	6	9814	0	0	1	1	0	0
Brookhurst to SR-22 East	8	172	45	69975	2	1	6	6	1	0
SR-22 East to I-605	7	156	41	63117	2	1	5	5	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
381	8101	2134	3286415	100	33	305	280

Total 2020 Baseline Emissions								
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**	**CO2e (Metric tons/day)**
845	18,011	3,836	6,904,874	238	69	669	612	3134

2020 Alternative 1	**Northbound**						**Southbound**					
Morning Peak Period 6:00-9:00AM	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	112413	18736	D	D	58	58	141883	23646	F	F	18	18
Brookhurst to SR-22 East	207095	41419	E	E	44	44	207620	41524	F	F	33	33
SR-22 East to I-605	132598	35578	E	E	43	53	133562	35853	E	E	42	52

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	11	278	67	104223	3	1	10	9	1	0
Brookhurst to SR-22 East	16	535	106	172224	5	2	17	16	2	0
SR-22 East to I-605	11	346	68	110527	4	1	11	11	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	25	576	96	213042	8	2	20	19	1	0
Brookhurst to SR-22 East	20	612	108	190768	6	2	19	18	2	0
SR-22 East to I-605	11	352	68	111739	4	1	11	11	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	46	11	17370	0	0	2	2	0	0
Brookhurst to SR-22 East	3	107	21	34445	1	0	3	3	0	0
SR-22 East to I-605	3	87	20	30778	1	0	3	3	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	4	96	16	35505	1	0	3	3	0	0
Brookhurst to SR-22 East	4	122	22	38154	1	0	4	4	0	0

SR-22 East to I-605	3	88	20	30714	1	0	3	3	0	0

Total Daily Emissions							
ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5
113	3245	623	1089488	36	11	115	103

2020 Alternative 1	Northbound						Southbound					
Evening Peak Period 3:00-7:00PM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV
SR-73 to Brookhurst	166590	27766	F	F	42	42	152852	25477	E	E	52	52
Brookhurst to SR-22 East	295064	59010	F	F	33	33	264845	52969	E	E	44	44
SR-22 East to I-605	177366	47584	E	E	45	54	175981	47190	E	E	45	54

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	14	439	85	139370	4	1	14	14	1	0
Brookhurst to SR-22 East	28	870	154	271114	9	3	27	25	2	1
SR-22 East to I-605	14	454	91	147356	4	2	14	14	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	13	376	83	130944	4	1	13	12	1	0
Brookhurst to SR-22 East	21	684	136	220250	7	2	22	21	2	1
SR-22 East to I-605	14	450	91	146205	4	2	14	14	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	73	14	23229	1	0	2	2	0	0
Brookhurst to SR-22 East	6	174	31	54220	2	1	5	5	0	0
SR-22 East to I-605	4	117	27	41625	1	0	4	4	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	63	14	21825	1	0	2	2	0	0
Brookhurst to SR-22 East	4	137	27	44050	1	0	4	4	0	0
SR-22 East to I-605	4	116	26	41280	1	0	4	4	0	0

Total Daily Emissions							
ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5
126	3951	780	1281467	40	13	139	124

2020 Alternative 1	Northbound						Southbound					
Non-Peak Periods	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV
SR-73 to Brookhurst	378165	16933	A	A	65	65	353455	9062	A	A	65	65
Brookhurst to SR-22 East	671804	47985	A	A	65	65	603001	43071	A	A	65	65

SR-22 East to I-605	394528	62765	A	A	65	65	403117	50563	A	A	65	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	48	1010	266	409563	13	4	35	34	3	1
Brookhurst to SR-22 East	84	1794	472	727584	22	7	62	61	5	1
SR-22 East to I-605	50	1053	277	427285	13	4	37	36	3	1

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	44	944	249	382802	12	4	33	32	3	1
Brookhurst to SR-22 East	76	1610	424	653068	20	7	56	55	5	1
SR-22 East to I-605	51	1076	283	436587	13	4	37	36	3	1

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	45	12	18339	1	0	2	2	0	0
Brookhurst to SR-22 East	6	128	34	51969	2	1	4	4	0	0
SR-22 East to I-605	8	168	44	67976	2	1	6	6	1	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	24	6	9814	0	0	1	1	0	0
Brookhurst to SR-22 East	5	115	30	46647	1	0	4	4	0	0
SR-22 East to I-605	6	135	36	54761	2	1	5	5	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
381	8101	2134	3286396	100	33	305	280

Total 2020 Alternative 1 Emissions								
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**	**CO2e (Metric tons/day)**
620	15,297	3,537	5,657,351	177	58	559	508	2568

2020 Alternative 2	**Northbound**						**Southbound**					
Morning Peak Period 6:00-9:00AM	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	112413	18736	D	D	60	60	141883	23646	F	F	22	22
Brookhurst to SR-22 East	213010	35504	D	D	62	62	213549	35595	E	E	51	51
SR-22 East to I-605	136336	31840	D	D	53	60	137325	32086	E	E	51	57

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	12	282	70	108190	3	1	10	9	1	0
Brookhurst to SR-22 East	23	544	139	214007	6	2	19	18	2	0
SR-22 East to I-605	12	335	75	117942	4	1	11	11	1	0

Future 2020 Operational Emissions

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	20	506	84	170325	6	2	16	15	1	0
Brookhurst to SR-22 East	18	527	115	181409	5	2	18	17	2	0
SR-22 East to I-605	12	339	74	116657	3	1	12	11	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	47	12	18032	1	0	2	2	0	0
Brookhurst to SR-22 East	4	91	23	35670	1	0	3	3	0	0
SR-22 East to I-605	3	80	20	30644	1	0	3	3	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	3	84	14	28386	1	0	3	3	0	0
Brookhurst to SR-22 East	3	88	19	30238	1	0	3	3	0	0
SR-22 East to I-605	3	79	19	29259	1	0	3	3	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
115	3000	664	1080758	33	10	111	100

2020 Alternative 2	**Northbound**						**Southbound**					
Evening Peak Period 3:00-7:00PM	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	166590	27766	F	F	47	47	152852	25477	E	E	56	56
Brookhurst to SR-22 East	303492	50582	E	E	56	56	272412	45402	D	D	56	56
SR-22 East to I-605	182365	42586	D	D	55	62	180941	42230	E	E	55	60

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	14	420	87	138687	4	1	14	13	1	0
Brookhurst to SR-22 East	28	745	175	272567	8	3	25	25	2	1
SR-22 East to I-605	16	447	104	161529	5	2	15	15	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	14	375	88	137277	4	1	13	12	1	0
Brookhurst to SR-22 East	25	669	157	244654	7	2	23	22	2	1
SR-22 East to I-605	16	444	103	160268	5	2	15	15	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	70	14	23115	1	0	2	2	0	0
Brookhurst to SR-22 East	5	124	29	45428	1	0	4	4	0	0

SR-22 East to I-605	5	109	28	42785	1	0	4	4	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	63	15	22880	1	0	2	2	0	0
Brookhurst to SR-22 East	4	112	26	40776	1	0	4	4	0	0
SR-22 East to I-605	4	106	26	40644	1	0	4	4	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
136	3683	853	1330608	39	13	137	125

2020 Alternative 2	**Northbound**						**Southbound**					
Non-Peak Periods	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	378165	16933	A	A	65	65	353455	9062	A	A	65	65
Brookhurst to SR-22 East	688947	30849	A	A	65	65	618387	27692	A	A	65	65
SR-22 East to I-605	416474	40819	A	A	65	65	413197	40480	A	A	65	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	48	1010	266	409563	13	4	35	34	3	1
Brookhurst to SR-22 East	87	1839	485	746150	23	8	64	62	6	1
SR-22 East to I-605	52	1112	293	451053	14	5	39	38	3	1

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	44	944	249	382802	12	4	33	32	3	1
Brookhurst to SR-22 East	78	1651	435	669731	20	7	57	56	5	1
SR-22 East to I-605	52	1103	291	447504	14	5	38	37	3	1

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	45	12	18339	1	0	2	2	0	0
Brookhurst to SR-22 East	4	82	22	33410	1	0	3	3	0	0
SR-22 East to I-605	5	109	29	44208	1	0	4	4	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	24	6	9814	0	0	1	1	0	0
Brookhurst to SR-22 East	3	74	19	29991	1	0	3	3	0	0
SR-22 East to I-605	5	108	28	43841	1	0	4	4	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
381	8101	2134	3286408	100	33	305	280

Total 2020 Alternative 2 Emissions								
ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	CO2e (Metric tons/day)
633	14,784	3,651	5,697,774	173	57	554	504	2586

2020 Alternative 3	Northbound						Southbound					
Morning Peak Period 6:00-9:00AM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	GP	Express	GP	Express	GP	Express	GP	Express	GP	Express	GP	Express
SR-73 to Brookhurst	102683	28462	D	C	64	65	134120	31409	F	C	37	65
Brookhurst to SR-22 East	195510	53004	E	C	58	65	190253	58891	F	C	45	65
SR-22 East to I-605	137664	30509	E	D	47	65	138902	30509	E	D	43	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	12	270	70	108304	3	1	10	9	1	0
Brookhurst to SR-22 East	19	483	117	181265	5	2	17	16	2	0
SR-22 East to I-605	11	347	72	114606	3	1	11	11	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	12	374	69	116611	4	1	12	11	1	0
Brookhurst to SR-22 East	15	487	98	158062	5	2	16	15	2	0
SR-22 East to I-605	11	362	71	115782	4	1	12	11	1	0

Northbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	4	76	20	30825	1	0	3	3	0	0
Brookhurst to SR-22 East	7	142	37	57405	2	1	5	5	0	0
SR-22 East to I-605	4	81	21	33042	1	0	3	3	0	0

Southbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	4	84	22	34017	1	0	3	3	0	0
Brookhurst to SR-22 East	7	157	41	63781	2	1	5	5	0	0
SR-22 East to I-605	4	81	21	33042	1	0	3	3	0	0

Total Daily Emissions							
ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5
110	2944	660	1046742	32	11	107	97

2020 Alternative 3	Northbound						Southbound					
Evening Peak Period 3:00-7:00PM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	GP	Express	GP	Express	GP	Express	GP	Express	GP	Express	GP	Express
SR-73 to Brookhurst	152282	42074	E	C	58	65	140196	38129	D	C	62	65
Brookhurst to SR-22 East	275191	78890	E	C	51	65	240240	77574	E	C	51	65
SR-22 East to I-605	184077	40870	E	D	48	65	182298	40870	E	D	46	65

Future 2020 Operational Emissions

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	15	376	91	141186	4	1	13	13	1	0
Brookhurst to SR-22 East	23	679	149	233774	7	2	23	22	2	1
SR-22 East to I-605	15	461	97	153711	4	2	15	15	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	15	358	91	140852	4	1	13	12	1	0
Brookhurst to SR-22 East	20	593	130	204083	6	2	20	19	2	0
SR-22 East to I-605	14	463	94	151507	4	2	15	14	1	0

Northbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	5	112	30	45567	1	0	4	4	0	0
Brookhurst to SR-22 East	10	211	55	85440	3	1	7	7	1	0
SR-22 East to I-605	5	109	29	44264	1	0	4	4	0	0

Southbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	5	102	27	41295	1	0	4	3	0	0
Brookhurst to SR-22 East	10	207	55	84015	3	1	7	7	1	0
SR-22 East to I-605	5	109	29	44264	1	0	4	4	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
143	3779	876	1369957	40	14	140	127

2020 Alternative 3	**Northbound**						**Southbound**					
Non-Peak Periods	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**Express**	**GP**	**Express**	**GP**	**Express**	**GP**	**Express**	**GP**	**Express**	**GP**	**Express**
SR-73 to Brookhurst	379295	15803	A	A	65	65	355264	7252	A	A	65	65
Brookhurst to SR-22 East	690998	28791	A	A	65	65	620235	25844	A	A	65	65
SR-22 East to I-605	443578	13718	A	A	65	65	440067	13610	A	A	65	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	48	1013	267	410788	13	4	35	34	3	1
Brookhurst to SR-22 East	87	1845	486	748371	23	8	64	62	6	1
SR-22 East to I-605	56	1184	312	480408	15	5	41	40	4	1

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	45	948	250	384761	12	4	33	32	3	1
Brookhurst to SR-22 East	78	1656	436	671733	21	7	57	56	5	1

SR-22 East to I-605	55	1175	309	476606	15	5	41	40	4	1

Northbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	42	11	17115	1	0	1	1	0	0
Brookhurst to SR-22 East	4	77	20	31182	1	0	3	3	0	0
SR-22 East to I-605	2	37	10	14857	0	0	1	1	0	0

Southbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	19	5	7854	0	0	1	1	0	0
Brookhurst to SR-22 East	3	69	18	27990	1	0	2	2	0	0
SR-22 East to I-605	2	36	10	14740	0	0	1	1	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
381	8101	2134	3286404	100	33	305	280

Total 2020 Alternative 3 Emissions								
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**	**CO2e (Metric tons/day)**
634	14,824	3,670	5,703,103	172	58	553	504	2589

Future 2040 Operational Emissions

2040 Baseline - No Build	Northbound						Southbound					
Morning Peak Period 6:00-9:00AM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	127523	21252	F	F	21	21	166824	27804	F	F	5	5
Brookhurst to SR-22 East	230734	57687	F	F	5	5	243523	60879	F	F	5	5
SR-22 East to I-605	149661	45101	F	F	7	15	156358	47334	F	F	5	10

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	9	251	41	163763	4	2	15	10	1	0
Brookhurst to SR-22 East	61	681	132	626493	19	6	60	49	2	0
SR-22 East to I-605	33	415	78	362066	11	4	34	27	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	44	492	95	452964	14	4	43	35	1	0
Brookhurst to SR-22 East	64	718	139	661218	20	6	63	52	2	0
SR-22 East to I-605	41	461	89	424547	13	4	41	33	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	42	7	27292	1	0	2	2	0	0
Brookhurst to SR-22 East	15	170	33	156633	5	2	15	12	0	0
SR-22 East to I-605	5	101	17	73155	2	1	7	5	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	7	82	16	75494	2	1	7	6	0	0
Brookhurst to SR-22 East	16	180	35	165300	5	2	16	13	0	0
SR-22 East to I-605	8	120	22	97448	3	1	9	7	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
305	3713	704	3286373	99	32	323	253

2040 Baseline - No Build	Northbound						Southbound					
Evening Peak Period 3:00-7:00PM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	194289	32382	F	F	10	10	173352	28893	F	F	20	20
Brookhurst to SR-22 East	324450	81116	F	F	5	5	287574	71890	F	F	6	6
SR-22 East to I-605	202307	61024	F	F	7	15	194742	58502	F	F	8	19

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	32	494	89	399985	12	4	36	28	2	0
Brookhurst to SR-22 East	86	957	185	880953	27	9	84	69	3	1

SR-22 East to I-605	44	561	106	489431	15	5	46	37	2	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	13	348	57	230329	5	2	21	14	1	0
Brookhurst to SR-22 East	69	822	157	736457	23	7	70	56	2	1
SR-22 East to I-605	39	524	97	445764	13	4	41	33	2	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	5	82	15	66665	2	1	6	5	0	0
Brookhurst to SR-22 East	21	239	46	220248	7	2	21	17	1	0
SR-22 East to I-605	6	136	23	98983	3	1	9	6	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	58	9	38389	1	0	3	2	0	0
Brookhurst to SR-22 East	17	206	39	184105	6	2	17	14	1	0
SR-22 East to I-605	5	120	20	80544	2	1	7	5	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
339	4547	844	3871851	115	38	376	290

2040 Baseline - No Build	**Northbound**						**Southbound**					
Non-Peak Periods	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	441046	19747	A	A	65	65	400855	10280	A	A	65	65
Brookhurst to SR-22 East	742014	82446	C	A	65	65	657678	73073	B	A	65	65
SR-22 East to I-605	447606	87718	B	A	65	65	447373	67450	B	A	65	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	27	601	151	493080	8	5	41	25	4	1
Brookhurst to SR-22 East	46	1011	254	829556	13	8	69	43	6	1
SR-22 East to I-605	28	610	153	500415	8	5	41	26	4	1

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	25	546	137	448148	7	4	37	23	3	1
Brookhurst to SR-22 East	41	896	225	735270	12	7	61	38	5	1
SR-22 East to I-605	28	610	153	500153	8	5	41	26	4	1

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	27	7	22077	0	0	2	1	0	0

Brookhurst to SR-22 East	5	112	28	92173	1	1	8	5	1	0
SR-22 East to I-605	5	120	30	98067	2	1	8	5	1	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	14	4	11492	0	0	1	1	0	0
Brookhurst to SR-22 East	5	100	25	81694	1	1	7	4	1	0
SR-22 East to I-605	4	92	23	75407	1	1	6	4	1	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
215	4738	1188	3887532	61	38	350	206

Total 2040 Baseline Emissions								
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**	**CO2e (Metric tons/day)**
859	12,998	2,736	########	275	108	1,049	749	5013

2040 Alternative 1	**Northbound**						**Southbound**					
Morning Peak Period 6:00-9:00AM	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	127523	21252	F	F	38	38	166824	27804	F	F	6	6
Brookhurst to SR-22 East	240352	48069	F	F	19	19	253666	50736	F	F	11	11
SR-22 East to I-605	153277	41485	F	F	19	28	160221	43469	F	F	13	20

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	6	192	33	114009	2	1	11	6	1	0
Brookhurst to SR-22 East	19	492	81	330907	7	3	30	21	2	0
SR-22 East to I-605	12	314	51	211025	5	2	19	13	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	40	477	91	427225	13	4	40	33	1	0
Brookhurst to SR-22 East	37	627	112	496405	14	5	45	34	2	1
SR-22 East to I-605	20	376	65	284595	7	3	26	19	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	32	6	19000	0	0	2	1	0	0
Brookhurst to SR-22 East	4	98	16	66179	1	1	6	4	0	0
SR-22 East to I-605	2	72	12	43714	1	0	4	2	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	7	80	15	71204	2	1	7	5	0	0
Brookhurst to SR-22 East	7	125	22	99287	3	1	9	7	0	0

SR-22 East to I-605	3	87	14	57756	1	1	5	4	0	0

Total Daily Emissions							
ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5
158	2973	519	2221306	58	22	215	152

2040 Alternative 1	Northbound						Southbound					
Evening Peak Period 3:00-7:00PM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV
SR-73 to Brookhurst	194289	32382	F	F	18	18	173352	28893	F	F	34	34
Brookhurst to SR-22 East	337967	67592	F	F	12	12	299558	59913	F	F	24	24
SR-22 East to I-605	207219	56115	F	F	19	27	199373	53872	F	F	23	32

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	16	406	67	278097	6	3	25	18	2	0
Brookhurst to SR-22 East	45	814	143	629632	17	6	57	43	3	1
SR-22 East to I-605	16	424	69	285291	6	3	26	18	2	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	8	276	47	162843	3	2	15	9	1	0
Brookhurst to SR-22 East	19	559	92	350394	7	3	32	20	2	1
SR-22 East to I-605	13	378	62	240231	5	2	22	15	2	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	3	68	11	46350	1	0	4	3	0	0
Brookhurst to SR-22 East	9	163	29	125924	3	1	11	9	1	0
SR-22 East to I-605	3	99	16	60566	1	1	6	3	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	46	8	27141	1	0	3	2	0	0
Brookhurst to SR-22 East	4	112	18	70080	1	1	6	4	0	0
SR-22 East to I-605	3	88	15	52295	1	0	5	3	0	0

Total Daily Emissions							
ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5
141	3432	577	2328844	54	22	225	150

2040 Alternative 1	Northbound						Southbound					
Non-Peak Periods	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV
SR-73 to Brookhurst	441046	19747	A	A	65	65	400855	10280	A	A	65	65
Brookhurst to SR-22 East	769496	54964	A	A	65	65	682031	48720	A	A	65	65

SR-22 East to I-605	460874	74448	B	A	65	65	456784	58035	A	A	65	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	27	601	151	493080	8	5	41	25	4	1
Brookhurst to SR-22 East	48	1048	263	860280	14	8	71	44	6	2
SR-22 East to I-605	28	628	157	515247	8	5	43	26	4	1

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	25	546	137	448148	7	4	37	23	3	1
Brookhurst to SR-22 East	42	929	233	762496	12	8	63	39	5	1
SR-22 East to I-605	28	622	156	510675	8	5	42	26	4	1

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	27	7	22077	0	0	2	1	0	0
Brookhurst to SR-22 East	3	75	19	61449	1	1	5	3	0	0
SR-22 East to I-605	5	101	25	83231	1	1	7	4	1	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	14	4	11492	0	0	1	1	0	0
Brookhurst to SR-22 East	3	66	17	54468	1	1	5	3	0	0
SR-22 East to I-605	4	79	20	64882	1	1	5	3	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
215	4738	1188	3887525	61	38	350	206

Total 2040 Alternative 1 Emissions								
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**	**CO2e (Metric tons/day)**
513	11,143	2,285	8,437,675	173	82	790	508	3829

2040 Alternative 2	**Northbound**						**Southbound**					
Morning Peak Period 6:00-9:00AM	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	127523	21252	F	F	44	44	166824	27804	F	F	7	7
Brookhurst to SR-22 East	247219	41202	E	E	45	45	260911	43484	F	F	31	31
SR-22 East to I-605	157606	37158	E	E	29	39	164749	38944	F	F	21	27

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	5	179	33	110158	2	1	10	6	1	0
Brookhurst to SR-22 East	10	344	64	213319	3	2	20	11	2	0
SR-22 East to I-605	8	270	45	162366	3	1	15	9	1	0

Future 2040 Operational Emissions

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	36	463	87	403588	12	4	38	30	1	0
Brookhurst to SR-22 East	13	434	72	257988	5	2	24	14	2	1
SR-22 East to I-605	12	324	53	211569	5	2	19	13	1	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	30	5	18358	0	0	2	1	0	0
Brookhurst to SR-22 East	2	57	11	35552	1	0	3	2	0	0
SR-22 East to I-605	2	55	10	32922	1	0	3	2	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	6	77	15	67265	2	1	6	5	0	0
Brookhurst to SR-22 East	2	72	12	42997	1	0	4	2	0	0
SR-22 East to I-605	2	69	11	42033	1	0	4	2	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
100	2376	418	1598114	35	16	160	101

2040 Alternative 2	**Northbound**						**Southbound**					
Evening Peak Period 3:00-7:00PM	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	194289	32382	F	F	22	22	173352	28893	F	F	39	39
Brookhurst to SR-22 East	347627	57939	F	F	35	35	308112	51352	E	E	50	50
SR-22 East to I-605	213072	50262	E	E	31	40	205002	48246	F	F	34	40

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	13	376	62	241505	5	2	22	15	2	0
Brookhurst to SR-22 East	16	546	93	321892	5	3	31	18	3	1
SR-22 East to I-605	11	354	59	210685	4	2	20	12	2	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	8	258	45	153588	3	2	15	8	1	0
Brookhurst to SR-22 East	13	412	82	269676	4	3	25	14	2	1
SR-22 East to I-605	9	326	55	192575	4	2	18	11	2	0

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	63	10	40252	1	0	4	2	0	0
Brookhurst to SR-22 East	3	91	15	53650	1	1	5	3	0	0

SR-22 East to I-605	2	74	13	44190	1	0	4	2	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	43	8	25599	0	0	2	1	0	0
Brookhurst to SR-22 East	2	69	14	44946	1	0	4	2	0	0
SR-22 East to I-605	2	71	13	42418	1	0	4	2	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
83	2681	468	1640974	29	16	167	95

2040 Alternative 2	**Northbound**						**Southbound**					
Non-Peak Periods	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**	**GP**	**HOV**
SR-73 to Brookhurst	441046	19747	A	A	65	65	400855	10280	A	A	65	65
Brookhurst to SR-22 East	789124	35336	A	A	65	65	699433	31318	A	A	65	65
SR-22 East to I-605	481792	53533	B	A	65	65	468227	46595	A	A	65	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	27	601	151	493080	8	5	41	25	4	1
Brookhurst to SR-22 East	49	1075	270	882224	14	9	73	45	6	2
SR-22 East to I-605	30	656	165	538633	8	5	45	28	4	1

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	25	546	137	448148	7	4	37	23	3	1
Brookhurst to SR-22 East	43	953	239	781951	12	8	65	40	6	1
SR-22 East to I-605	29	638	160	523468	8	5	43	27	4	1

Northbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	27	7	22077	0	0	2	1	0	0
Brookhurst to SR-22 East	2	48	12	39505	1	0	3	2	0	0
SR-22 East to I-605	3	73	18	59849	1	1	5	3	0	0

Southbound HOV Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	1	14	4	11492	0	0	1	1	0	0
Brookhurst to SR-22 East	2	43	11	35013	1	0	3	2	0	0
SR-22 East to I-605	3	63	16	52092	1	1	4	3	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
215	4738	1188	3887532	61	38	350	206

Total 2040 Alternative 2 Emissions								
ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	CO2e (Metric tons/day)
397	9,795	2,074	7,126,619	125	69	677	402	3234

2040 Alternative 3	Northbound						Southbound					
Morning Peak Period 6:00-9:00AM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	GP	Express	GP	Express	GP	Express	GP	Express	GP	Express	GP	Express
SR-73 to Brookhurst	120313	28462	E	C	53	65	163223	31409	F	C	14	65
Brookhurst to SR-22 East	235424	53004	F	C	38	65	245511	58891	F	C	25	65
SR-22 East to I-605	164253	30509	F	D	22	65	173181	30509	F	D	14	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	5	158	33	107911	2	1	10	6	1	0
Brookhurst to SR-22 East	10	355	62	210477	4	2	20	11	2	0
SR-22 East to I-605	11	318	52	204170	4	2	18	12	1	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	18	374	64	276846	7	3	25	18	1	0
Brookhurst to SR-22 East	15	450	74	279181	5	3	25	16	2	0
SR-22 East to I-605	19	396	68	293736	8	3	26	19	1	0

Northbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	39	10	31820	1	0	3	2	0	0
Brookhurst to SR-22 East	3	72	18	59257	1	1	5	3	0	0
SR-22 East to I-605	2	42	10	34108	1	0	3	2	0	0

Southbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	43	11	35115	1	0	3	2	0	0
Brookhurst to SR-22 East	4	80	20	65839	1	1	5	3	0	0
SR-22 East to I-605	2	42	10	34108	1	0	3	2	0	0

Total Daily Emissions							
ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5
94	2367	433	1632568	34	15	158	99

2040 Alternative 3	Northbound						Southbound					
Evening Peak Period 3:00-7:00PM	Volume		LOS		Speed		Volume		LOS		Speed	
Segment	GP	Express	GP	Express	GP	Express	GP	Express	GP	Express	GP	Express
SR-73 to Brookhurst	184597	42074	F	C	36	65	164115	38129	F	C	50	65
Brookhurst to SR-22 East	326676	78890	F	C	29	65	281890	77574	F	C	43	65
SR-22 East to I-605	222461	40870	F	D	22	65	212374	40870	F	D	24	65

Future 2040 Operational Emissions

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	8	286	49	168717	3	2	16	9	1	0
Brookhurst to SR-22 East	17	560	93	336541	6	3	31	19	3	1
SR-22 East to I-605	15	430	71	276524	6	2	25	17	2	0

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	7	219	43	143642	2	1	13	8	1	0
Brookhurst to SR-22 East	12	401	73	244097	4	2	23	13	2	1
SR-22 East to I-605	14	396	65	248415	5	2	22	15	2	0

Northbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	3	57	14	47037	1	0	4	2	0	0
Brookhurst to SR-22 East	5	107	27	88197	1	1	7	5	1	0
SR-22 East to I-605	3	56	14	45692	1	0	4	2	0	0

Southbound Express Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	2	52	13	42627	1	0	4	2	0	0
Brookhurst to SR-22 East	5	106	27	86726	1	1	7	4	1	0
SR-22 East to I-605	3	56	14	45692	1	0	4	2	0	0

Total Daily Emissions							
ROG	**CO**	**NOX**	**CO2**	**CH4**	**SO2**	**PM10**	**PM2.5**
93	2726	502	1773909	32	17	174	102

2040 Alternative 3	**Northbound**						**Southbound**					
Non-Peak Periods	**Volume**		**LOS**		**Speed**		**Volume**		**LOS**		**Speed**	
Segment	**GP**	**Express**	**GP**	**Express**	**GP**	**Express**	**GP**	**Express**	**GP**	**Express**	**GP**	**Express**
SR-73 to Brookhurst	442365	18431	A	A	65	65	402913	8222	A	A	65	65
Brookhurst to SR-22 East	791483	32977	B	A	65	65	701519	29232	A	A	65	65
SR-22 East to I-605	519264	16061	B	A	65	65	499376	15443	A	A	65	65

Northbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	27	603	151	494555	8	5	41	25	4	1
Brookhurst to SR-22 East	49	1078	270	884861	14	9	73	45	6	2
SR-22 East to I-605	32	707	177	580526	9	6	48	30	4	1

Southbound GP Emissions										
Segment	ROG	CO	NOX	CO2	CH4	SO2	PM10	PM2.5	PM10 Road Dust	PM2.5 Road Dust
SR-73 to Brookhurst	25	549	138	450448	7	4	37	23	3	1
Brookhurst to SR-22 East	43	956	240	784284	12	8	65	40	6	1