REPORT

DATE: January 4, 2007

TO: Energy and Environment Committee

FROM: Jessica Kirchner, Associate Regional Planner, (213) 236-1983, kirchner@scag.ca.gov

SUBJECT: Caltrans Transportation Control Measure Replacement

EXECUTIVE DIRECTOR'S APPROVAL:

RECOMMENDED ACTION:
Release the Caltrans Transportation Control Measure (TCM) Substitution report for public review and comment.

BACKGROUND:
Caltrans is proposing to replace an existing Transportation Control Measure (TCM) with a new project. The existing project is an eight mile segment of the State Route 60 (SR-60) from the I-215 interchange to Redlands Boulevard. In both directions, this segment of the SR-60 would remain a full time HOV lane between the hours of 6 a.m. and 10 a.m. and 3 p.m. to 7 p.m., but would allow access by single occupancy vehicles during the remaining hours of the day. The purpose of the new project is to relieve congestion, increase travel speeds and improve overall safety by lowering off-peak traffic densities on the mixed flow lanes.

FISCAL IMPACT:
The work performed for the TCM replacement is included in the current SCAG Overall Work Program (07-025.SCGS1).

Attachments:
SCAG Transportation Control Measure Report

Reviewed by:
Division Manager

Reviewed by:
Department Director

Reviewed by:
Chief Financial Officer

DRAFT
CALTRANS
TRANSPORTATION CONTROL MEASURE (TCM)
SUBSTITUTION REPORT

January 4, 2007

SOUTHERN CALIFORNIA

ASSOCIATION of GOVERNMENTS

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INTRODUCTION

The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization (MPO) for six counties in Southern California, Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. As the MPO, SCAG is required to develop and update the Regional Transportation Plan (RTP) and the Regional Transportation Improvement Program (RTIP). The RTP is a long-range plan that identifies multi-modal regional transportation needs and investments over the next 25 years. The RTIP is a short-range program that implements the long-range plan by identifying federal, state, and local funding sources and amounts for specific transportation projects and project phases.

SCAG adopted the current operating 2004 RTP on April 1, 2004 (resolution #04-451-2), and the current operating 2006 RTIP on July 27, 2006 (resolution #06-477-2). Both the RTP and RTIP were developed in a comprehensive, cooperative, and continuing process that involved a broad spectrum of transportation and related stakeholders, as required under the Transportation Equity Act for the 21st Century (TEA-21).

The California Department of Transportation (Caltrans) has requested that SCAG amend the 2006 RTIP to replace an existing full time High Occupancy Vehicle (HOV) lane with a part time HOV lane (see Attachments A, B). The operational change would last for a period of three years after which time the HOV would revert back to full time.

The purpose of this document is to identify the specific details of the proposed TCM substitution and associated amendment to the 2006 RTIP and to ensure that the proposed changes are consistent with federal and state requirements, including the Clean Air Act (CAA) section 176(c) as revised by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). All analyses for both the 2004 RTP and 2006 RTIP are incorporated into this document.

PROJECT DESCRIPTION

Caltrans is proposing to convert an existing full time HOV lane to a part time lane in both directions on an eight mile segment of the SR-60. The proposed segment would begin just east of the SR-60 and Interstate 215 junction and would continue to Redlands Boulevard. The conversion would last for a period of three years at which time it will revert back to a full time HOV lane. As proposed, the HOV lane would be HOV only from 6 AM through 10 AM and from 3 PM through 7 PM and would be open to single occupant vehicles the remaining hours of the day. Signage will be installed to inform motorists of the new hours of operation. No additional changes (striping, ingress/egress, etc.) are proposed.

Timely Implementation of TCMs

Replacement of the full time SR-60 HOV lane TCM with the part time SR-60 HOV lane TCM must follow the substitution process specified in the CAA section 176(c) as amended by SAFETEA-LU. The CAA as amended requires that the replacement TCM meet the following criteria:

176(c)(8)(A)(i)	The substitute measure achieves equivalent or greater emissions reductions than the control measure to be replaced;
176(c)(8)(A)(ii)	The substitute control measures are implemented in accordance with a schedule that is consistent with the schedule provided for the control measures in the implementation plan;
176(c)(8)(A)(iii)	The substitute and additional control measures are accompanied with evidence of adequate personnel and funding and authority under state or local law to implement, monitor, and enforce the control measure;
176(c)(8)(A)(iv)(I)	The substitute and additional control measures were developed through a collaborative process that included participation by representatives of all affected jurisdictions (including local air pollution control agencies, the state air pollution control agency and state and local transportation agencies);
176(c)(8)(A)(iv)(II)	The substitute and additional control measures were developed through a collaborative process that included consultation with the Administrator;
176(c)(8)(A)(iv)(III)	The substitute and additional control measures were developed through a collaborative process that included reasonable public notice and opportunity for comments; and
176(c)(8)(A)(v)	The metropolitan planning organization, state air pollution control agency and the Administrator concur with the equivalency of the substitute or additional control measure.

TCMs are contained in Appendix IV-C of the Air Quality Management Plan/State Implementation Plan (AQMP/SIP). The TCM substitution process followed by SCAG is also spelled out in this appendix to the 1994, 1997 and 2003 AQMPs. The AQMP specifies procedures for replacing individual projects such as the HOV full time to part time replacement. This process includes:

- The CTCs and/or project sponsors shall notify SCAG when a TCM project cannot be delivered or will be significantly delayed.
- SCAG, CTC or project sponsor can propose a substitute measure.
- Prior to adopting an individual TCM substitution, the measure must have been subject to interagency consultation (i.e., the Transportation Conformity Working Group), public review and comment period and emissions analysis.
- The replacement measure must be subject to the SCAG Regional Council review and adoption.
- Upon adoption by the Regional Council, the new measure will replace the previous measure and will be incorporated into the RTIP through an administrative amendment.
- Adoption by SCAG's Regional Council will rescind the previous TCM and apply the new measure.

Interagency Consultation. Interagency consultation occurred at SCAG's publicly noticed Transportation Conformity Working Group meeting on November 28, 2006.

Equivalent Emissions Reduction. As demonstrated, the proposed TCM replacement provides emissions equivalent to those of the original TCM when rounded to the nearest pound.

Similar Geographic Area. Both projects are located within Riverside County and would serve Riverside County and the surrounding areas.

Full Funding. The proposed project will be funded with $35,000 in Minor State Cash.

Similar Time Frame. The proposed project is anticipated to be operational in mid 2007 and will remain in use for a period of three years.

Timely Implementation. The replacement project will be monitored through TCM Timely Implementation Reports that SCAG submits to the federal agencies (FHWA).

Legal Authority. Caltrans will have full legal authority to implement and operate the replacement project.

SCAG Review and Adoption. After Committee approval, the replacement TCM will be presented to SCAG's Regional Council for adoption

Finding: SCAG has followed the federally approved process for TCM substitution as described in this document. Substitution of this project does not change funding and timely implementation of any TCM projects not described in this document. With EPA concurrence, all South Coast Air Basin TCM projects in the federally approved conforming 2004 RTP and 2006 RTIP are given funding priority and are on schedule for implementation.

Fiscal Constraint Analysis

Finding: All projects listed in the 2004 RTP and 2006 RTIP are financially constrained for all fiscal years.

Interagency Consultation and Public Involvement Analysis

Finding: SCAG has consulted with the respective transportation and air quality planning agencies. The proposed substitution of the SR-60 HOV lane replacement was discussed at the Transportation Conformity Working Group (which includes representatives from the respective air quality and transportation planning agencies) on November 28, 2006. In addition, the proposed substitution will undergo the required consultation and public participation process. A 30 day public comment period announcement will be posted on SCAG's website in early January. Comments received will be incorporated in the final documentation.

EMISSIONS ANALYSIS

The SR-60 HOV lane TCM and the proposed SR-60 part time TCM replacement project are compared by difference in emissions. The emissions factors for vehicle type are based on EMFAC2002. Emissions estimations are for the year 2007. Additional technical information is included in Attachment B.

VMT/Emissions Reductions (pounds per year)

		VMT	ROG	CO	NOx	PM10	PM2.5
Original Project	Full time HOV lane	367,762	261.3	2583.83	487.32	21.11	14.51
Replacement Project	Part time HOV lane	367,761	261.31	2,584.02	487.36	21.11	14.52

Based on SCAG's analysis, the proposed part time HOV lane would provide equivalent emissions to the full time HOV lane.

Finding: The proposed part time HOV lane would provide equivalent emissions to the full time HOV lane when rounded to the nearest pound.

PUBLIC REVIEW AND COMMENT

The TCM substitution process as described in SAFETEA-LU requires public notice and opportunity for comment. A Notice of Availability will be posted on the SCAG website (www.scag.ca.gov) on January 5, 2007. Any comments received during the comment period will be reflected in the final report submitted to the federal agencies.

ATTACHMENT A

CALTRANS REQUEST FOR TCM SUBSTITUTION

DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ENGINEERING
Tony Louka, Office Chief, Environmental Engineering
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Flex your power!
Be energy efficient!

December 7, 2006

Mr. Hasan Ikhrata
SCAG
818 West Seventh St., 12th Fl.
Planning & Policy
Los Angeles, CA 90017-3435

Subject: Caltrans Part-time HOV TCM Substitution on Route 60 in the City of Moreno Valley

Dear Mr. Ikhrata:

Caltrans is submitting a TCM Project substitution request for the existing full-time HOV lane on Route 60 in the City of Moreno Valley.

The purpose of the project is to get better utilization of the HOV lanes during off-peak periods. The existing configuration of two mixed flow lanes plus one HOV does not operate as efferent as possible. Off-peak Single Occupancy Vehicles (SOVs) are forced to use the capacity in the two available mixed flow lanes, which increases the vehicle density of these lanes. The HOV lane is left underutilized.

As a suitable substitute, we are submitting a part-time HOV to operate from 6:00 AM to 10:00 AM and 3:00 PM to 7:00 PM. Allowing SOVs to use the HOV lane during off-peak hours will reduce the density of the facility, and provide larger headways in the right lane. This will allow for smoother merges at interchanges, which will increase the overall speed of vehicles on this segment. It will also leave the HOV lane available for use during land restrictions such as accidents.

Presently, the part-time HOV is not programmed in the RTIP, however we have placed an amendment to include it in RTIP.

If you have any questions, please call me at (909) 383-6385. Thank you.

Sincerely,

Tony Louka,
Chief, Office of
Environmental Engineering

"Caltrans improves mobility across California"

cc: Jessica Kirchner (SCAG)
Jonathan Nadler (SCAG)
Sylvia Patsaouras (SCAG)
Mike Perovich (Caltrans)
Ernie Figueroa (Caltrans)
Tom Ainsworth (Caltrans)
Jamal Elsaleh (Caltrans)
Syed Raza (Caltrans)

ATTACHMENT B

CALTRANS TCM REPLACEMENT REPORT

Riverside County Transportation Control Measure Replacement

Presented to

Southern California Association of Governments

Submitted by

Caltrans District 8
464 West Street
San Bernardino, Ca. 92401-1400

November 16, 2006

Riverside County Transportation Control Measure Replacement

I Introduction

Caltrans plans to replace an existing Transportation Control Measure (TCM) with a new TCM project that provides equivalent or greater emissions reductions, while meeting all TCM substitution requirements specified in The Clean Air Act's section 176(c) transportation conformity provisions, including procedures to use in substituting or adding TCMs to approved SIPs.

The replacement will be discussed in this technical report:

> **SR-60 HOV.** On an eight-mile segment of State Route 60 (SR 60) East of Junction for SR 60/ I-215 to Redlands Blvd., convert the existing full-time (24 hrs) High Occupancy Vehicle (HOV) lane to a part-time HOV lane in both directions.

The following report presents the criteria for TCM replacement that apply to the SR-60 HOV lane TCM. Further the report includes a description of the TCM project to be replaced, the need for replacement, the implication of the replacement on the Regional Transportation Improvement Program (RTIP), and a description of the proposed replacement project. The technical analysis for the replacement presents emissions data for the original and replacement TCM.

II TCM Replacement Procedures and Requirements

Replacement of SR-60 HOV lane with a new TCM must follow the substitution protocol specified in the Clean Air Act's section 176(c).

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, signed into law on August 10, 2005, revised the Clean Air Act's section 176(c) transportation conformity provisions, including procedures to use in substituting or adding TCMs to approved SIPs. The Clean Air Act as amended requires that the replacement TCM have the following:

- 176(c)(8)(A)(i) The substitute measures achieve equivalent or greater emissions reductions than the control measure to be replaced;
- 176(c)(8)(A)(ii) The substitute control measures are implemented in accordance with a schedule that is consistent with the schedule provided for the control measures in the implementation plan;
- 176(c)(8)(A)(iii) the substitute and additional control measures are accompanied with evidence of adequate personnel and funding and authority under State or local law to implement, monitor, and enforce the control measures;
- 176(c)(8)(A)(iv)(I) The substitute and additional control measures were developed through a collaborative process that included participation by representatives of all affected jurisdictions (including local air pollution control agencies, the State air pollution control agency, and State and local transportation agencies);
- 176(c)(8)(A)(iv)(II) The substitute and additional control measures were developed through a collaborative process that included consultation with the Administrator;
- 176(c)(8)(A)(iv)(III) The substitute and additional control measures were developed through a collaborative process that included reasonable public notice and opportunity for comments; and
- 176(c)(8)(A)(v) The metropolitan planning organization, State air pollution control agency, and the Administrator concur with the equivalency of the substitute or additional control measures.

The AQMP specifies procedures for replacing individual projects such as the SR-60 HOV lane:

- The CTCs and/or project sponsors shall notify SCAG when a TCM project cannot be delivered or will be significantly delayed.
- SCAG, CTC or project sponsor can propose a substitute measure.
- Prior to adopting an individual TCM substitution, the measure must have been subject to interagency consultation (via the Transportation Conformity Working Group), public review and comment period and emissions analysis.
- The replacement measure must be subject to the SCAG Regional Council review and adoption.
- Upon adoption by the Regional Council, the new measure will replace the previous measure and will be incorporated into the RTIP through an administrative amendment.
- Adoption by SCAG's Regional Council will rescind the previous TCM and apply the new measures.

Section III of this report includes a summary of the SR-60 HOV lane replacement TCM fit with each of the requirements established by the AQMP.

III SR-60 HOV Lane TCM Replacement

SR-60 HOV Lane Description. The proposed project is a TCM replacement project and is substituting, an already built TCM, the existing full-time HOV lane. The existing project is an approved TCM in the SIP, which opened to traffic in March 2004 as a full-time HOV operation.

Need for SR-60 HOV Lane Project Replacement. The 2006 traffic study prepared by Caltrans indicates that the full-time HOV lane is under-utilized during the off-peak hours by 40% to 50%. The purpose of converting the existing full-time HOV lane to part-time HOV lane is to relieve the congestion, increase the travel speed, and improve overall safety by lowering the traffic densities during off-peak hours on the mixed flow lanes.

Implication of SR-60 HOV Lane Project Replacement for 2006 RTIP.
The SR60 HOV lane project was included in the 2002 RTIP as follows:

RCTC 46360	In Riverside and Moreno Valley On R60 from RT 215 to Redlands Blvd. Add 2 HOV lanes.

At the conclusion of the interagency consultation process, Caltrans will request that SCAG amend the 2006 RTIP to designate the part-time HOV project as a TCM.

The replacement project will also subsequently be included in annual TCM Timely Implementation Reports that SCAG submits to FHWA to demonstrate that the projects are being implemented on time in fulfillment of the AQMP TCM requirements.

Recommended SR-60 HOV Lane Replacement Project

Caltrans proposes to convert the existing full-time HOV lane to a part-time HOV lane in both directions on an eight-mile segment of SR-60, East of junction of SR-60/I-215 (R12.2) to Redlands Boulevard (PM 20.4). The conversion will be for a period of three years at which time it will revert back to a full-time HOV lane. The hours of HOV operation will be from 6 A.M. to 10 A.M. and 3 P.M. to 7 P.M. in both directions of SR-60. The HOV lane will be open to use by single occupant vehicles (SOV) for the remaining hours of the day. A striped buffer between the HOV lane and the mixed-flow lanes will remain unchanged, and no striping modifications are proposed. The SOVs will be able to enter/exit the HOV lanes only at the existing designated ingress and egress locations. New signs will be installed informing motorists about the hours of HOV operation. An aggressive public awareness campaign will be launched to spread the word about the proposed change in operation. Refer to figures 1 and 2 for the project vicinity and location map.

Technical Analysis

This technical analysis documents the evidence that the SR-60 HOV lane project replacement TCM meets the substitution criteria spelled out in the Clean Air Act's section 176(c): equivalent emissions, similar geographic service area, similar implementation schedule, and demonstrated financial commitment to complete the project on time. The modeling procedure identified below was used for the SR-60 HOV lane replacement modeling.

Methodology for Analyzing Original Project and Replacement. The SR-60 HOV lane TCM and the proposed SR-60 part-time TCM Replacement project are compared in terms of difference in emissions. The emission factors for vehicle type is based on EMFAC2002, Version V2.2 and the emissions estimation are for the year 2007.

Emission Analysis. Based on the results of the modeling described above, Table 1 compares the existing HOV Operation and the proposed replacement TCM project emission profiles for year 2007. The SCAG's findings after model runs are as follows: "*Results from the base model run (with existing HOV) and the alternative model run (with HOV conversion) were compared and analyzed. Overall the HOV conversion had very little effect on corridor level traffic volumes. There are some diversions of SOVs to the converted HOV lane, but the overall freeway volume showed little change. Also, there are no significant changes in the freeway or HOV speeds between the base and alternative model run. Regional emissions showed insignificant differences between the base and alternative scenarios.*"

Geographic Area/Service Area/Accessibility. The replacement project in the City of Moreno Valley serves and provides accessibility in the same corridor as the original TCM.

Implementation Schedule. The replacement project will be added to the RTIP through a formal amendment to be approved by SCAG's Regional Council.

Financial Commitment. The $35,000 replacement project will be funded with Minor State Cash.

TABLE 1: 2007 Air Quality Emissions Comparison of Existing HOV and Part-time HOV Replacement TCM on SR-60 in Moreno Valley

(VMT in 1000s, emissions in tons/day)

Existing HOV Operation:	**VMT	***ROG	CO	NOx	PM10	SOx	Direct PM2.5 (Annual)
LDV+MDV	342,781	228.17	2,331.38	205.26	15.14	1.86	9.6
HDT	22,043	28.93	194.45	256.1	5.42	0.36	4.46
Others*	2,938	4.2	58	25.96	0.55	0.04	0.45
Sum	**367,762**	**261.3**	**2,583.83**	**487.32**	**21.11**	**2.26**	**14.51**
Part-time HOV Replacement:							
LDV+MDV	342,781	228.18	2,331.59	205.27	15.14	1.86	9.61
HDT	22,042	28.93	194.47	256.14	5.42	0.36	4.46
Others*	2,938	4.2	58	25.96	0.55	0.04	0.45
Sum	**367,761**	**261.31**	**2,584.06**	**487.37**	**21.11**	**2.26**	**14.52**

Note:
*Others – include Line Haul vehicles, motor homes, school buses, and urban buses.
**VMT X 1000
***Pollutants in tons – South Coast Air Basin. Emissions factors applied in the modeling were based on EMFAC2002, LDV (light duty vehicle); MDV (medium duty vehicle); HDV (heavy duty vehicle).

FIGURE 1: Project Vicinity Map

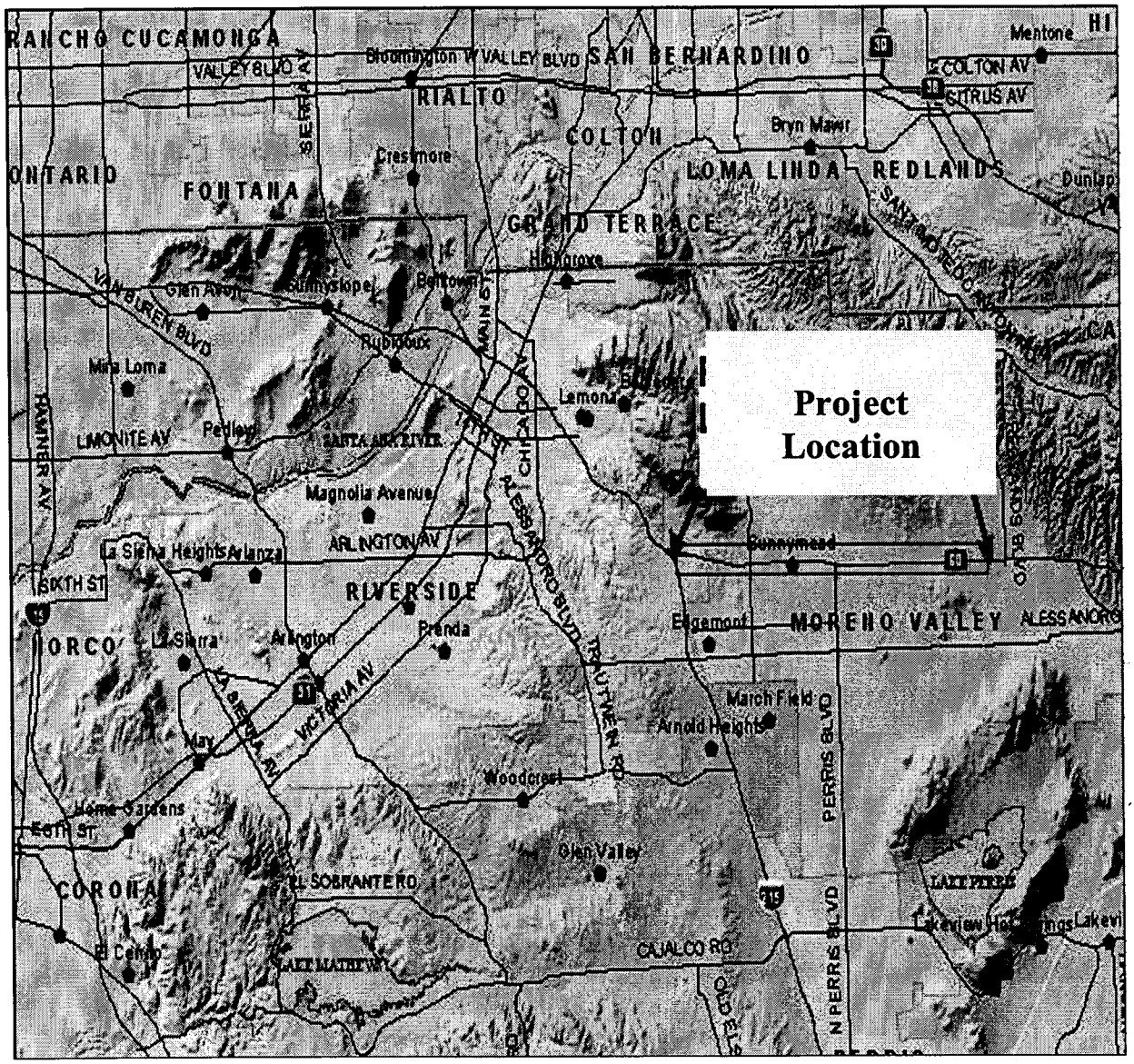
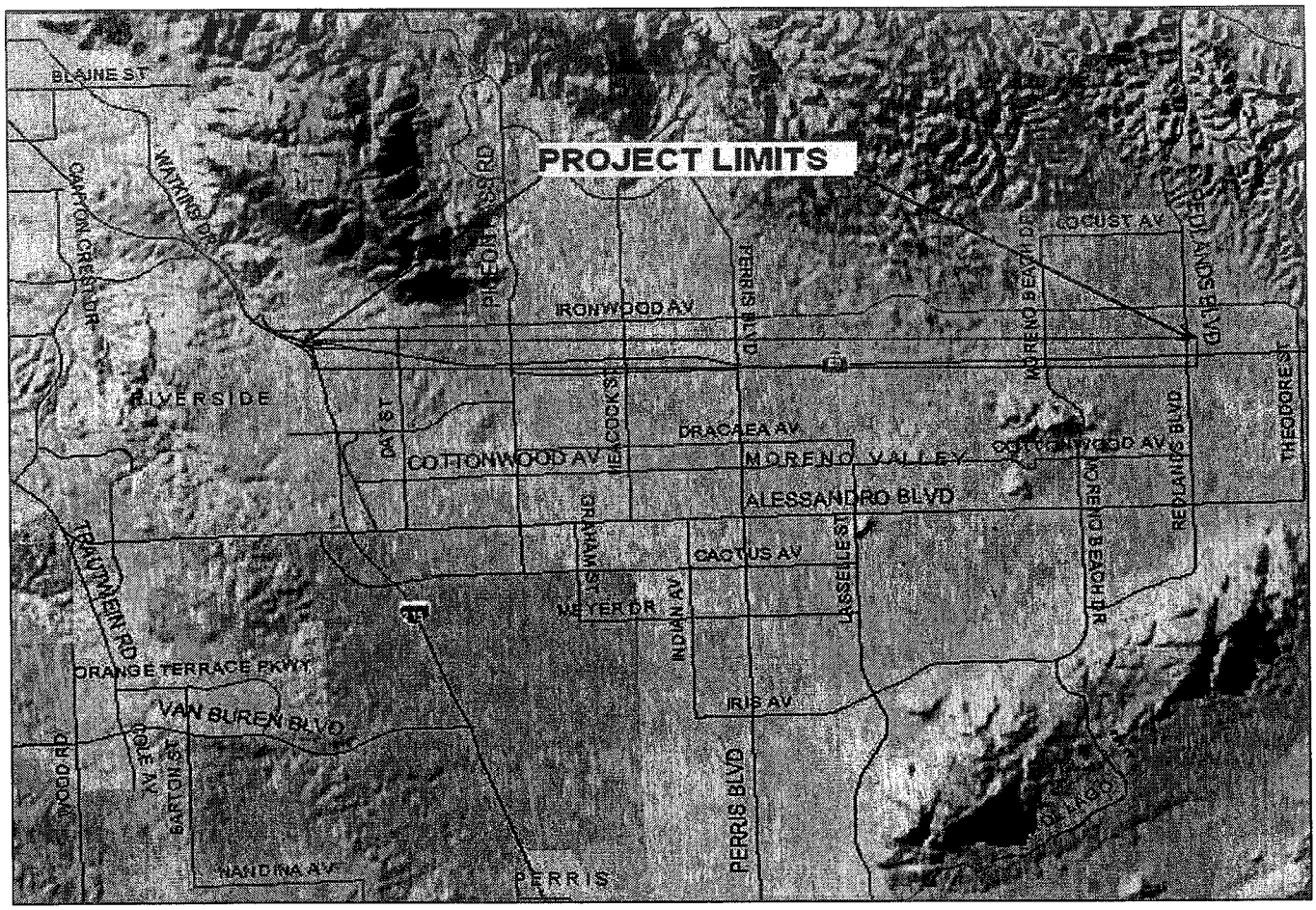


FIGURE 2: Project Location Map



Summary of SR-60 HOV Lane TCM Replacement

The purpose of this TCM replacement is to substitute an existing full-time HOV project on State Route 60 in Moreno Valley with a part-time HOV project. The conversion will be for a period of three years at which time it will revert back to a full-time HOV.

- **SCAG Review and Adoption.** The replacement TCM will be presented to SCAG's Transportation and Communications Committee in the form of a RTIP Amendment supported by emissions modeling and a conformity finding for its recommendation. The meetings will be publicly noticed. A 30-day public comment period and public hearing is included.

- **Interagency Consultation.** Interagency Consultation is occurring at SCAG's publicly noticed Transportation Conformity Working Group meeting on November 28, 2006.

- **Equivalent Emission Reductions.** The part-time HOV project virtually shows no significant difference in emissions from the existing full-time HOV for ROG, NOx, CO AND PM10 as supported with emission model runs.

- **Similar Geographic Area.** The replacement project in the City of Moreno Valley serves and provides accessibility in the same corridor as the original TCM.

- **Full Funding.** The $35,000 replacement project will be funded with Minor State Cash.

- **Time Frame.** The replacement project (the part-time HOV) will be completed and in operation by June 2007.

- **Legal Authority.** Caltrans has full legal authority to construct and operate the replacement project.

- **Implementation Commitment.** The replacement project will be added to the RTIP through a formal amendment to be approved by SCAG's Regional Council.

- **AQMP – Consistency Methodology.** The methodology for analyzing emissions used AQMP – consistent assumptions and modeling techniques.

- **Latest Planning Assumptions.** Technical analysis of the replacement project was based on EMFAC2002 emission factors version V2.2. The emissions estimation is for the year 2007.

Transportation Control Measure (TCM) Under Review: Existing Full-time HOV Lane Project in South Coast Ozone and PM10 Nonattainment Areas (Riverside County)			Date of TCM Substitution Receipt by EPA: *date*
Reviewers: *Name*		Date:	
Transportation Review Criteria From *Clean Air Act section 176(c)*		Is Criterion Satisfied? Y/N	Reference in SIP Document/ Comments
176(c)(8)(A)(i)	The substitute measures achieve equivalent or greater emissions reductions than the control measure to be replaced;	Y	Part-Time HOV lane project has been substituted for the existing full-time HOV lane on SR-60 in the City of Moreno Valley. The part-time HOV lane project provides equivalent reductions for ROG, NOx, CO, and PM10 as supported with emission model runs. The methodology for analyzing emissions used assumptions and modeling techniques consistent with those used in the SIP, with EMFAC2002.
176(c)(8)(A)(ii)	The substitute control measures are implemented in accordance with a schedule that is consistent with the schedule provided for control measures in the implementation plan;	Y	The replacement project (part-time HOV) will be completed and in operation by June 2007. The replacement project in the City of Moreno Valley serves and provides accessibility in the same corridor as the original TCM (full-time HOV).
176(c)(8)(A)(iii)	The substitute and additional control measures are accompanied with evidence of adequate personnel and funding and authority under State or local law to implement, monitor, and enforce the control measures;	Y	Caltrans has full legal authority to construct and operate the replacement project. The $35,000 replacement project will be funded with Minor State Cash. The replacement project will be monitored annually through TCM Timely Implementation Reports that SCAG submits to FHWA.
176(c)(8)(A)(iv)(I)	The substitute and additional control measures were developed through a collaborative process that included participation by representatives of all affected jurisdictions (including local air pollution control agencies, the State air pollution control agency, and State and local transportation agencies);	Y	Interagency consultation occured at SCAG's publicly noticed Transportation Conformity Working Group Meeting on November 28, 2006. Members of the Conformity Working Group include: EPA, FHWA, FTA, CARB, Caltrans, the South Coast Air Quality Management District, and the Riverside County Transportation Commission.
176(c)(8)(A)(iv)(II)	The substitute and additional control measures were developed through a collaborative process that included consultation with the Administrator;	Y	EPA was included in the area's Conformity Working Group process.
176(c)(8)(A)(iv)(III)	The substitute and additional control measures were developed through a collaborative process that included reasonable public notice and opportunity for comment; and	Y	The replacement TCM was presented to SCAG's Transportation and Communications Committee in the form of an RTIP Amendment supported by emissions modeling and a conformity finding for its recommendation on ***date***, with SCAG Regional Council action on *date*. These meetings were publicly noticed. A 30-day public comment period and public hearing was included.
176(c)(8)(A)(v)	The metropolitan planning organization, State air pollution control agency, and the Administrator concur with the equivalency of the substitute or additional control measures.	Y	The replacement TCM was adopted, in the form of an RTIP Amendment, by SCAG's Regional Council on ***date***. The California Air Resources Board concurred with the substitution.