Background Information

SR-91 is the only significant transportation facility connecting Orange County and Riverside County. It is heavily used for goods movement from the ports of Los Angeles and Long Beach to inland destinations. SR-91 was built in 1950 but existed as a two-lane highway for some time before that. Within the project limits, SR-91 has four general-purpose lanes in each direction varying in width from 3.3m to 3.6m. In Orange County a toll facility consisting of two 3.3m lanes in each direction exists in the median area. The toll facility, known as the Route 91 Express Lanes, is owned and operated by OCTA. The eastbound toll facility ends in Orange County near the Orange/Riverside County line and becomes two transition lanes. The number one transition lane becomes an HOV (High Occupancy Vehicle—a.k.a. Carpool) lane while the number two transition lane becomes the number one general-purpose lane. This happens via a 600m transition in Riverside County and, as a result, the number five eastbound general-purpose lane is dropped through the SR-91/SR-71 interchange.

SR-241 was built in 1996 and connects to SR-91 at the western limits of construction for this project. In the vicinity of this project SR-71 is listed as an Expressway in the current Route Concept Report and Route Segment Report.

SR-91 is a major corridor in the east-west direction connecting Orange County and Riverside County communities. There are no parallel corridors within a 16-km range. SR-91 operates at full capacity during peak hours in the proposed project area. In the project area there are Express Lanes in the median with their only entry/exit point near the Orange Riverside County line; the SR-241 toll road terminates at SR-91 at the western project limit and join the right-most lane; the general purpose lanes are between these access areas which causes a significant amount of weaving. Additionally the lane and shoulder widths within the project area have been reduced to nonstandard widths with past capacity enhancing projects. High traffic volumes coupled with high weaving volumes and narrow lanes result in a level of service F during peak hours.

Project Description

The attached Exhibit 1 shows the location of the project on a regional basis. Exhibit 2 shows the project limits on an aerial photograph. This project proposes to provide one 3.6m general purpose lane in the eastbound direction which would run from the SR-241/SR-91 interchange to the SR-71/SR-91 interchange. This additional lane would improve capacity, improve operations, improve regional circulation, and enhance safety. It would also remove the lane drop choke point east of SR-241 at Coal Canyon. The project also proposes to provide all lanes and shoulders on eastbound SR-91 at standard widths (3.6m lanes and 3.0m shoulders) including the median shoulder throughout the length of the project. Maintenance access would be maintained at Coal-Canyon. The eastbound SR- 91 to northbound SR-71 and southbound SR-71 to eastbound SR-91 connectors would each be improved to provide one standard width (3.6m) lane with standard 1.5m left shoulders and nonstandard 2.4m outside shoulders. A Mandatory Design Exception Fact Sheet will be approved to address the nonstandard shoulder width (2.4m proposed, 3.0m standard)

Purpose and Need

The purpose of this project is to improve weaving between SR-241 and SR-91, as well as reduce the number of vehicles in the SR-91 mainline traffic flow that would be exiting at Green River Drive and SR-71. The standard width lanes and shoulders would enhance safety within the project area

During the P.M. peak period (3 P.M. to 7 P.M on weekdays) the eastbound traffic demand exceeds the capacity of the freeway. Traffic data and field observations also indicate that this segment of eastbound SR-91 becomes congested in the middle of the day on weekends, particularly on Saturdays. Although congestion in the eastbound direction does not normally occur during the A.M. peak traffic period, the weekday A.M. peak hour traffic volume is only slightly less than the P.M. peak hour traffic volume along SR-91.

There are three choke point locations that significantly impact traffic operations and are the primary cause of congestion within the study area. At the junction of northbound SR- 241 and eastbound SR-91 there are five general-purpose lanes on SR-91 that drops to four lanes after a distance of approximately 1.6-krn (near Coal Canyon Road). Thus, the right lane acts as a long merge lane in this area. There is another lane drop along eastbound SR-91 immediately after the connector to northbound SR-71. In addition to these choke points along eastbound SR-91, there is a choke point on northbound SR-71 north of where the connectors from eastbound and westbound SR-91 merge. During the P.M. peak traffic period traffic backs up on these connectors and onto SR-91 in both directions. The purpose of this project is to improve flow by relieving these choke points.

Monitored PM2.5 Levels

The SCAQMD has divided the SCAB into 38 Source Receptor Areas (SRA) with a designated ambient air monitoring station representative of each area. The project site is located near the convergence of five SRA, 16-North Orange County, 17-Central Orange County, 19-Central Orange County Coastal, 22-Norco/Corona, and 33-Southwest San Bernardino Valley. Of these SRA, only two have monitoring stations that monitor PM2.5 levels, the Anaheim-Pampass Lane station in SRA 17 and the Ontario Station in SRA 33. The next nearest station that monitors PM2.5 levels is the Riverside-Magnolia Station in SRA 23.

The Ontario Station is located approximately 11 miles north of the site and a little over ½ mile north of SR-60 just east of Grand Avenue. The Anaheim Station is located approximately 13 miles west of the site and ¼ mile south of I-5 near the Euclid Street crossing. The Riverside-Magnolia Station is located approximately 14 miles east-northeast of the site and approximately ½ mile northeast of SR-91 at the intersection of Magnolia Ave. and Arlington Ave.

Tables 1, 2, and 4 present the monitored 24-hour average PM2.5 concentrations at the Ontario, Anaheim, and Riverside-Magnolia monitoring stations. The four highest 24-hour concentrations are presented. Concentrations exceeding the 65 $\mu g/m^3$ standard are shown in bold. However, the national PM2.5 standard is in terms of the average of the 98th percentile level from the preceding three years. These values are presented at the bottom of the tables. The tables show that the 24-hour PM2.5 standard is not exceeded at these three stations.

Table 1
Ontario Four Highest 24-Hour Average PM2.5 Measurements ($\mu g/m^3$)

	2002		2003		2004		2005	
	Date	Level	Date	Date	Level	Level	Date	Level
First High:	Jan 2	64.8	Oct 27	**88.9**	Mar 19	**86.1**	Oct 22	**87.7**
Second High:	Oct 14	58.0	Oct 9	**68.9**	Jul 5	**77.5**	Nov 6	58.3
Third High:	Feb 17	57.4	Oct 6	**66.9**	Mar 22	59.9	Jan 22	49.5
Fourth High:	Mar 30	53.6	Dec 5	64.1	Jan 19	55.5	Mar 11	42.3
98th Percentile								
1-Year		57.4		**66.9**		--		49.5
3-Year Avg.		62		63		--		--

-- Data Not Reported
Source: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 5/25/06

Table 2
Anaheim Four Highest 24-Hour Average PM2.5 Measurements ($\mu g/m^3$)

	2002		2003		2004		2005	
	Date	Level	Date	Date	Level	Level	Date	Level
First High:	Jan 2	**68.6**	Oct 26	**115.5**	Oct 7	58.9	Jan 22	54.7
Second High:	Nov 6	64.7	Oct 27	**70.0**	Mar 20	52.9	Oct 21	49.1
Third High:	Dec 4	55.2	Jan 23	**69.5**	Mar 19	51.9	Jul 4	44.3
Fourth High:	Dec 8	52.9	Oct 29	54.4	Mar 22	49.7	Dec 13	43.9
98th Percentile								
1-Year		48.1		51.8		48.2		41.8
3-Year Avg.		--		--		49		47

-- Data Not Reported
Source: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 5/25/06

Table 3
Riverside-Magnolia Four Highest 24-Hour Average PM2.5 Measurements ($\mu g/m^3$)

	2002		2003		2004		2005	
	Date	Level	Date	Date	Level	Level	Date	Level
First High:	Apr 2	**75.5**	Oct 9	**73.3**	Mar 19	**93.8**	Oct 22	**94.9**
Second High:	Mar 30	**69.6**	Mar 13	59.5	Mar 22	**67.1**	Nov 6	49.1
Third High:	Oct 14	63.7	Sep 30	56.2	Apr 9	53.7	Nov 12	41.0
Fourth High:	Jan 2	61.8	Oct 27	55.5	Jul 5	51.0	Mar 11	39.4
98th Percentile								
1-Year		63.7		56.2		53.7		--
3-Year Avg.		65		62		58		--

-- Data Not Reported
Source: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 5/25/06

Tables 4, 5, and 6 present the annual average monitored PM2.5 levels at the Ontario, Anaheim, and Riverside-Magnolia monitoring stations. The federal ambient air quality standard is based

on the average of the three previous years. The tables show that the Ontario station's average from the three past years is 21 $\mu g/m^3$, The average at the Anaheim station's average is 16 $\mu g/m^3$, and Riverside-Magnolia station's average is 20 $\mu g/m^3$. Levels at all three stations exceed the 15 $\mu g/m^3$ standard. However, the monitoring data shows a definite downward trend in the annual average PM2.5 concentrations at all three stations.

Table 4
Ontario Annual Average PM2.5 Measurements ($\mu g/m^3$)

	2002	2003	2004	2005
National Annual Average:	25.4	23.8	20.9	18.8
National 3-Year Average:	25	25	23	21

-- Data Not Reported
Source: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 5/25/06

Table 5
Anaheim Annual Average PM2.5 Measurements ($\mu g/m^3$)

	2002	2003	2004	2005
National Annual Average:	18.6	17.3	16.8	14.7
National 3-Year Average:	--	--	17	16

-- Data Not Reported
Source: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 5/10/06

Table 6
Riverside-Magnolia Annual Average PM2.5 Measurements ($\mu g/m^3$)

	2002	2003	2004	2005
National Annual Average:	27.1	22.6	20.8	18.0
National 3-Year Average:	26	25	23	20

-- Data Not Reported
Source: CARB Air Quality Data Statistics web site www.arb.ca.gov/adam/ accessed 5/25/06

Based on the surrounding conditions one would expect the PM2.5 concentrations in the vicinity of the project to be about the average of the three stations. Therefore, the area around the project site likely complies with the 24-hour standard while there may be a few periods exceeding 65 $\mu g/m^3$ each year. The annual average PM2.5 concentrations in the project area most likely exceed the 15 $\mu g/m^3$ standard.

Traffic Data

Table 7 presents existing average daily traffic volumes, truck percentages and average daily truck volume for SR-91, SR-241, and SR-71 in the project area from Caltrans data. This data shows that the truck volume of SR-91 exceeds 10,000 daily trucks. Volumes on SR-241 and SR-71 do not exceed this number and would not be expected to in the future. The 10,000 trucks per day number is important because if the truck volume were less than this, the facility would not be considered to have a significant number of diesel vehicles and the facility would not be considered to be of air quality concern. Note that this does not mean that the project is of air

quality concern, as the project would not be expected to significantly increase the number of diesel busses and diesel trucks.

Table 7
2004 Traffic Volumes and Truck Percentages

Highway Segment	AADT	% of Trucks 3-4 Axle	5 Axle	Total	Truck AADT
SR-91					
East of Imperial Highway (SR-90)	284,000	2.0%	2.7%	4.7%	13,206
West of SR-71	254,000	2.5%	3.5%	6.0%	15,164
SR-241					
South of SR-91	45,000	1.0%	0.6%	1.7%	765
SR-71					
North of SR-91	49,000	3.8%	3.4%	7.2%	3,528

Source: 2004 Annual Average Daily Truck Traffic on the California State Highway System Compiled by Traffic and Vehicle Data Systems State of California Business, Transportation and Housing Agency Department of Transportation AUGUST 2005 (http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/)

Table 8 presents the ADT volumes and number of lanes presented in the traffic study prepared for the project. Conditions for the baseline year (2003) and build out year (2030) with and without the project are presented. The percentage change with the project is also presented. The traffic projections in the traffic study were generated by the Orange County Transportation Analysis (OCTAM) traffic model. Table 9 shows the same information as Table 8 except that truck AADT is presented based on the AADT's presented in Table 8 and the truck percentages presented in Table 7. The data in Table 9 assume that the percentage of trucks remains the same in the future years as there are no better estimates available. Further, the data in Table 9 is for all trucks. While a majority of the trucks would be expected to be diesel fueled, some of the trucks would be gas fueled.

Table 8
AADT Traffic Volumes from Project Traffic Study

	2003		2030 No Build		2030 With Project		% Change With Project Over Existing		% Change With Project Over No Build	
	AADT	Lanes	AADT	Lanes	AADT	Lanes	AADT	Lanes	AADT	Lanes
Eastbound SR-91 Mainline										
East of SR-241	136,900	5	181,420	5	189,990	5	38.8%	0.0%	4.7%	0.0%
West of Green River Drive	124,000	4	173,450	4	181,190	5	46.1%	25.0%	4.5%	25.0%
Green River Drive to SR-71	126,790	5	172,090	5	180,270	6	42.2%	20.0%	4.8%	20.0%
Eastbound SR-91 HOV/Toll										
East of SR-241	18,100	2	40,610	2	39,350	2	117.4%	0.0%	-3.1%	0.0%
West of Green River Drive	31,000	2	48,580	2	48,150	2	55.3%	0.0%	-0.9%	0.0%
Green River Drive to SR-71	19,295	1	37,960	1	37,080	1	92.2%	0.0%	-2.3%	0.0%
Eastbound SR-91 Total										
East of SR-241	155,000	7	222,030	7	229,340	7	48.0%	0.0%	3.3%	0.0%
West of Green River Drive	155,000	6	222,030	6	229,340	7	48.0%	16.7%	3.3%	16.7%
Green River Drive to SR-71	146,085	6	210,050	6	217,350	7	48.8%	16.7%	3.5%	16.7%
SR-71										
NB North of SR-91	28,640	1	66,010	1	67,990	1	137.4%	0.0%	3.0%	0.0%
SB North of SR-91	35,636	2	55,930	2	55,150	2	54.8%	0.0%	-1.4%	0.0%
Total North of SR-91	64,276	3	121,940	3	123,140	3	91.6%	0.0%	1.0%	0.0%

Source: "Eastbound SR-91 Lane Addition from SR-241 to SR-71 Final Traffic Analysis Report for the Project Report (PR) and Environmental Document (ED)" Meyer, Mohaddes Associates, February 2006

Table 9
Truck AADT Traffic Volumes from Project Traffic Study

	2003		2030 No Build		2030 With Project		% Change With Project Over Existing		% Change With Project Over No Build	
	AADT	Lanes	AADT	Lanes	AADT	Lanes	AADT	Lanes	AADT	Lanes
Eastbound SR-91 Mainline										
East of SR-241	9,300	5	13,322	5	13,760	5	48.0%	0.0%	3.3%	0.0%
West of Green River Drive	9,300	4	13,322	4	13,760	5	48.0%	25.0%	3.3%	25.0%
Green River Drive to SR-71	8,765	5	12,603	5	13,041	6	48.8%	20.0%	3.5%	20.0%
Eastbound SR-91 HOV/Toll										
East of SR-241	0	2	0	2	0	2	0.0%	0.0%	0.0%	0.0%
West of Green River Drive	0	2	0	2	0	2	0.0%	0.0%	0.0%	0.0%
Green River Drive to SR-71	0	1	0	1	0	1	0.0%	0.0%	0.0%	0.0%
Eastbound SR-91 Total										
East of SR-241	9,300	7	13,322	7	13,760	7	48.0%	0.0%	3.3%	0.0%
West of Green River Drive	9,300	6	13,322	6	13,760	7	48.0%	16.7%	3.3%	16.7%
Green River Drive to SR-71	8,765	6	12,603	6	13,041	7	48.8%	16.7%	3.5%	16.7%
SR-71										
NB North of SR-91	2,062	1	4,753	1	4,895	1	137.4%	0.0%	3.0%	0.0%
SB North of SR-91	2,566	2	4,027	2	3,971	2	54.8%	0.0%	-1.4%	0.0%
Total North of SR-91	4,628	3	8,780	3	8,866	3	91.6%	0.0%	1.0%	0.0%

The rightmost columns of Table 8 present the percentage change in traffic volumes and number of lanes with the project over existing conditions and over 2030 conditions without the project. The table shows that the overall eastbound traffic on SR-91 through the project area is projected to increase 48% over existing conditions with the project. However, there is only a 3.3% to 3.5% percent increase with the project over no build conditions. This represents an additional approximately 450 daily trucks on SR-91 with the project compared to the no project conditions. The project adds between 14% and 17% additional lanes to SR-91. The traffic study concludes that the project will result in higher speeds and relatively less congestion than the no-build conditions which reduce air pollutant emissions. The projected increase in trucks due to the project is not significant and the small increase that is projected to occur is offset by the increase in capacity on SR-91 provided by the project.

Potential Traffic Redistribution Effects of Congestion Relief

Table 10 shows the changes in ramp traffic volumes in 2030 with and without the project and the percent changed due to the project. The table shows that the project will result in increased traffic volumes on the majority of ramps and corresponding increases in traffic volumes on the roads serving these ramps.

Table 10
Projected 2030 Ramp AADT

Ramp	No Project	With Project	% Change
SB Gypsum Canyon Road to EB SR-91	5,110	6,520	27.6%
NB Gypsum Canyon Road to EB SR-91	6,060	7,600	25.4%
NB SR-241 to EB SR-91	75,030	77,660	3.5%
EB SR-91 to Green River Drive	16,380	16,660	1.7%
Green River Drive to EB SR-91	4,400	4,660	5.9%
EB SR-91 to NB SR-71	31,510	32,450	3.0%
SB SR-71 to EB SR-91	32,990	32,560	-1.3%
WB SR-91 to NB SR-71	34,500	35,540	3.0%
SB SR-71 to WB SR-91	22,940	22,590	-1.5%

Source: "Eastbound SR-91 Lane Addition from SR-241 to SR-71 Final Traffic Analysis Report for the Project Report (PR) and Environmental Document (ED)" Meyer, Mohaddes Associates, February 2006

The greatest increases are projected at the Gypsum Canyon on-ramps. However, the additional traffic, 2,950 AADT on the ramps is considerable compared to the total traffic volume on Gypsum Canyon Road of 14,000 to the north of SR-91, and 23,000 to the south of SR-91 (Gypsum Canyon Road AADT from traffic study for EIR Mountain Park Project in the City of Anaheim). However, the majority of this traffic would be expected to be cars due to the residential land uses in the vicinity.

The additional 540 vehicles on Green River Drive would not be expected to be significant compared to the total AADT on the road and most of these vehicles would be expected to be passenger cars due to the residential land uses in the vicinity.

Caltrans data indicates that the percentage of trucks on SR-241 is 1.7%. The 2030 traffic volume for SR-241 is projected to be less than 125,000. Therefore, SR-241 would not be considered a facility of air quality concern in terms of PM2.5.

Caltrans data indicates that the percentage of trucks on SR-71 is 7.2%. The 2030 traffic volume for SR-71 is projected to be less than 125,000. Therefore, SR-71 would not be considered a facility of air quality concern in terms of PM2.5.