RTIP ID#: RIV160101

TCWG Consideration Date: March 27, 2018

Project Description *(clearly describe project)*

California Department of Transportation District 8 (Caltrans), Riverside County Transportation Commission (RCTC), and Federal Highway Administration (FHWA) propose to construct the Interstate 15 (I-15)/State Route 91 (SR-91) Express Lane Connector (ELC). The project is in the City of Corona at the junction of SR-91 and I-15 in western Riverside County. Improvements will consist of adding a tolled express lane connector from southbound I-15 Express Lanes to westbound SR-91 Express Lanes and an express lane connector from eastbound SR-91 Express Lanes to northbound I-15 Express Lanes. In addition, operational improvements along eastbound SR-91 are proposed to be constructed to enhance operations from west of the I-15 (PM 6.6) to east of South Promenade Avenue (PM 8.1). Additionally, a new VTMS sign will be constructed in Orange County, near the Orange/Riverside County Line. Please see Figure 1 Project Location Map and Figure 2 Project Vicinity Map attached.

The I-15/SR-91 ELC project is one of four components of the SR-91 Corridor Improvement Project (CIP) Ultimate Project to follow the Initial Project and is the second project being advanced. The Expenditure Authorization (EA) for this project is 08-0F543.

The SR-91 CIP consisted of an Initial Project and an Ultimate Project proposed in several phases over a 20-year period. Separate projects would be identified and programmed to incorporate the components of the phasing plan for improvements on SR-91 and I-15 between the Initial Project and completion of the Ultimate Project by 2035. The SR-91 CIP Initial Project was completed under EA is 08-0F540. The Initial Project included implementation of improvements on SR-91 from approximately the Orange/Riverside County line to the I-15 interchange and a single-lane direct connector to and from the I-15 south, extending from SR-91 to the Ontario Avenue interchange. Construction of the Initial Project began in June 2014, and was opened to traffic in March 2017.

RCTC, Caltrans, and FHWA now propose to construct the ELC project because funding has been secured for this component of the Ultimate Project of the SR-91 CIP. The ELC project is included in the approved SR-91 CIP Final EIR/EIS as one of four components of the Ultimate Project. The ELC project is consistent with the project features identified in the approved SR-91 Final EIR/EIS.

The I-15/SR-91 ELC project (RIV160101) is listed in the Federal Transportation Improvement Program (FTIP) Amendment #17-16, as RTPID: RIV021250B, Project ID: RIV160101.

> IN WESTERN RIVERSIDE COUNTY ON SR-91/I-15: ON I-15 - ADD TOLL EXPRESS LANE MEDIAN DIRECT CONNECT FROM SB15 TO WB91 & EB91 TO NB15, 1 TOLL EXPRESS LANE EACH DIRECTION FROM HIDDEN VALLEY TO SR91 DIRECT CONNECTOR. CONSTRUCT OPERATIONAL IMPROVEMENT AND AUXILARY LANE ALONG SR91. CONSTRUCT ADDITIONAL SIGNAGE ALONG SR91 AT PM R18.0 IN OR COUNTY.

The 2017 FTIP Amendment #17-16 is consistent with the 2016 RTP/SCS and the 2017 FTIP as previously amended. SCAG approval 1/23/18, Caltrans approval 2/08/18, FHWA approval 3/2018.

Background

Caltrans, RCTC, and FHWA approved the SR-91 CIP Final Environmental Impact Report / Environmental Impact Statement (EIR/EIS) in August 2012. On June 6, 2012 FHWA issued a Record of Decision for the SR-91 CIP Initial Project. FHWA issued a Project Level Conformity Determination for the SR-91 CIP on June 6, 2012. (Attachment A). This determination did not differentiate between the Initial or Ultimate. The Air Quality Study Report for the SR-91 CIP included both the Initial Project and the Ultimate Project.

As discussed in *Section 3.14.2.4, Project-Level Air Quality Conformity* of the SR-91 CIP Final EIS/EIR:

> The related interagency consultation required for this project, SCAG's Transportation Conformity Working Group (TCWG) deemed the Particulate Matter Hot-Spot Qualitative Analysis acceptable for NEPA circulation at its September 22, 2009 meeting. On April 24, 2012, the TCWG reviewed and concurred that the identified Preferred Alternative (Alternative 2f) meets the particulate matter conformity requirements.
>
> FHWA approved the regional air quality conformity determinations for the 2012 RTP and Amendment 24 to the 2011 FTIP on June 4, 2012. In a letter dated June 5, 2012, the Department submitted the Air Quality Conformity Analysis and requested that FHWA issue a project-level air quality conformity determination for the SR-91 CIP. The Air Quality Conformity Analysis for the SR-91 CIP documents that all the transportation conformity requirements have been met. The interagency consultation requirement was met when the PM10 hot-spot analysis for the SR-91 CIP was first presented to the SCAG TCWG on September 22, 2009, and again on April 24, 2012.
>
> Opportunities for review were provided to the public when the Draft EIR/EIS was circulated for public review in May 2011. On June 6, 2012, FHWA approved the project-level Air Quality Conformity Analysis for the SR-91 CIP in Orange and Riverside Counties. A separate project-level air quality conformity determination will be necessary prior to approval of a ROD for the Ultimate Project.

TCWG provided a determination that the analysis for the SR-91 CIP is deemed acceptable for NEPA circulation on September 2009. See Attachment B.

Type of Project *(use Table 1 on instruction sheet)*

Change to existing state highway

County:	**Narrative Location/Route & Postmiles:** The I-15/SR-91 ELC Project is located in the City of Corona at the junction of State Route 91 (SR-91) and Interstate 15 (I-15) in western Riverside County. SR-91 PM 6.6-PM 8.1, I-15 PM 41.5-PM 43.4 **Caltrans Project – EA# 0F543**
Riverside	

Lead Agency: Riverside County Transportation Commission

Contact Person	**Phone#**	**Fax#**	**Email**
David Thomas	(951) 787-7141	(951) 787-7920	dthomas@rctc.org

Hot Spot Pollutant of Concern *(check one or both)* **$PM_{2.5}$ X** **PM_{10} X**

Federal Action for which Project-Level PM Conformity is Needed *(check appropriate box)*

Categorical Exclusion (NEPA)	**EA or Draft EIS**	**FONSI or Final EIS**	**PS&E or Construction**	X **Other** Re-Evaluation

Scheduled Date of Federal Action: January 31, 2019

NEPA Assignment – Project Type *(check appropriate box)*

Exempt	**Section 326 – Categorical Exemption**	X **Section 327 – Non-Categorical Exemption**

Current Programming Dates *(as appropriate)*

	PE/Environmental	**ENG**	**ROW**	**CON**
Start	10/2017	08/2018	N/A	10/2019
End	02/2019	10/2019	N/A	03/2022

Project Purpose and Need (Summary): *(attach additional sheets as necessary)*

The purpose of the I-15/SR-91 ELC project is to reduce travel time for express lane users, encourage the use of the express lanes, reduce traffic congestion on I-15 and SR-91, improve freeway operations by reducing weaving and merging, and improve safety by reducing vehicle conflicts due to lane changes. Heavy trucks are prohibited from travelling on the direct connector express lanes.

The SR-91 corridor is experiencing congestion and delays, and traffic demand is forecast to increase. The project is needed to address existing and future travel demand by improving the capacities of I-15 and SR-91. Improving the interchange geometry by providing new express lane median connectors will decrease the number of vehicles using the general-purpose connectors, incrementally reducing congestion on the ramps during peak periods and thus improving the overall flow of traffic through the interchange. The ELCs also will slightly reduce travel time for express lane users and encourage more motorists to use the express lanes. The median lane direct connectors will eliminate the need for express lane users to transition into general-purpose lanes when going from SR-91 Express Lanes to I-15 Express Lanes or from I-15 Express Lanes to SR-91 Express Lanes; eliminating multiple lane changes and out of direction travel for those vehicles in the express lanes wanting to make direct transitions to and from the I-15 Express Lanes and the SR-91 Express Lanes and will improve freeway operations and decrease potential conflicts with other vehicles.

The stated purpose of the SR-91 CIP is to achieve the following objectives:

1. Improve the vehicle, person, and goods movement travel times on SR-91 and I-15 to more effectively serve existing and future travel demand between and within Riverside and Orange Counties consistent with the RCTC Measure A 10-Year Delivery Plan.
2. Implement a part of the 2009 *State Route 91 Implementation Plan*.
3. Provide improvements on SR-91, I-15, and intersecting local roads to more effectively serve existing and forecast intraregional travel demand and to reduce diversion of regional traffic from the freeways into the surrounding communities.
4. Provide maximum benefits to the traveling public within the project limits as soon as funding is available.
5. Accommodate the Surface Transportation Assistance Act (STAA) National Network for trucks.

The stated need of the SR-91 CIP is as follows:

> SR-91 is continuing to experience increased congestion as a result of population growth in Riverside County and the increase in jobs in Orange County. As a result, based on demographic projections, traffic volumes on SR-91 are expected to increase by approximately 50 percent, which would result in continuing congestion and delays on SR-91.
>
> Population and employment in Riverside and Orange Counties are projected to increase substantially by 2035, as shown later in Table 1.3. As discussed earlier, Riverside County is a major source of affordable housing in southern California, and Orange County has become a primary location of employment opportunities in addition to the existing employment centers in Los Angeles County. The existing travel demand in the SR-91 corridor has led to a heavy directional commute pattern between Riverside and Orange/Los Angeles Counties that is projected to continue in the future.
>
> The growing population and relatively affordable housing market in Riverside County, coupled with increasing employment opportunities in Orange County, have resulted in a large number of Riverside County residents commuting to jobs in Orange County. Based on long-term regional population and employment projections, this commute pattern is expected to continue into the future.

SR-91 is the only major highway corridor that provides the home-to-work connection for Riverside County residents working in Orange County. State Route 74 (SR-74, Ortega Highway) is approximately 20 mi south of SR-91 and carries only about 12,000 vehicles per day (vpd). SR-91 is currently used by more than 280,000 vpd at the Orange/Riverside County line, and this volume continues to grow. At the same time, travel speeds on SR-91 are well below 30 miles per hour (mph) during the lengthy morning (westbound) and evening (eastbound) peak travel periods in this corridor. Traffic in this corridor is forecast to increase by around 50 percent by 2035, further exacerbating the already long travel times and congestion in this corridor.

Improvements are necessary to address existing and projected deficiencies regarding mobility, access, goods movement, and freeway capacity on SR-91 within the MIS corridor. Existing deficiencies, traffic congestion, and travel delays on SR-91 are anticipated to grow as a result of the projected traffic demand, which will be generated by forecasted increases in population, housing, employment, and intercounty travel affecting both Riverside and Orange Counties, as estimated by the SCAG RTP (2008). SR-91 is the only major highway that links Riverside and Orange Counties.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*

SR-91 is a major east-west route connecting employment centers in coastal communities with inland residential areas. I-15 is a primary route providing north-south mobility in western Riverside County. These routes are heavily used for commuting during weekday peak periods and for inter-regional travel both during the week and on weekends. Heavy trucks represent about 3 - 6 percent of vehicle volumes, based on recent Caltrans data.

Land uses near the I-15 / SR-91 interchange are primarily urban commercial and residential developments. Some open space also adjoins the local freeway segments. The residential development generates mostly automobile traffic, while the commercial development generates a mixture of automobile and truck traffic.

Opening Year (2022) Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Scenario	Road Segment		Annual Average Daily Traffic		
	Highway	Segment	Total	Trucks (#)	Trucks (%)
No Build 2022	**I-15**	North of SR-91	172,124	4,592	2.7
		South of SR-91	190,888	6,905	3.6
	SR-91	West of I-15	303,200	4,980	1.6
		East of I-15	243,603	2,190	0.9
Build 2022	**I-15**	North of SR-91	179,998	4,769	2.6
		South of SR-91	190,898	7,178	3.8
	SR-91	West of I-15	309,830	5,174	1.7
		East of I-15	244,955	2,275	0.9
Change 2022	**I-15**	North of SR-91	7,874	177	
Build-No Build		South of SR-91	10	273	
	SR-91	West of I-15	6,630	194	
		East of I-15	1,352	85	

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The ELC project would not be a source of new vehicle trips and would not cause a substantial increase in overall vehicle volumes or truck trips. The ELC project would result in a minor redistribution of existing vehicle volumes between general purpose and express lanes, and might encourage some motorists to slightly alter their route.

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Scenario	Road Segment		Annual Average Daily Traffic		
	Highway	Segment	Total	Trucks (#)	Trucks (%)
No Build 2035	**I-15**	North of SR-91	197,978	4,936	2.5
		South of SR-91	217,183	7,421	3.4
	SR-91	West of I-15	328,926	5,352	1.6
		East of I-15	267,836	2,351	0.9
Build 2035	**I-15**	North of SR-91	220,475	5,444	2.5
		South of SR-91	217,211	8,199	3.8
	SR-91	West of I-15	347,869	5,906	1.7
		East of I-15	271,697	2,594	1.0
	I-15	North of SR-91	22,497	508	
Change 2035		South of SR-91	28	778	
Build-No Build	**SR-91**	West of I-15	18,943	554	
		East of I-15	3,861	243	

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

NA

RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

NA

Describe potential traffic redistribution effects of congestion relief *(impact on other facilities)*

Express lane users would be able to transition from EB SR-91 to NB I-15 and from SB I-15 to WB SR-91 without changing lanes. The ELCs would decrease travel time for express lane users, increasing the desirability of using the express lanes. They also would decrease potential conflicts with other motorists, thus improving safety. Because the ELCs would only be available to express lane users, overall effects on traffic volumes and speeds would be minor. Effects on air quality would be incremental but beneficial, by slightly deceasing travel times and increasing average speeds for express lane users and incrementally decreasing the vehicle volumes on the normal (non-express) transition lanes.

Comments/Explanation/Details *(attach additional sheets as necessary)*

The ELC project would not be a source of new vehicle trips and would not cause a substantial increase in overall vehicle volumes or truck trips. Heavy truck traffic is prohibited on the express lanes direct connectors. This project will not result in the increase of $PM_{2.5}$ or PM_{10}. The ELC project would result in a minor redistribution of existing vehicle volumes between general purpose and express lanes, and might encourage some motorists to slightly alter their route.

The project is not a Project of Air Quality Concern (40 CFR 93.123(b)(1))

(i) New or expanded highway projects with significant number/increase in diesel vehicles?

- ✓ Not a new highway project.
- ✓ Minor interchange improvements to relieve congestion (reducing delay and air pollutant emissions).
- ✓ No substantial change in traffic volumes or truck percentages on SR-91 or I-15.

(ii) Affects intersections at LOS D, E, or F with a significant number of diesel vehicles?

- ✓ Does not affect intersections.

(iii) New bus and rail terminals and transfer points?—Not Applicable

(iv) Expanded bus and rail terminals and transfer points?—Not Applicable

(v) Affects areas identified in PM_{10} or $PM_{2.5}$ implementation plan as site of violation?

- ✓ The proposed project is not in or affecting a site of PM10 or PM2.5 air quality standard violation.

LEGEND

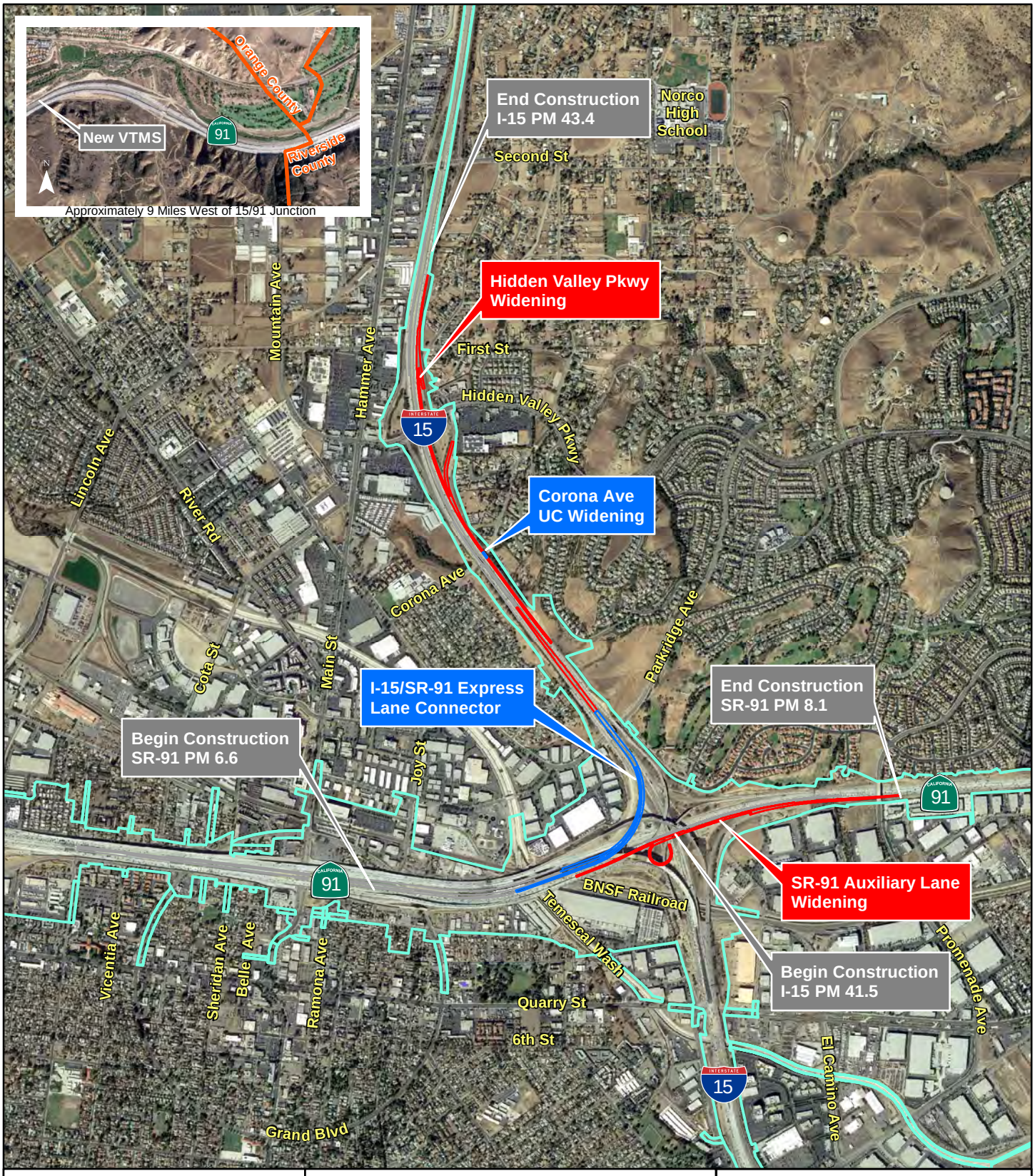
SR-91 CIP APE

I-15 / SR 91
Express Lanes Connector
I-15: PM 41.5/43.4
SR-91: PM 6.6/8.1
EA: 08-0F543

Regional Location

Figure 1

Source: ESRI World Street Map; Parsons, 2017.
Map Created: 3/12/2018



N

0 750 1,500 3,000

Feet

Source: Parsons, 2017.
Map Created: 3/12/2018

LEGEND

- Proposed Roadway Widening
- Proposed Structure
- Proposed Re-Striping
- SR-91 CIP APE

I-15 / SR 91
Express Lanes Connector
I-15: PM 41.5/43.4
SR-91: PM 6.6/8.1
EA: 08-0F543

Project Vicinity

Figure 2

Attachment A
FHWA Conformity Determination

U.S. Department of Transportation
Federal Highway Administration

California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (fax)

June 6, 2012

In Reply Refer To:
HDA-CA
EA 0F540

Raymond Wolfe
Director District 8
California Department of Transportation
464 West Fourth Street
San Bernardino, CA 92401-1400

Attention: Olufemi Odufalu, Office Chief, Environmental Engineering

Dear Mr. Odufalu:

SUBJECT: Project-Level Conformity Determination for the SR-91 Corridor Improvement Project

On June 5, 2012, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a request for the project-level conformity determination for the SR-91 Corridor Improvement Project in Orange and Riverside Counties, pursuant to 23 U.S.C. 327(a)(2)(B)(ii)(1). The project is in an area that is designated nonattainment for ozone, course particulate matter (PM_{10}), and fine particle particular matter ($PM_{2.5}$) and maintenance for carbon monoxide (CO).

We understand that the project-level conformity analysis submitted by Caltrans indicates that the project-level transportation conformity requirements of 40 C.F.R. Part 93 have been met. The project is included in the Southern California Association of Government's (SCAG) currently conforming *2012 Regional Transportation Plan (RTP),* and the *2011 Federal Transportation Improvement Program (FTIP).* The latest conformity determination for the RTP and the 2011 FTIP through Amendment #24 was approved by FHWA and the Federal Transit Administration (FTA) on June 4, 2012. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

As required by 40 C.F.R. 93.116 and 93.123, the localized CO and PM analyses are included in the documentation. The CO hotspot analysis was performed with the Caltrans' *Transportation Project-Level Carbon Monoxide Protocol.* The analyses demonstrate that the project will not create any new violation of the standards or increase the severity or number of existing violations.

Attachment B
TCWG Determination

PROGRAMS & PROJECTS
Compass Blueprint
Environment
Air Quality
Energy
Environmental Impact Reports
Environmental Justice
Intergovernmental Review
Solid & Hazardous Waste Management
Water
Housing
Local Profiles
Overall Work Program
Regional Comprehensive Plan
Regional Transportation Improvement Program
Regional Transportation Plan
SB 375 Regional Implementation Process
State of the Region
Strategic Plan
Transportation

REGIONAL COUNCIL
Districts & Representatives
Executive Officers
Governing Structure

LEGISLATION
State & Federal Programs
Find Your Representative

DATA SERVICES
Demographics, Trends & Statistics
Emergency Information Network
Goods Movement Database
Integrated Growth Forecast
Mapping & GIS
Modeling

MEDIA & COMMUNICATIONS
Press Room
Publications & Reports
SCAG TV - Streaming Videos

TCWG Review of Qualitative Analyses

Qualitative PM Hot Spot Analysis Review

September 2009	Determination
RIV071250 Analysis Revised 090903	Analysis deemed acceptable for NEPA circulation.
RIV071250 Analysis Revised 090903 with Strikeout	
RIV071250 Revised 090903 PM Emissions Region	
RIV071250 Revised 090903 PM Emissions Corridor	
RIV071250 Revised 090903 Project Vicinity	
RIV071250 Revised 090903 Project Location	
RIV071250 Revised 090903 SCAQMD	

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$PM_{2.5}$ AND PM_{10} ANALYSES

$PM_{2.5}$ AND PM_{10} HOT-SPOT METHODOLOGY

The new Final Rule establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts in $PM_{2.5}$ and PM_{10} nonattainment and maintenance areas. The proposed project is in the South Coast Air Basin (Basin), which has been designated as a federal nonattainment area for $PM_{2.5}$ and PM_{10}; therefore, a hot-spot analysis for the proposed project is required.

A hot-spot analysis is defined in the Code of Federal Regulations (CFR) (40 CFR 93.101) as an estimation of likely future localized pollutant concentrations and a comparison of those concentrations to the relevant air quality standards. A hot-spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area, such as for congested roadway intersections and highways or transit terminals. Such an analysis is a means of demonstrating that a transportation project meets the federal Clean Air Act (CAA) conformity requirements to support State and local air quality goals with respect to potential localized air quality impacts. When a hot-spot analysis is required, it is included within the project-level conformity determination that is made by FHWA or the Federal Transit Administration (FTA).

Section 176(c)(1)(B) of the CAA is the statutory criterion that must be met by all projects in nonattainment and maintenance areas that are subject to transportation conformity. Section 176(c)(1)(B) states that federally supported transportation projects must not "cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area."

The EPA in its *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* (March 2006) has established the following two methods for completing *$PM_{2.5}$ and PM_{10}* hot spot analyses:

A. Comparison to another location with similar characteristics

B. Air quality studies for the proposed project location

This analysis uses a combined approach to demonstrate that the proposed SR-91 CIP would not result in a new or worsened $PM_{2.5}$ or PM_{10} violation. Method A was used to establish that under the no build condition the proposed project area will meet the national ambient air quality standards (NAAQS). Method B was used to demonstrate that the proposed project would not delay attainment of the NAAQS.

Ambient Air Quality Standards

$PM_{2.5}$ nonattainment and maintenance areas are required to attain and maintain two NAAQS:

- **24-hour Standard:** 65 micrograms per cubic meter ($\mu g/m^3$). Based on 2004–2006 monitored data, the EPA tightened the $PM_{2.5}$ 24-hour standard from 65 to 35 $\mu g/m^3$,

effective December 2006. New area designations will become effective in early 2010 (EPA, 2006). Therefore, the current standard for conformity purposes is 65 $\mu g/m^3$.

- **Annual Standard:** 15.0 $\mu g/m^3$

The current 24-hour standard is based on a three-year average of the 98th percentile of 24-hour $PM_{2.5}$ concentrations. The current annual standard is based on a three-year average of annual mean $PM_{2.5}$ concentrations. A $PM_{2.5}$ hot-spot analysis must consider both standards unless it is determined for a given area in which meeting the controlling standard would ensure that CAA requirements are met for both standards. The interagency consultation process should be used to discuss how the qualitative $PM_{2.5}$ hot-spot analysis meets statutory and regulatory requirements for both $PM_{2.5}$ standards, depending on the factors that are evaluated for a given project.

PM_{10} nonattainment and maintenance areas are required to attain the following standard:

- **24-hour Standard:** 150 $\mu g/m^3$

The 24-hour PM_{10} standard is attained when the average number of exceedances in the previous three calendar years is less than or equal to 1.0. An exceedance occurs when a 24-hour concentration of 155 $\mu g/m^3$ or greater is measured at a site. The annual PM_{10} standard of 50 $\mu g/m^3$ is no longer used for determining the federal attainment status. The interagency consultation process should be used to discuss how the qualitative PM_{10} hot-spot analysis meets statutory and regulatory requirements for the PM_{10} standards, depending on the factors that are evaluated for a given project.

To meet statutory requirements, the 2006 Final Rule requires $PM_{2.5}$ and PM_{10} hot-spot analyses to be performed for Projects of Air Quality Concern (POAQC). The Final Rule states that projects not identified in 40 CFR 93.123(b)(1) as POAQC have met statutory requirements without any further hot-spot analyses (40 CFR 93.116[a]).

$PM_{2.5}$ AND PM_{10} HOT-SPOT ANALYSIS

Projects of Air Quality Concern

The first step in the hot-spot analysis is to determine whether a project meets the standard for a POAQC. The EPA specified in 40 CFR 93.123(b)(1) of the 2006 Final Rule that POAQC are certain highway and transit projects that involve significant levels of diesel vehicle traffic, or any other project that is identified in the $PM_{2.5}$ and PM_{10} State Implementation Plan (SIP) as a localized air quality concern. The 2006 Final Rule defines the POAQC that require a $PM_{2.5}$ and PM_{10} hot-spot analysis in 40 CFR 93.123(b)(1) as:

i. New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;

ii. Projects affecting intersections that are at level of service (LOS) D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

iii. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;

iv. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; or

v. Projects in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The proposed project would meet the criteria in Items i and ii above, because it would expand an existing facility and affect local intersections with a significant number of diesel vehicles. Therefore, this project is considered to be a POAQC, and a qualitative project-level $PM_{2.5}$ and PM_{10} hot-spot analysis was conducted to assess whether the project would cause or contribute to any new localized $PM_{2.5}$ or PM_{10} violations, increase the frequency or severity of any existing violations, or delay timely attainment of the $PM_{2.5}$ and PM_{10} AAQS.

Types of Emissions Considered

In accordance with the EPA/FHWA Guidance, this hot-spot analysis is based on directly emitted and re-entrained $PM_{2.5}$ and PM_{10} emissions. Tailpipe, brake wear, tire wear, and road dust $PM_{2.5}$ and PM_{10} emissions were considered in this hot-spot analysis.

Vehicles cause dust from paved and unpaved roads to be re-entrained, or resuspended, in the atmosphere. According to the 2006 Final Rule, road dust emissions are to be considered for PM_{10} hot-spot analyses. For $PM_{2.5}$, road dust emissions are only to be considered in hot-spot analyses if the EPA or the State air agency has made a finding that such emissions are a significant contributor to the $PM_{2.5}$ air quality problem (40 CFR 93.102(b)(3)). The EPA has published a guidance on the use of AP-42 for re-entrained road dust for SIP development and conformity (August 2007); therefore, re-entrained $PM_{2.5}$ is considered in this analysis.

Secondary particles formed through $PM_{2.5}$ and PM_{10} precursor emissions from a transportation project take several hours to form in the atmosphere, giving emissions time to disperse beyond the immediate project area of concern for localized analyses; therefore, they were not considered in this hot-spot analysis. Secondary emissions of $PM_{2.5}$ and PM_{10} are considered as part of the regional emission analysis prepared for the conforming RTP and Federal Transportation Improvement Program (FTIP).

According to the project schedule, no phase of construction would last more than five years, and construction-related emissions may be considered temporary; therefore, any construction-related $PM_{2.5}$ and PM_{10} emissions due to this project were not included in this hot-spot analysis. This project will comply with the applicable South Coast Air Quality Management District (SCAQMD) Fugitive Dust Rules for the control of fugitive dust during construction of this project. In addition, per Transportation Conformity Rule 93.117, the project will be required to comply with any applicable $PM_{2.5}$ and PM_{10} control measures in the SIP. Excavation, transportation, placement, and handling of excavated soils will result in no visible dust migration. A water truck or tank will be available within the project limits at all times to suppress and control the migration of fugitive dust from earthwork operations.

Analysis Method

According to the hot-spot methodology, estimates of future localized $PM_{2.5}$ and PM_{10} pollutant concentrations need to be determined. This analysis makes those estimates by extrapolating present $PM_{2.5}$ and PM_{10} pollutant concentrations from air quality data measured

at monitoring stations in the vicinity of the proposed project. The data from these stations are combined with projections from the 2003 and 2007 Air Quality Management Plans (AQMP) prepared by the SCAQMD and examined for trends in order to predict future conditions in the project vicinity. Additionally, the impacts of the project and the likelihood of these impacts interacting with the ambient $PM_{2.5}$ and PM_{10} levels to cause hot spots are discussed.

Data Considered

The closest air quality monitoring station to the proposed project within the County of Riverside is the Norco station. This station is located within 4000 feet of I-15. However, this station only monitors PM_{10} concentrations. The monitoring station closest to the project area that currently monitors $PM_{2.5}$ concentrations is the 1630 West Pampas Lane, Anaheim Station. This station is approximately 1,200 feet from Interstate 5 (I-5) and 1.3 miles from SR-91. The project location relative to these monitoring stations is shown in Figure 1.

The existing truck volumes along I-5 and SR-91 in the vicinity of the Anaheim monitoring station are 26,000 and 19,900 daily trips, respectively. The existing truck volume along I-15 in the vicinity of the Norco Station is 18,000 daily trips. These volumes are higher than the 16,500 to 18,000 daily truck trips along SR-91 and I-15, respectively, in the project area. The total vehicle trips along I-5, I-15, and SR-91 in the vicinity of these monitoring stations vary from 200,000 to 285,000, similar to or greater than the 200,000 to 272,000 existing daily trips along SR-91 and I-15, respectively, in the project area. Therefore, the air quality concentrations monitored at these stations are representative of the existing conditions in the project area.

Trends in Baseline $PM_{2.5}$ Concentrations. The monitored $PM_{2.5}$ concentrations at the Anaheim Station are shown in Table A. These data show that, within the past five years, the federal 24-hour $PM_{2.5}$ AAQS (65 $\mu g/m^3$) was not exceeded. The annual average $PM_{2.5}$ AAQS (15 $\mu g/m^3$) at this station was exceeded in four of the five years; however, the concentrations have been decreasing steadily overtime.

Table A: Ambient $PM_{2.5}$ Monitoring Data ($\mu g/m^3$)

	2003	2004	2005	2006	2007
Anaheim Air Quality Monitoring Station					
3-year average 98th percentile	55.8	52.3	49.3	45.7	44.7
Exceeds federal 24-hour standard (65 $\mu g/m^3$)?	No	No	No	No	No
3-year National annual average	20.43	17.63	16.33	15.21	14.35
Exceeds federal annual average standard (15 $\mu g/m^3$)?	Yes	Yes	Yes	Yes	No

Source: EPA Web site: http://www.epa.gov/air/data/monvals.html?st~CA~California, March 2009.

Projected 24-hour Concentrations. The levels of $PM_{2.5}$ in the project vicinity are below the current federal 24-hour standard. Table V-2-16 in the 2007 AQMP estimates that the 24-hour $PM_{2.5}$ concentration at the Anaheim station will be 42.8 $\mu g/m^3$ in 2015. This concentration would not exceed the current federal 24-hour standard of 65 $\mu g/m^3$.

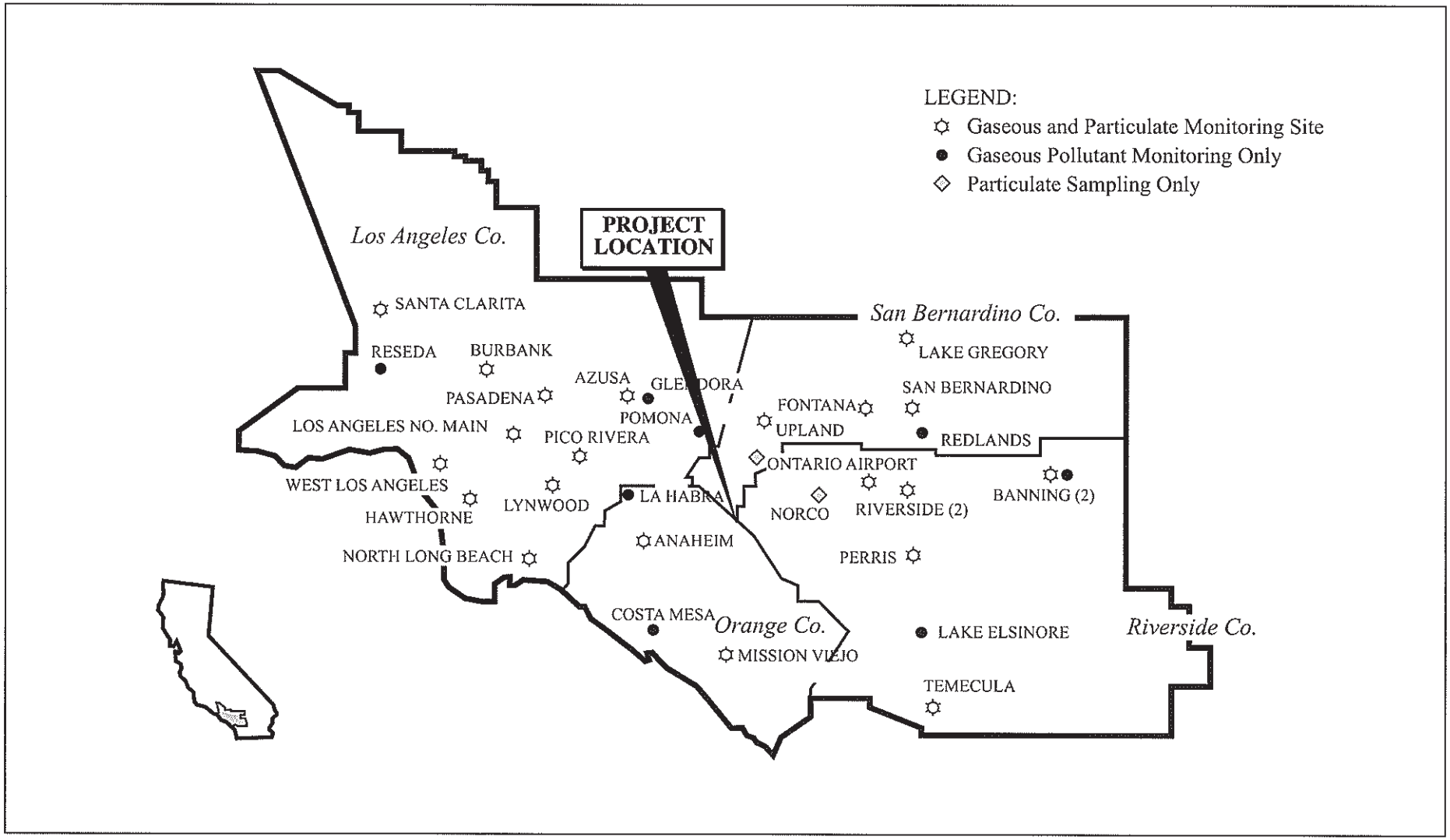

FIGURE 1

SR-91 Corridor Improvement Project

SCAQMD Air Monitoring Network
Within the South Coast Air Basin

PM 12-ORA-91-R14.43/R18.91
PM 08-RIV-91-R0.00/R13.04
PM 08-RIV-15-35.64/45.14
EA#0F5400

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Projected Annual Concentrations. While the current levels of $PM_{2.5}$ in the project vicinity are generally above the federal annual standard, indications are that levels in the future will continue to decrease. As shown in Table V-2-15c in the 2007 AQMP, the annual $PM_{2.5}$ concentration, with the California Air Resources Board's (ARB) emission reduction plan and the SCAQMD's emission reduction overlay, at the Anaheim Station is projected to be 12.3 $\mu g/m^3$ in 2014. This concentration would not exceed the federal annual standard of 15 $\mu g/m^3$.

Trends in Baseline PM_{10} Concentrations. The monitored PM_{10} concentrations at the Norco Station, shown in Table B, indicate that the federal 24-hour PM_{10} AAQS (150 $\mu g/m^3$) was exceeded once in 2007.

Table B: Ambient PM_{10} Monitoring Data ($\mu g/m^3$)

Norco Air Quality Monitoring Station	2003	2004	2005	2006	2007
First Highest	116	76	79	74	332
Second Highest	79	72	64	71	93
Third Highest	68	72	59	67	92
Fourth Highest	67	70	57	66	87
No. of days above national 24-hour standard (150 $\mu g/m^3$)	0	0	0	0	1

Source: ARB Web site: http://www.arb.ca.gov/adam/welcome.html, July 2009.

The 2007 AQMP reports that since the federal annual PM_{10} standard has been revoked, the Basin is expected to be declared in attainment for the 24-hour federal PM_{10} standard since 2000. Table V-3-1 in the 2007 AQMP lists the projected 24-hour PM_{10} concentrations at various stations within the Basin. It is estimated that the 24-hour concentration at the Anaheim Station (the closest station to the project area listed in the AQMP) will be 78 $\mu g/m^3$ by 2015, 52 percent of the federal standard.

Transportation and Traffic Conditions

Existing, interim (2015), and future (2035) no build average daily traffic (ADT) volumes and average daily truck volumes for SR-91 and I-15 in the project area are shown in Table C. The table indicates that SR-91 and I-15 each currently experience more than 10,000 trucks annual average daily traffic (AADT).

Table C: Existing and No Build Average Daily Traffic Volumes (Truck Average Daily Volumes)

Roadway Link	Existing (2007)	2015 No Build	2035 No Build
SR-91 from SR-241 to SR-71	280,000 (15,500)	320,000 (17,500)	325,000 (18,900)
SR-91 from SR-71 to I-15	272,000 (14,500)	306,000 (16,800)	306,000 (16,800)
SR-91 east of I-15	224,000 (16,300)	239,000 (18,400)	273,000 (21,800)
I-15 north of SR-91	171,000 (17,900)	198,000 (23,000)	320,000 (31,600)
I-15 south of SR-91	201,000 (10,300)	243,000 (13,500)	337,000 (20,500)

Source: PB Americas, Inc. (July 2009).

Table D summarizes the existing level of service (LOS) for the intersections along SR-91 and I-15 in the project area. As shown, the LOS currently vary from LOS A to LOS F.

Table D: Existing Intersection LOS

	Intersection	A.M. Peak Hour		P.M. Peak Hour	
		Delay	LOS	Delay	LOS
1.	Green River Rd/SR-91 WB Ramps	170.8	F	12.0	B
2.	Green River Rd/SR-91 EB Ramps	11.8	B	14.6	B
3.	Auto Center Dr/SR-91 WB Ramps	34.9	C	13.6	B
4.	Maple St/Pomona Dr	9.3	A	9.6	A
5.	6th St/SR-91 EB Ramps	21.9	C	137.4	F
6.	Paseo Grande/6th St	28.1	C	47.2	D
7.	SR-91 WB Ramps/Pomona Rd	224.9	F	36.5	D
8.	Lincoln Ave/SR-91 EB Ramps	22.1	C	243.1	F
9.	Main St/Grand Blvd	23.9	C	28.7	C
10.	Main St/SR-91 WB Ramps	36.1	D	40.1	D
11.	Main St/3rd St	24.9	C	39.7	D
12.	McKinley St/Griffin Way	36.7	D	175.9	F
13.	McKinley St/Sampson Ave	28.7	C	93.8	F
14.	Pierce St/Magnolia Ave	32.2	C	105.2	F
15.	Hamner Ave/Hidden Valley Pkwy	63.0	E	143.0	F
16.	Rimpau Ave/Magnolia Ave	98.7	F	94.9	F
17.	El Sobrante/Magnolia Ave	168.0	F	65.4	E
18.	I-15 SB Ramps/Magnolia Ave	63.4	E	64.3	E
19.	I-15 SB Ramps/Ontario Ave	35.6	D	29.1	A
20.	Bedford Canyon/Cajalco Road	11.4	B	73.3	E

Source: PB Americas, Inc. (July 2009).
Delay = Stopped time delay at intersection in seconds
LOS = Level of service

Traffic Changes Due to the Proposed Project

The proposed project is a highway improvement project that will increase the capacity of SR-91 and I-15. Based on the Traffic Study (PB, July 2009), the proposed project would increase peak hour and daily traffic volumes on SR-91 and I-15. The future traffic volumes for 2015 and 2035 are shown in Tables E and F, respectively. The with project reduction in traffic along SR-91 east of I-15 is due to the proposed HOV connectors that would separate traffic from SR-91 until after McKinley Street where traffic volumes are lower.

Table E: 2015 Highway Traffic Volumes

	No Build		Build Alternative 1		Build Alternative 2	
Roadway Link	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
SR-91 from SR-241 to SR-71	320,300	17,500	329,600	18,100	333,500	18,300
SR-91 from SR-71 to I-15	305,900	16,400	310,400	16,800	327,300	17,700
SR-91 east of I-15	243,300	18,400	235,400	18,100	238,900	18,400
I-15 north of SR-91	201,500	23,000	208,400	24,200	209,600	24,300
I-15 south of SR-91	242,700	13,500	248,800	13,900	251,800	14,100

Source: PB Americas, Inc. (July 2009).
ADT = average daily traffic
N/A = not applicable

Table F: 2035 Highway Traffic Volumes

Roadway Link	No Build		Build Alternative 1		Build Alternative 2	
	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
SR-91 from SR-241 to SR-71	325,200	18,900	334,800	19,400	361,900	21,000
SR-91 from SR-71 to I-15	305,900	16,800	307,000	16,900	344,700	19,000
SR-91 east of I-15	273,200	21,900	267,400	21,400	282,200	22,600
I-15 north of SR-91	319,800	31,700	333,000	33,000	334,900	33,200
I-15 south of SR-91	336,900	20,600	348,000	21,200	353,200	21,600

Source: PB Americas, Inc. (July 2009).
ADT = average daily traffic
N/A = not applicable

Tables G, H, I, and J show the 2015 and 2035 LOS in the project area for the a.m. and p.m. peak hours. As shown, the proposed project would worsen the LOS at various intersections along the project alignment.

Table G: 2015 A.M. Intersection LOS

	Intersection	No Build		Build Alternative 1		Build Alternative 2	
		Delay	LOS	Delay	LOS	Delay	LOS
1.	Green River Rd/SR-91 WB Ramps	89.4	F	39.9	D	60.9	E
2.	Green River Rd/SR-91 EB Ramps	31.2	C	30.8	C	32.2	C
3.	Auto Center Dr/SR-91 WB Ramps	31.7	C	33.1	C	38.3	D
4.	Maple St/Pomona Dr	31.4	C	42.1	D	69.7	E
5.	6th St/SR-91 EB Ramps	21.1	C	20.5	C	24.4	C
6.	Paseo Grande/6th St	34.3	C	32.7	C	31.1	C
7.	SR-91 WB Ramps/Pomona Rd	40.0	D	72.5	E	67.5	E
8.	Lincoln Ave/SR-91 EB Ramps	24.8	C	100.0	F	91.1	F
9.	Main St/Grand Blvd	32.6	C	31.0	C	30.5	C
10.	Main St/SR-91 WB Ramps	27.9	C	18.2	B	20.1	C
11.	Main St/3rd St	56.9	E	68.0	E	68.5	E
12.	McKinley St/Griffin Way	27.9	C	28.8	C	31.7	C
13.	McKinley St/Sampson Ave	33.5	C	26.4	C	25.4	C
14.	Pierce St/Magnolia Ave	35.4	D	32.7	C	32.5	C
15.	Hamner Ave/Hidden Valley Pkwy	46.5	D	47.7	D	46.2	D
16.	Rimpau Ave/Magnolia Ave	54.6	D	55.0	D	55.4	E
17.	El Sobrante/Magnolia Ave	72.9	E	70.2	E	71.5	E
18.	I-15 SB Ramps/Magnolia Ave	45.1	D	47.5	D	45.1	D
19.	I-15 SB Ramps/Ontario Ave	78.9	E	91.3	F	75.2	E
20.	Bedford Canyon/Cajalco Road	45.3	D	43.1	D	50.6	D

Source: PB Americas, Inc. (July 2009).
Delay = Stopped time delay at intersection in seconds
LOS = Level of service

Table H: 2015 P.M. Intersection LOS

Intersection		No Build		Build Alternative 1		Build Alternative 2	
		Delay	LOS	Delay	LOS	Delay	LOS
1.	Green River Rd/SR-91 WB Ramps	30.6	C	31.5	C	27.7	C
2.	Green River Rd/SR-91 EB Ramps	96.2	F	104.7	F	129.6	F
3.	Auto Center Dr/SR-91 WB Ramps	18.6	B	18.0	B	17.4	B
4.	Maple St/Pomona Dr	40.2	D	38.6	D	36.8	D
5.	6th St/SR-91 EB Ramps	85.0	F	35.1	D	36.9	D
6.	Paseo Grande/6th St	43.7	D	48.7	D	60.5	E
7.	SR-91 WB Ramps/Pomona Rd	40.0	D	25.8	C	27.1	C
8.	Lincoln Ave/SR-91 EB Ramps	146.1	F	98.4	F	107.4	F
9.	Main St/Grand Blvd	86.1	F	86.3	F	84.6	F
10.	Main St/SR-91 WB Ramps	81.0	F	63.8	E	64.1	E
11.	Main St/3rd St	42.4	D	60.9	E	59.6	E
12.	McKinley St/Griffin Way	52.3	D	56.1	E	73.1	E
13.	McKinley St/Sampson Ave	42.3	D	43.7	D	50.0	D
14.	Pierce St/Magnolia Ave	94.7	F	93.1	F	87.5	F
15.	Hamner Ave/Hidden Valley Pkwy	85.0	F	99.1	F	93.0	F
16.	Rimpau Ave/Magnolia Ave	50.1	D	52.6	D	49.4	D
17.	El Sobrante/Magnolia Ave	28.3	C	28.7	C	26.8	C
18.	I-15 SB Ramps/Magnolia Ave	85.1	F	89.3	F	90.4	F
19.	I-15 SB Ramps/Ontario Ave	37.7	D	37.3	D	36.0	D
20.	Bedford Canyon/Cajalco Road	58.0	E	59.0	E	58.7	E

Source: PB Americas, Inc. (July 2009).
Delay = Stopped time delay at intersection in seconds
LOS = Level of service

Table I: 2035 A.M. Intersection LOS

	Intersection	No Build		Build Alternative 1		Build Alternative 2	
		Delay	LOS	Delay	LOS	Delay	LOS
1.	Green River Rd/SR-91 WB Ramps	84.9	F	73.9	E	79.1	E
2.	Green River Rd/SR-91 EB Ramps	42.6	D	39.1	D	41.5	D
3.	Auto Center Dr/SR-91 WB Ramps	82.0	F	64.4	E	59.4	E
4.	Maple St/Pomona Dr	79.2	E	67.1	E	79.6	E
5.	6th St/SR-91 EB Ramps	24.4	C	28.3	C	23.8	C
6.	Paseo Grande/6th St	38.0	D	38.3	D	36.1	D
7.	SR-91 WB Ramps/Pomona Rd	40.5	D	97.3	F	82.8	F
8.	Lincoln Ave/SR-91 EB Ramps	36.1	D	181.1	F	167.6	F
9.	Main St/Grand Blvd	36.0	D	41.9	D	38.8	D
10.	Main St/SR-91 WB Ramps	25.2	C	42.8	D	17.4	B
11.	Main St/3rd St	61.9	E	79.0	E	36.3	D
12.	McKinley St/Griffin Way	33.8	C	31.3	C	33.1	C
13.	McKinley St/Sampson Ave	43.5	D	46.0	D	40.4	D
14.	Pierce St/Magnolia Ave	58.1	E	46.4	D	49.6	D
15.	Hamner Ave/Hidden Valley Pkwy	191.9	F	187.7	F	175.4	F
16.	Rimpau Ave/Magnolia Ave	133.0	F	115.9	F	117.0	F
17.	El Sobrante/Magnolia Ave	160.7	F	163.4	F	156.7	F
18.	I-15 SB Ramps/Magnolia Ave	111.5	F	114.7	F	106.7	F
19.	I-15 SB Ramps/Ontario Ave	75.2	E	59.7	E	58.1	E
20.	Bedford Canyon/Cajalco Road	28.0	C	27.5	C	28.0	C

Source: PB Americas, Inc. (July 2009).
Delay = Stopped time delay at intersection in seconds
LOS = Level of service

Table J: 2035 P.M. Intersection LOS

	Intersection	No Build		Build Alternative 1		Build Alternative 2	
		Delay	LOS	Delay	LOS	Delay	LOS
1.	Green River Rd/SR-91 WB Ramps	29.8	C	31.8	C	32.0	C
2.	Green River Rd/SR-91 EB Ramps	158.4	F	163.3	F	144.8	F
3.	Auto Center Dr/SR-91 WB Ramps	19.7	B	22.4	C	14.3	B
4.	Maple St/Pomona Dr	49.9	D	22.7	C	45.8	D
5.	6th St/SR-91 EB Ramps	97.2	F	36.0	D	38.4	D
6.	Paseo Grande/6th St	65.2	E	47.2	D	56.0	E
7.	SR-91 WB Ramps/Pomona Rd	30.2	C	30.6	C	32.7	C
8.	Lincoln Ave/SR-91 EB Ramps	68.3	E	123.1	F	133.5	F
9.	Main St/Grand Blvd	124.3	F	97.0	F	152.7	F
10.	Main St/SR-91 WB Ramps	141.3	F	119.2	F	37.8	D
11.	Main St/3rd St	68.8	E	109.2	F	75.3	E
12.	McKinley St/Griffin Way	69.1	E	72.5	E	71.4	E
13.	McKinley St/Sampson Ave	60.5	E	71.3	E	72.4	E
14.	Pierce St/Magnolia Ave	183.3	F	141.1	F	136.4	F
15.	Hamner Ave/Hidden Valley Pkwy	178.6	F	189.8	F	184.6	F
16.	Rimpau Ave/Magnolia Ave	91.4	F	83.1	F	81.2	F
17.	El Sobrante/Magnolia Ave	202.8	F	141.5	F	141.7	F
18.	I-15 SB Ramps/Magnolia Ave	156.4	F	141.7	F	140.3	F
19.	I-15 SB Ramps/Ontario Ave	37.7	D	35.1	D	35.2	D
20.	Bedford Canyon/Cajalco Road	208.7	F	185.3	F	211.0	F

Source: PB Americas, Inc. (July 2009).
Delay = Stopped time delay at intersection in seconds
LOS = Level of service

Daily Vehicle Emission Changes Due to the Proposed Project

The traffic study (PB, July 2009) calculated the daily vehicle miles traveled (VMT), daily vehicle hours traveled (VHT), and daily vehicle delay for all the vehicle trips along the SR-91 corridor and within the project region. This traffic data, in conjunction with the EMFAC2007 emission model, was used to calculate the $PM_{2.5}$ and PM_{10} exhaust, tire wear, and brake wear emissions for each of the project alternatives. EMFAC2007 does not estimate road dust emissions; therefore, the emission rates listed in Section 13.2.1 of EPA's AP-42 were used to calculate the road dust $PM_{2.5}$ and PM_{10} emissions under each alternative. The exhaust and dust emissions generated along the SR-91 corridor are listed in Tables K and L for $PM_{2.5}$ and PM_{10}, respectively. The exhaust and dust emissions generated within the RCTC region are listed in Tables M and N for $PM_{2.5}$ and PM_{10}, respectively. The results of the modeling are provided in Attachment A. As shown in Tables K and L, implementation of both project alternatives would result in a net increase in $PM_{2.5}$ and PM_{10} emissions in 2015 and 2035 along the SR-91 corridor. However, by 2015 the project region is expected to be 18 percent below the 24-hour $PM_{2.5}$ standard, 34 percent below the annual $PM_{2.5}$ standard, and 48 percent below the annual PM_{10} standard. Therefore, the 0.3 to 1.4 percent increase in PM emissions along SR-91 would not delay the attainment of the $PM_{2.5}$ or PM_{10} air quality standards within the Basin. In addition, as shown in Tables M and N, implementation of both build alternatives would result in a net decrease in regional $PM_{2.5}$ and PM_{10} emissions in 2015 and 2035.

Table K: Daily $PM_{2.5}$ Emissions along SR-91 Corridor (pounds per day)

Traffic Condition	Exhaust Emissions	Vehicle Delay	Tire Wear	Brake Wear	Road Dust	Total	Change from No Build
Existing	1,121	40	64	128	4,493	5,845	-
2015 No Build	797	59	79	159	5,582	6,666	-
2015 Alt 1	775	54	80	162	5,673	6,744	78 (+1.2%)
2015 Alt 2	760	51	80	161	5,671	6,724	58 (+0.9%)
2035 No Build	848	48	97	196	6,870	8,059	-
2035 Alt 1	828	45	98	197	6,913	8,080	21 (+0.3%)
2035 Alt 2	813	43	98	197	6,936	8,088	29 (+0.4%)

Source: LSA Associates, Inc., August 2009.

Table L: Daily PM_{10} Emissions along SR-91 Corridor (pounds per day)

Traffic Condition	Exhaust Emissions	Vehicle Delay	Tire Wear	Brake Wear	Road Dust	Total	Change from No Build
Existing	1,218	33	254	330	9,848	11,682	-
2015 No Build	1,057	49	315	409	12,234	14,065	-
2015 Alt 1	1,040	45	320	416	12,434	14,255	190 (+1.4%)
2015 Alt 2	1,019	42	320	416	12,430	14,228	163 (+1.2%)
2035 No Build	915	53	388	504	15,058	16,918	-
2035 Alt 1	894	50	390	507	15,151	16,992	74 (+0.4%)
2035 Alt 2	878	48	391	509	15,202	17,028	110 (+0.7%)

Source: LSA Associates, Inc., August 2009.

Table M: Daily $PM_{2.5}$ Emissions in Project Region (pounds per day)

Traffic Condition	Exhaust Emissions	Vehicle Delay	Tire Wear	Brake Wear	Road Dust	Total	Change from No Build
Existing	40,918	1,003	2,278	4,580	160,832	209,610	-
2015 No Build	26,381	1,454	2,668	5,362	188,324	224,190	-
2015 Alt 1	26,367	1,454	2,666	5,359	188,193	224,038	-152 (-0.1%)
2015 Alt 2	26,336	1,449	2,665	5,357	188,146	223,953	-237 (-0.1%)
2035 No Build	28,262	1,342	3,130	6,292	220,959	259,984	-
2035 Alt 1	28,152	1,329	3,128	6,287	220,803	259,699	-285 (-0.1%)
2035 Alt 2	28,164	1,330	3,129	6,289	220,866	259,778	-206 (-0.1%)

Source: LSA Associates, Inc., August 2009.

Table N: Daily PM_{10} Emissions in Project Region (pounds per day)

Traffic Condition	Exhaust Emissions	Vehicle Delay	Tire Wear	Brake Wear	Road Dust	Total	Change from No Build
Existing	44,493	834	9,078	11,796	352,508	418,709	-
2015 No Build	35,406	1,209	10,630	13,812	412,766	473,823	-
2015 Alt 1	35,387	1,209	10,623	13,802	412,477	473,498	-325 (-0.1%)
2015 Alt 2	35,345	1,205	10,620	13,799	412,374	473,343	-480 (-0.1%)
2035 No Build	30,483	1,492	12,472	16,206	484,294	544,947	-
2035 Alt 1	30,366	1,478	12,463	16,194	483,952	544,454	-493 (-0.1%)
2035 Alt 2	30,379	1,479	12,467	16,199	484,090	544,614	-333 (-0.1%)

Source: LSA Associates, Inc., August 2009.

CONCLUSION

Transportation conformity is required under Section 176(c) of the federal CAA to ensure that federally supported highway and transit project activities are consistent with the purpose of the SIP. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant AAQS. As required by the 2006 Final Rule, this qualitative $PM_{2.5}$ and PM_{10} hot-spot analysis demonstrates that this project meets the CAA conformity requirements to support State and local air quality goals with respect to potential localized air quality impacts.

It is not expected that changes to $PM_{2.5}$ and PM_{10} emissions levels associated with the proposed SR-91 CIP build alternatives would result in new violations of the NAAQS for the following reasons:

- The traffic volumes in the vicinity of the Norco and Anaheim air quality monitoring station are consistent with the existing traffic volumes along I-15 and SR-91.
- The ambient PM_{10} concentrations at the Norco station exceeded the 24-hour federal standard once within the past five years and is projected to be 52 percent of the NAAQS by 2015.
- Based on the local monitoring data and the 2007 AQMP, the 24-hour and annual average $PM_{2.5}$ concentrations in the project area would be reduced to below the federal 24-hour and annual NAAQS by 2015.
- The 0.3 to 1.2 percent increase in $PM_{2.5}$ emissions along the SR-91 corridor would not result in a new exceedances of the NAAQS.
- The 0.4 to 1.4 percent increase in PM_{10} emissions along the SR-91 corridor would not result in a new exceedances of the NAAQS.
- Both build alternatives would result in a net decrease in $PM_{2.5}$ emissions within the Basin.
- Both build alternatives would result in a net decrease in PM_{10} emissions within the Basin.

For these reasons, future new or worsened $PM_{2.5}$ and PM_{10} violations of any standards are not anticipated; therefore, the proposed SR-91 CIP meets the conformity hot-spot requirements in 40 CFR 93-116 and 93-123 for both $PM_{2.5}$ and PM_{10}.

REFERENCES

United States Environmental Protection Agency. 2006. "Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas" (EPA 420-B-06-902, March 2006).

United States Environmental Protection Agency. 2006. Final Revisions to the National Ambient Air Quality Standards for Particulate Pollution (Particulate Matter). EPA Web site: www.epa.gov/oar/particulatepollution/naaqsrev2006.html, accessed on March 19, 2007.

State Route 91 Corridor Improvement Project Traffic Study, (Parsons Brinckerhoff, July 2009).

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ATTACHMENT A

$PM_{2.5}$ AND PM_{10} EMISSION CALCULATIONS

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PM2.5 Emission Rates (g/mile) - 2008

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM2.5 Exhaust	0.0205	0.0168	0.0143	0.5030	0.4300	0.3790
PM2.5 Tire Wear	0.0023	0.0023	0.0023	0.0060	0.0060	0.0060
PM2.5 Brake Wear	0.0050	0.0050	0.0050	0.0085	0.0085	0.0085
PM2.5 Road Dust	0.1854	0.1854	0.1854	0.1854	0.1854	0.1854
PM2.5 Delay	0.1085			0.9850		

PM10 Emission Rates (g/mile) - 2008

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM10 Exhaust	0.0223	0.0185	0.0155	0.5470	0.4665	0.4115
PM10 Tire Wear	0.0093	0.0093	0.0093	0.0235	0.0235	0.0235
PM10 Brake Wear	0.0130	0.0130	0.0130	0.0205	0.0205	0.0205
PM10 Road Dust	0.4064	0.4064	0.4064	0.4064	0.4064	0.4064
PM10 Delay	0.0875			0.8505		

SR-91 Corridor Traffic Conditions

	No Build
VMT	393,424,177
VHT	12,246,929
Speed	32.12
Delay	2,546,404
Truck %	8

Emission Rates	No Build
PM2.5 Exhaust	0.0472
PM2.5 Tire Wear	0.0026
PM2.5 Brake Wear	0.0053
PM2.5 Road Dust	0.1854
PM2.5 Delay	0.1786
PM10 Exhaust	0.0513
PM10 Tire Wear	0.0105
PM10 Brake Wear	0.0136
PM10 Road Dust	0.4064

PM10 Delay	0.1485

Emissions (lb/day)	**No Build**
PM2.5 Exhaust	40,918
PM2.5 Tire Wear	2,278
PM2.5 Brake Wear	4,580
PM2.5 Road Dust	160,832
PM2.5 Delay	1,003
PM10 Exhaust	44,493
PM10 Tire Wear	9,078
PM10 Brake Wear	11,796
PM10 Road Dust	352,508
PM10 Delay	834
PM2.5 Total	209,610
PM10 Total	418,709

PM2.5 Emission Rates (g/mile) - 2015

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM2.5 Exhaust	0.0218	0.0177	0.0152	0.1505	0.1290	0.1130
PM2.5 Tire Wear	0.0023	0.0023	0.0023	0.0060	0.0060	0.0060
PM2.5 Brake Wear	0.0050	0.0050	0.0050	0.0085	0.0085	0.0085
PM2.5 Road Dust	0.1854	0.1854	0.1854	0.1854	0.1854	0.1854
PM2.5 Delay	0.1085			0.9850		

PM10 Emission Rates (g/mile) - 2015

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM10 Exhaust	0.0232	0.0192	0.0157	0.2580	0.2255	0.2050
PM10 Tire Wear	0.0093	0.0093	0.0093	0.0235	0.0235	0.0235
PM10 Brake Wear	0.0130	0.0130	0.0130	0.0205	0.0205	0.0205
PM10 Road Dust	0.4064	0.4064	0.4064	0.4064	0.4064	0.4064
PM10 Delay	0.0875			0.8505		

SR-91 Corridor Traffic Conditions

	No Build	Alt 1	Alt 2
VMT	460,676,104	460,353,657	460,239,394
VHT	14,940,416	14,932,584	14,912,653
Speed	30.83	30.83	30.86
Delay	3,692,804	3,693,292	3,679,366
Truck %	8	8	8

Emission Rates	No Build	Alt 1	Alt 2
PM2.5 Exhaust	0.0260	0.0260	0.0260
PM2.5 Tire Wear	0.0026	0.0026	0.0026
PM2.5 Brake Wear	0.0053	0.0053	0.0053
PM2.5 Road Dust	0.1854	0.1854	0.1854
PM2.5 Delay	0.1786	0.1786	0.1786
PM10 Exhaust	0.0349	0.0349	0.0348
PM10 Tire Wear	0.0105	0.0105	0.0105
PM10 Brake Wear	0.0136	0.0136	0.0136
PM10 Road Dust	0.4064	0.4064	0.4064

PM10 Delay	0.1485	0.1485	0.1485

Emissions (lb/day)	No Build	Alt 1	Alt 2
PM2.5 Exhaust	26,381	26,367	26,336
PM2.5 Tire Wear	2,668	2,666	2,665
PM2.5 Brake Wear	5,362	5,359	5,357
PM2.5 Road Dust	188,324	188,193	188,146
PM2.5 Delay	1,454	1,454	1,449
PM10 Exhaust	35,406	35,387	35,345
PM10 Tire Wear	10,630	10,623	10,620
PM10 Brake Wear	13,812	13,802	13,799
PM10 Road Dust	412,766	412,477	412,374
PM10 Delay	1,209	1,209	1,205
PM2.5 Total	224,190	224,038	223,953
PM10 Total	473,823	473,498	473,343

PM2.5 Emission Rates (g/mile) - 2035

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM2.5 Exhaust	0.0208	0.0167	0.0142	0.0885	0.0810	0.0760
PM2.5 Tire Wear	0.0023	0.0023	0.0023	0.0060	0.0060	0.0060
PM2.5 Brake Wear	0.0050	0.0050	0.0050	0.0085	0.0085	0.0085
PM2.5 Road Dust	0.1854	0.1854	0.1854	0.1854	0.1854	0.1854
PM2.5 Delay	0.0745			0.3605		

PM10 Emission Rates (g/mile) - 2035

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM10 Exhaust	0.0223	0.0180	0.0150	0.0965	0.0875	0.0830
PM10 Tire Wear	0.0093	0.0093	0.0093	0.0235	0.0235	0.0235
PM10 Brake Wear	0.0130	0.0130	0.0130	0.0205	0.0205	0.0205
PM10 Road Dust	0.4064	0.4064	0.4064	0.4064	0.4064	0.4064
PM10 Delay	0.0817			0.4145		

SR-91 Corridor Traffic Conditions

	No Build	Alt 1	Alt 2
VMT	540,506,207	540,125,549	540,279,254
VHT	19,406,426	19,333,345	19,341,641
Speed	27.85	27.94	27.93
Delay	6,250,531	6,190,873	6,194,500
Truck %	8	8	8

Emission Rates	No Build	Alt 1	Alt 2
PM2.5 Exhaust	0.0237	0.0236	0.0236
PM2.5 Tire Wear	0.0026	0.0026	0.0026
PM2.5 Brake Wear	0.0053	0.0053	0.0053
PM2.5 Road Dust	0.1854	0.1854	0.1854
PM2.5 Delay	0.0974	0.0974	0.0974
PM10 Exhaust	0.0256	0.0255	0.0255
PM10 Tire Wear	0.0105	0.0105	0.0105
PM10 Brake Wear	0.0136	0.0136	0.0136
PM10 Road Dust	0.4064	0.4064	0.4064

PM10 Delay	0.1083	0.1083	0.1083

Emissions (lb/day)	No Build	Alt 1	Alt 2
PM2.5 Exhaust	28,262	28,152	28,164
PM2.5 Tire Wear	3,130	3,128	3,129
PM2.5 Brake Wear	6,292	6,287	6,289
PM2.5 Road Dust	220,959	220,803	220,866
PM2.5 Delay	1,342	1,329	1,330
PM10 Exhaust	30,483	30,366	30,379
PM10 Tire Wear	12,472	12,463	12,467
PM10 Brake Wear	16,206	16,194	16,199
PM10 Road Dust	484,294	483,952	484,090
PM10 Delay	1,492	1,478	1,479
PM2.5 Total	259,984	259,699	259,778
PM10 Total	544,947	544,454	544,614

PM2.5 Emission Rates (g/mile) - 2008

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM2.5 Exhaust	0.0205	0.0168	0.0143	0.5030	0.4300	0.3790
PM2.5 Tire Wear	0.0023	0.0023	0.0023	0.0060	0.0060	0.0060
PM2.5 Brake Wear	0.0050	0.0050	0.0050	0.0085	0.0085	0.0085
PM2.5 Road Dust	0.1854	0.1854	0.1854	0.1854	0.1854	0.1854
PM2.5 Delay	0.1085			0.9850		

PM10 Emission Rates (g/mile) - 2008

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM10 Exhaust	0.0223	0.0185	0.0155	0.5470	0.4665	0.4115
PM10 Tire Wear	0.0093	0.0093	0.0093	0.0235	0.0235	0.0235
PM10 Brake Wear	0.0130	0.0130	0.0130	0.0205	0.0205	0.0205
PM10 Road Dust	0.4064	0.4064	0.4064	0.4064	0.4064	0.4064
PM10 Delay	0.0875			0.8505		

SR-91 Corridor Traffic Conditions

	No Build
VMT	10,990,590
VHT	334,688
Speed	32.84
Delay	100,723
Truck %	8

Emission Rates	No Build
PM2.5 Exhaust	0.0463
PM2.5 Tire Wear	0.0026
PM2.5 Brake Wear	0.0053
PM2.5 Road Dust	0.1854
PM2.5 Delay	0.1786
PM10 Exhaust	0.0503
PM10 Tire Wear	0.0105
PM10 Brake Wear	0.0136
PM10 Road Dust	0.4064

PM10 Delay	0.1485

Emissions (lb/day)	No Build
PM2.5 Exhaust	1,121
PM2.5 Tire Wear	64
PM2.5 Brake Wear	128
PM2.5 Road Dust	4,493
PM2.5 Delay	40
PM10 Exhaust	1,218
PM10 Tire Wear	254
PM10 Brake Wear	330
PM10 Road Dust	9,848
PM10 Delay	33
PM2.5 Total	5,845
PM10 Total	11,682

PM2.5 Emission Rates (g/mile) - 2015

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM2.5 Exhaust	0.0218	0.0177	0.0152	0.1505	0.1290	0.1130
PM2.5 Tire Wear	0.0023	0.0023	0.0023	0.0060	0.0060	0.0060
PM2.5 Brake Wear	0.0050	0.0050	0.0050	0.0085	0.0085	0.0085
PM2.5 Road Dust	0.1854	0.1854	0.1854	0.1854	0.1854	0.1854
PM2.5 Delay	0.1085			0.9850		

PM10 Emission Rates (g/mile) - 2015

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM10 Exhaust	0.0232	0.0192	0.0157	0.2580	0.2255	0.2050
PM10 Tire Wear	0.0093	0.0093	0.0093	0.0235	0.0235	0.0235
PM10 Brake Wear	0.0130	0.0130	0.0130	0.0205	0.0205	0.0205
PM10 Road Dust	0.4064	0.4064	0.4064	0.4064	0.4064	0.4064
PM10 Delay	0.0875			0.8505		

SR-91 Corridor Traffic Conditions

	No Build	Alt 1	Alt 2
VMT	13,654,541	13,877,488	13,872,532
VHT	446,546	437,352	428,063
Speed	30.58	31.73	32.41
Delay	148,584	136,838	129,403
Truck %	8	8	8

Emission Rates	No Build	Alt 1	Alt 2
PM2.5 Exhaust	0.0262	0.0253	0.0248
PM2.5 Tire Wear	0.0026	0.0026	0.0026
PM2.5 Brake Wear	0.0053	0.0053	0.0053
PM2.5 Road Dust	0.1854	0.1854	0.1854
PM2.5 Delay	0.1786	0.1786	0.1786
PM10 Exhaust	0.0351	0.0340	0.0333
PM10 Tire Wear	0.0105	0.0105	0.0105
PM10 Brake Wear	0.0136	0.0136	0.0136
PM10 Road Dust	0.4064	0.4064	0.4064

PM10 Delay	0.1485	0.1485	0.1485

Emissions (lb/day)	No Build	Alt 1	Alt 2
PM2.5 Exhaust	787	775	760
PM2.5 Tire Wear	79	80	80
PM2.5 Brake Wear	159	162	161
PM2.5 Road Dust	5,582	5,673	5,671
PM2.5 Delay	59	54	51
PM10 Exhaust	1,057	1,040	1,019
PM10 Tire Wear	315	320	320
PM10 Brake Wear	409	416	416
PM10 Road Dust	12,234	12,434	12,430
PM10 Delay	49	45	42
PM2.5 Total	6,666	6,744	6,724
PM10 Total	14,065	14,255	14,228

PM2.5 Emission Rates (g/mile) - 2035

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM2.5 Exhaust	0.0208	0.0167	0.0142	0.0885	0.0810	0.0760
PM2.5 Tire Wear	0.0023	0.0023	0.0023	0.0060	0.0060	0.0060
PM2.5 Brake Wear	0.0050	0.0050	0.0050	0.0085	0.0085	0.0085
PM2.5 Road Dust	0.1854	0.1854	0.1854	0.1854	0.1854	0.1854
PM2.5 Delay	0.0745			0.3605		

PM10 Emission Rates (g/mile) - 2035

	Autos			Trucks		
Speed	25	30	35	25	30	35
PM10 Exhaust	0.0223	0.0180	0.0150	0.0965	0.0875	0.0830
PM10 Tire Wear	0.0093	0.0093	0.0093	0.0235	0.0235	0.0235
PM10 Brake Wear	0.0130	0.0130	0.0130	0.0205	0.0205	0.0205
PM10 Road Dust	0.4064	0.4064	0.4064	0.4064	0.4064	0.4064
PM10 Delay	0.0817			0.4145		

SR-91 Corridor Traffic Conditions

	No Build	Alt 1	Alt 2
VMT	16,805,250	16,909,530	16,966,137
VHT	583,945	571,919	562,795
Speed	28.78	29.57	30.15
Delay	224,091	210,845	201,418
Truck %	8	8	8

Emission Rates	No Build	Alt 1	Alt 2
PM2.5 Exhaust	0.0229	0.0222	0.0217
PM2.5 Tire Wear	0.0026	0.0026	0.0026
PM2.5 Brake Wear	0.0053	0.0053	0.0053
PM2.5 Road Dust	0.1854	0.1854	0.1854
PM2.5 Delay	0.0974	0.0974	0.0974
PM10 Exhaust	0.0247	0.0240	0.0235
PM10 Tire Wear	0.0105	0.0105	0.0105
PM10 Brake Wear	0.0136	0.0136	0.0136
PM10 Road Dust	0.4064	0.4064	0.4064

PM10 Delay	0.1083	0.1083	0.1083

Emissions (lb/day)	No Build	Alt 1	Alt 2
PM2.5 Exhaust	848	828	813
PM2.5 Tire Wear	97	98	98
PM2.5 Brake Wear	196	197	197
PM2.5 Road Dust	6,870	6,913	6,936
PM2.5 Delay	48	45	43
PM10 Exhaust	915	894	878
PM10 Tire Wear	388	390	391
PM10 Brake Wear	504	507	509
PM10 Road Dust	15,058	15,151	15,202
PM10 Delay	53	50	48
PM2.5 Total	8,059	8,080	8,088
PM10 Total	16,918	16,992	17,028

Based on the information provided, FHWA finds that the SR-91 Corridor Improvement Project in Orange and Riverside Counties conforms to the State Implementation Plan (SIP) in accordance with 40 C.F.R. Part 93.

If you have any questions pertaining to this conformity finding, please contact Stew Sonnenberg, FHWA Air Quality Specialist, at (916) 498-5889.

Sincerely,

For
Vincent P. Mammano
Division Administrator

various locations (SR-241 through Pierce)(OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 TEL and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94).

The approved 2012 RTP and 2011 FTIP (Amendment 24) project listings are provided in Appendix K.

3.14.2.4 Project-Level Air Quality Conformity

Because the project is within an attainment/maintenance area for CO and a nonattainment area for federal $PM_{2.5}$ and PM_{10} standards, local hot-spot analyses for CO, $PM_{2.5}$, and PM_{10} are required for conformity purposes. The results of these hot-spot analyses are provided in Section 3.14.3, Environmental Consequences.

In regards to the related interagency consultation required for this project, SCAG's Transportation Conformity Working Group (TCWG) deemed the Particulate Matter Hot-Spot Qualitative Analysis acceptable for NEPA circulation at their September 22, 2009 meeting. On April 24, 2012, the TCWG reviewed and concurred that the identified Preferred Alternative (Alternative 2f) meets the particulate matter conformity requirements. See Chapter 5 for a copy of review results posted by TCWG.

FHWA approved the regional air quality conformity determinations for the 2012 RTP and Amendment 24 to the 2011 FTIP on June 4, 2012. In a letter dated June 5, 2012, the Department submitted the *Air Quality Conformity Analysis* and requested that FHWA issue a project-level air quality conformity determination for the SR-91 CIP.

The *Air Quality Conformity Analysis* for the SR-91 CIP documents that all the transportation conformity requirements have been met. The interagency consultation requirement was met when the PM_{10} hot-spot analysis for the SR-91 CIP was first presented to the SCAG TCWG on September 22, 2009, and again on April 24, 2012. Opportunities for review were provided to the public when the Draft EIR/EIS was circulated for public review in May 2011.

One June 6, 2012, FHWA approved the project-level *Air Quality Conformity Analysis* for the SR-91 CIP in Orange and Riverside Counties. A separate project-level air quality conformity determination will be necessary prior to approval of a ROD for the Ultimate Project.