Air Quality Conformity Analysis

State Route 65, Cities of Roseville, Rocklin, and Lincoln, Placer County
03-PLA-65 PM R6.2 to R12.8

EA 03-1F170

October 2016

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Air Quality Conformity Analysis

SR 65 Capacity and Operational Improvements Project

State Route 65, Cities of Roseville, Rocklin, and Lincoln, Placer County

03-PLA-65-PM R6.5 to R12.8

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Contents

Tables

Figures

Acronyms and Abbreviations

AADT	Average annual daily traffic
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	carbon monoxide
CO Protocol	California Project-Level Carbon Monoxide Protocol†
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration
HOV	high occupancy vehicle
I-80	Interstate 80
IAC	Interagency Consultation
LOS	level of service
mph	miles per hour
MTIP	Metropolitan Transportation Improvement Program
MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
O_3	ozone
PCTPA	Placer County Transportation Planning Agency
PLCG	Project Level Conformity Group
PM	particulate matter
POAQC	Projects of Air Quality Concern
ppm	parts per million
RTP	Regional Transportation Plans
SACOG	Sacramento Area Council of Governments
SCS	Sustainable Communities Strategy
SER	Standard Environmental Reference
SIP	state implementation plan
SR 65	State Route 65
SVAB	Sacramento Valley Air Basin
TCMs	Transportation Control Measures
TIP	transportation improvement program
VA	Value Analysis

Chapter 1 Introduction and Project Description

This Air Quality Conformity Analysis contains the information that is required to make a project-level air quality conformity determination for the SR 65 Capacity and Operational Improvements Project. This analysis has been prepared to be consistent with information published by Federal Highway Administration (FHWA) related to Project-Level Conformity Analysis, the Standard Environmental Reference (SER) Air Quality Conformity Findings Checklist (included as Appendix A), applicable U.S. Environmental Protection Agency (EPA) project-level analysis guidance, the Transportation Conformity Regulations at 40 Code of Federal Regulations (CFR) 93 Subpart A, and Section 176(c) of the federal Clean Air Act (42 U.S. Code [USC 7506] (c)).

This analysis only addresses the conformity requirements of the Federal Clean Air Act. It does not address general air quality analysis or studies conducted for the National Environmental Policy Act (NEPA) or the California Environmental Quality Act (CEQA), and only addresses pollutants for which the project area is designated nonattainment, or attainment with an approved maintenance state implementation plan (SIP), by EPA.

This report is intended to provide all information needed by FHWA to make a project-level conformity determination for a project that falls under 23 USC 327 NEPA Assignment to Caltrans; or to support a full project-level conformity determination by Caltrans under 23 CFR 326 NEPA Assignment for projects that require a project-level conformity determination (including regionally significant projects as defined in 40 CFR 93.101), and that are categorically excluded from NEPA analysis under 23 CFR 771.117(c)(22) or 23 CFR 771.117(c)(23).

1.1 Project Description

Caltrans, in cooperation with the PCTPA, Placer County, and the Cities of Roseville, Rocklin, and Lincoln, proposes the SR 65 Capacity and Operational Improvements Project (6.6 miles, from post miles 6.2 to 12.8). This proposed project has been assigned the Project Development Processing Category 4A for widening the existing freeway without requiring a revised freeway agreement. The project is subject to both federal and state environmental review requirements. Caltrans is the lead agency under both NEPA and CEQA. The proposed project is included in SACOG’s current 2016 MTP/SCS (Sacramento Area Council of Governments 2016). Engineering for the project is programmed in the SACOG 2015/2018 MTIP (Sacramento Area Council of Governments 2014).

1.2 Project Location

The project is located in Placer County in the cities of Roseville, Rocklin, and Lincoln (Figure 1). The project limits consist of SR 65 north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard (PM R6.2 to R12.8). The total length of the project is 6.6 miles.

1.3 Project Background

SR 65 begins at its junction with Interstate 80 (I-80) and is an important interregional route serving both local and regional traffic. SR 65 generally runs north/south and is a major connector for both automobile and truck traffic originating from the I-80 corridor in the Roseville/Rocklin area to the SR 70/99 corridor in the Marysville/Yuba City area. SR 65 is a vital economic link from residential areas to shopping and employment centers in southern Placer County. It is also an important route for transporting aggregate, lumber, and other commodities. SR 65 is characterized by significant growth in the industrial, commercial, and residential sectors. The southern Placer County region is one of the fastest growing areas in California, both in terms of housing and economic development.

SR 65 was constructed as a two-lane expressway in 1971. The Roseville Bypass from I-80 to Blue Oaks Boulevard was constructed in 1985. SR 65 from Blue Oaks Boulevard to Twelve Bridges Drive was widened to a four-lane facility in 1999. In 2009, the Caltrans Corridor System Management Plan for SR 65 identified major mobility challenges, including highway and roadway traffic congestion, lack of roadway capacity, and inadequate transit funding. A Supplemental Traffic Report was completed in June 2012 by Caltrans District 3 Office of Freeway Operations. The report indicated that the segment of SR 65 from Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard was experiencing operational problems caused by high peak-period traffic volumes, vehicles hours of delay, average speeds, travel time, and other traffic performance measures that were deteriorating as a result of increasing growth in the surrounding areas. In 2013, a Project Study Report-Project Development Support for Capital Support was approved for adding one vehicle lane in each direction in the median of SR 65 from 0.5 mile north of Galleria Boulevard/Stanford Ranch Road to Lincoln Boulevard.

PCTPA has identified the proposed project as a high-priority regional network project in its 2036 Regional Transportation Plan. This project is included in the South Placer Regional Transportation Authority Regional Traffic Congestion and Air Quality Mitigation Fee Program.

1.4 Related Projects

Related projects in the project area that require coordination with the proposed project include the following.

I-80/SR 65 Interchange Improvements Project. This proposed project consists of various modifications to I-80, SR 65, and the interchange at their junction. This project will terminate north of the Galleria Boulevard/Stanford Ranch Road interchange on SR 65, tying into the southern limits of the proposed SR 65 Capacity and Operational Improvements project. The proposed improvements to the I-80/SR 65 interchange include adding a high-occupancy vehicle (HOV) direct connector from I-80 eastbound to SR 65 northbound and SR 65 southbound to I-80 westbound, replacing eastbound I-80 to northbound SR 65 loop connector with a flyover connector, widening the East Roseville Viaduct, replacing the Taylor Road overcrossing, and widening southbound SR 65 to westbound I-80, westbound I-80 to northbound SR 65, and southbound SR 65 to eastbound I-80 connectors with associated auxiliary lanes and ramp realignments. The interchange project will be constructed in phases and coordination with SR 65 Capacity and Operational Improvements Project is required.

Whitney Ranch Parkway Interim Phase Project. This project is located in the City of Rocklin and Placer County along SR 65 between Sunset Boulevard and Twelve Bridges Drive. The project will provide a direct connection to Whitney Ranch Parkway from SR 65 to serve the City of Rocklin. The interim phase will construct the SR 65/Whitney Ranch Parkway interchange and will include a three-lane SR 65 overcrossing, two-lane connection to the Whitney Ranch Parkway/University Avenue intersection, northbound SR 65 on and off-ramps, and a southbound SR 65 loop on-ramp. The project also would construct provisions for ramp metering and an HOV preferential lane for each SR 65 on-ramp. The construction contract for this project was recently awarded and construction is underway. The project was opened to traffic in September 2016.

Placer Parkway Phase I Project. This project is Phase I of the Placer Parkway project. Phase I proposes to extend freeway access at SR 65 by building a new roadway connection west to Foothills Boulevard North. The Phase I project will modify the Whitney Ranch Interchange into an L-9 partial cloverleaf interchange by adding a diagonal southbound off-ramp and on-ramp as well as an eastbound Placer Parkway to northbound SR 65 loop on-ramp. The project will also widen the SR 65 overcrossing from a three-lane structure to a six-lane facility and extend Placer Parkway to the west as a four-lane facility. Ultimately, the Placer Parkway project would construct a new transportation facility connecting SR 65 in the Lincoln/Roseville/Rocklin area to SR 99 in Sutter County.

Northbound SR 65 Carpool Lane. A new lane on SR 65 northbound from the Galleria Boulevard/Stanford Ranch Road interchange to the Blue Oaks Boulevard interchange is planned as a future project and will be included in the next MTP update. For the purposes of this project, the new lane was assumed as a carpool/HOV lane and would connect to the carpool/HOV lanes proposed in the I-80/SR 65 interchange project

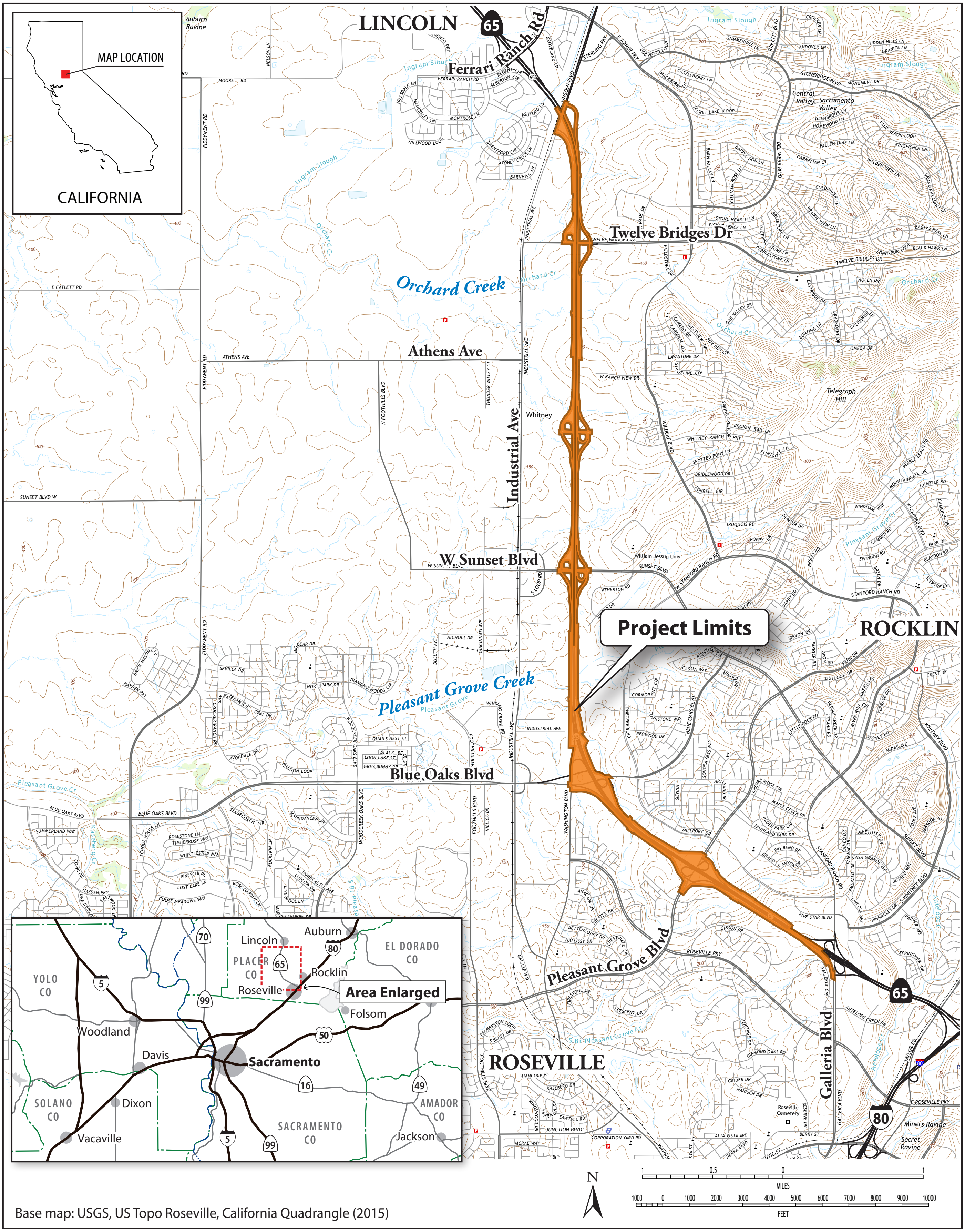

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Figure 1- Project Vicinity

State Route 65 Capacity and Operational Improvements

03-PLA-65-PM 6.2/12.8 (EA-03-1F170/EFIS 0300001103)

1.5 Purpose and Need

1.5.1 Purpose

The primary purpose of the proposed project is to relieve existing mainline congestion by adding additional mainline capacity. Adding additional capacity would help planned and anticipated growth along the corridor and would help achieve the mobility and economic development goals of the PCTPA.

The project will also improve traffic operations and safety in this segment of the highway.

1.5.2 Need

Recurring morning and evening peak-period demand exceeds the current design capacity along SR 65, creating traffic operations and safety issues. These issues result in high delays and wasted fuel, all of which will be exacerbated by anticipated traffic from future population and employment growth.

Projected growth along the SR 65 corridor in Roseville, Lincoln, Rocklin, and South Placer County will result in additional mainline congestion. SR 65 connects major regional routes and must operate efficiently in order to serve commuter traffic, goods movement, and regional traffic in south Placer County.

1.6 Project Alternatives

Two build alternatives and a no-build alternative are being considered for this project. The assessment of alternatives is based on 2040 design-year conditions. No decision on a preferred alternative will be made until all alternatives have been fully evaluated.

1.6.1 No-Build Alternative

Under the No-Build Alternative, SR 65 within the Project limits would maintain the existing lane configuration, and no SR 65 mainline widening would be constructed. However, several related transportation capacity expansion projects are planned in the study area under construction year (2020) and design year (2040) conditions.

1.6.2 Build Alternatives

Both build alternatives described in this section would allow for inside highway widening as future projects along SR 65 from north of the Blue Oaks Boulevard interchange to Lincoln Boulevard. Both alternatives would accommodate the I-80/SR 65 Interchange Improvements

Project and consider the carpool/ HOV lane restrictions and weaving volumes from the carpool/HOV lanes proposed by the I-80/SR 65 interchange project.

1.6.2.1 Carpool Lane Alternative

This alternative adds a 12-foot carpool/HOV lane in the southbound direction of SR 65 in the median from the Blue Oaks Boulevard interchange to north of Galleria Boulevard/Stanford Ranch Road. The carpool/HOV lane would connect to the carpool/HOV lanes proposed as part of the I-80/SR 65 interchange project. The separate I-80/SR 65 interchange Improvements project will add a third lane in each direction of SR 65 from I-80 to Pleasant Grove Boulevard. This SR 65 Capacity and Operational Improvements project alternative would also add one 12-foot general purpose lane through the Pleasant Grove Boulevard Interchange, to create a third lane on SR 65 in both directions from I-80 to Blue Oaks Boulevard. This alternative would also add an auxiliary lane in each direction of SR 65 from the Galleria Boulevard interchange to the Pleasant Grove Boulevard interchange, from the Blue Oaks Boulevard interchange to the Sunset Boulevard interchange, and from the Whitney Ranch Parkway interchange to the Twelve Bridges Drive interchange.

Following the recommendation from the Value Analysis (VA) study, this alternative would also include ramp metering modifications for the slip on-ramps to a 2+1 configuration (2 metered lanes plus 1 carpool preferential lane) and a 1+1 (1 metered lane plus 1 carpool preferential lane) for the loop on-ramps along SR 65 from the Galleria Boulevard interchange to Lincoln Boulevard, where not already planned by another project. The southbound Pleasant Grove Boulevard slip and loop on-ramps, Blue Oaks Boulevard slip and loop on-ramps, and Lincoln Boulevard slip on-ramp would be modified to include these ramp metering changes. Both the northbound and southbound bridges over Pleasant Grove Creek will need to be widened to accommodate the auxiliary lanes. Widened bridge structures will be similar to the existing reinforced concrete slab bridges with piles. A Structure tie-back wall will be needed at the Pleasant Grove Blvd interchanges to accommodate the highway and ramp widening.

1.6.2.2 General Purpose Lane Alternative

This alternative would add a 12-foot general purpose lane in the southbound direction of SR 65 from the Blue Oaks Boulevard interchange to the Galleria Boulevard/Stanford Ranch Road off-ramp. The separate I-80/SR 65 interchange Improvements project will add a third lane in each direction of SR 65 from I-80 to Pleasant Grove Boulevard. For added capacity on southbound SR 65, as recommended by the VA study, this alternative also includes an additional general purpose lane from the Blue Oaks Boulevard slip on-ramp to the Pleasant Grove Boulevard loop on-ramp. On northbound SR 65, a 12-foot general purpose lane would be added through the Pleasant

Grove Boulevard interchange. These improvements would result in a third lane in both directions of SR 65 from I-80 to Blue Oaks Boulevard. This alternative would also add an auxiliary lane on northbound SR 65 from the Galleria Boulevard interchange to the Pleasant Grove Boulevard interchange; and in both directions of SR 65 from the Blue Oaks Boulevard interchange to the Sunset Boulevard interchange, and from Whitney Ranch Parkway interchange to the Twelve Bridges Drive interchange. Following the recommendation from the VA study, this alternative would also include ramp metering modifications for the slip on-ramps to a 2+1 configuration (2 metered lanes plus 1 carpool preferential lane) and a 1+1 (1 metered lane plus 1 carpool preferential lane) for the loop-on ramps along SR 65 from the Galleria Boulevard interchange to Lincoln Boulevard. The southbound Pleasant Grove Boulevard slip and loop-on ramps, Blue Oaks Boulevard slip and loop on-ramps, and Lincoln Boulevard slip on-ramp would be modified to include these ramp metering changes.

1.6.3 Alternatives Considered and Rejected

1.6.3.1 Mix Flow to Bus/Carpool Conversion (“Take-a-lane”) Alternative

This alternative converts an existing lane for carpool/HOV use within the project limits. This alternative was reviewed and rejected for not being in line with the primary purpose of relieving congestion and for its infeasibility on an existing four-lane highway (two lanes in each direction).

1.7 Common Design Details of the Build Alternatives

The two Build Alternatives include the following components.

1.7.1 Highway Widening

Median widening for additional general purpose or carpool lanes consists of removing existing inside shoulders and paving the median and giving it a standard cross slope. From Galleria Boulevard to Blue Oaks Boulevard, median widening includes removing the existing thrie beam barrier, paving the entire median, and installing concrete barrier at the center divide. The existing drainage systems, which currently collect the runoff within the median and carry it into the existing cross culverts, would be abandoned, removed, or modified.

The paved median would generate new impervious area for the runoff to sheet flow across the travel way to the outside shoulder. On areas with fill material, runoff would be collected by the toe ditch or gutter and carried to the existing channel or waterway. On cut material, runoff would be channelized by the asphalt concrete dike on the edge of the roadway shoulder and discharged to the ditch or toe gutter through an overside drain. At shoulder cut locations, the water spread would be checked to see if drainage inlets are needed to avoid water spread encroaching into the freeway edge of travel way. The new roadway drainage system would connect the inlets and pipe down the ditch or toe gutter. Most of the existing ditch or toe gutter would remain to collect runoff, except for segments affected by outside widening for auxiliary lanes; those segments would be replaced or reconstructed. To minimize downstream effects, the proposed project would maintain the existing drainage pattern, which ultimately drains toward two waterways—Pleasant Grove Creek and Orchard Creek.

The median widening along northbound and southbound SR 65 would provide standard 10-foot inside shoulders.

Auxiliary lanes would be constructed by widening the existing pavement to the outside, including the replacement of existing outside shoulder with standard cross slope and side slopes of 4:1 or flatter for the fill for most of the corridor, to meet the minimum requirements specified in the Caltrans Highway Design Manual (Caltrans 2015). Segments along the corridor between Stanford Ranch Road and Pleasant Grove Boulevard and between the Whitney Ranch Parkway and Twelve Bridges Drive interchanges would require side slope of 3:1 or steeper, with a 30-foot clear recovery zone to avoid encroaching beyond existing right of way and wetlands or overfilling existing drainage ways. These areas along the corridor would require exceptions to Caltrans advisory design standards.

A tie-back wall would be needed at the Pleasant Grove Boulevard interchange to accommodate the highway and ramp widening. A segment on southbound SR 65 between the Whitney Ranch Parkway and Twelve Bridges Drive interchanges would require a cut slope of 3:1 to avoid encroaching into existing right of way; slopes at 3:1 or flatter are considered traversable, but would need approval from Caltrans Landscape Architecture.

1.7.2 Pleasant Grove Creek Bridge Widening

Both the northbound and southbound bridges over Pleasant Grove Creek would be widened to accommodate the auxiliary lanes. The widened bridge structures would be similar structure types to the existing bridges, which are reinforced concrete slab bridges with piles. Pile driving within the creek is anticipated.

1.7.3 Utility Relocation

Overhead electric facilities run parallel along northbound SR 65 outside of State right-of-way. At Pleasant Grove Creek, the overhead line turns east-west and crosses over SR 65. The overhead electric hangs over both the Pleasant Grove Creek bridges that are proposed for widening. The proximity of the overhead line may conflict with bridge foundation activities during construction. The overhead line may therefore need to be temporarily relocated outside of the creek area to accommodate widening the Pleasant Grove Creek bridges. Any relocation of transmission towers or power lines would be conducted consistent with Public Utilities Commission General Order 131-D.

1.7.4 Cross Culvert Extension

Several culverts cross the SR 65 corridor. Most of the cross culverts would not be affected by the Project because they are of adequate length. A few culverts are short and would need to be extended to accommodate the proposed auxiliary lanes along the corridor. The following culverts would be extended.

- Double 72” Reinforced Concrete Pipe between Galleria Boulevard and Pleasant Grove Boulevard
- Double 7’x6’ Reinforced Concrete Box between Pleasant Grove Boulevard and Blue Oaks Boulevard
- Double 10’x5’ Reinforced Concrete Box between Blue Oaks Boulevard and Sunset Boulevard
- 7’x5’ Reinforced Concrete Box between Whitney Ranch Parkway and Twelve Bridges Drive
- Triple 10’x5’ Reinforced Concrete Box between Whitney Ranch Parkway and Twelve Bridges Drive

1.7.5 Staging/Laydown Areas

No specific staging/laydown areas have been identified. However, the contractor may utilize areas within the existing median and areas between the main line and interchange on- and off-ramps for staging or laydown.

1.7.6 Construction Equipment and Techniques

Equipment that would be used for construction includes graders, excavators, drilling rigs, cranes, pavers, compactors, and various types of construction vehicles. Project design and construction would incorporate the following standard construction measures.

- A preliminary site-specific geotechnical report and initial site assessment will be prepared and will be incorporated into the project’s final design. If contaminated soil or groundwater, or suspected contamination, is encountered during construction, work will be halted in the area and the type and extent of the contamination identified. A qualified professional, in consultation with Caltrans, will then develop an appropriate method to remediate the contamination.
- A site-specific stormwater pollution prevention plan will be prepared for the construction.

- Fugitive dust emissions during construction will be minimized by applying water frequently from water trucks. Fugitive dust emissions from wind erosion of inactive areas disturbed by construction activities will also be controlled by applying water. Chemical dust suppressants will not be used unless approved for direct application to surface waters.
- The contractor will be required to install temporary best management practices (BMPs) to control any runoff or erosion from the project site, into the surrounding waterways. These temporary BMPs will be installed prior to any construction operations and will be in place for the duration of the contract. Removing these BMPs will be the final operation, along with the project site cleanup.

1.7.7 Construction Access

Temporary construction easements may be required for the contractor to access construction areas. Access to construction areas would be from the interchanges at Pleasant Grove Boulevard, Blue Oaks Boulevard, Sunset Boulevard, Whitney Ranch Parkway, Twelve Bridges Drive, and Lincoln Boulevard. Two lanes in each direction on SR 65 are anticipated to remain open to traffic for the majority of the project's duration.

1.8 Air Quality Regulatory Framework

Table 1 shows that the project is located in an area that is nonattainment for ozone (O_3) and particulate matter (PM2.5) and maintenance for carbon monoxide (CO). This analysis focuses on these criteria pollutant(s). The conformity process does not address pollutants for which the area is attainment/unclassified, mobile source air toxics, other toxic air contaminants or hazardous air pollutants, or greenhouse gases.

Table 1. Project Area Attainment Status

Criteria Pollutant	Federal Attainment Status
Ozone (O_3)	Severe 15 Nonattainment
Nitrogen Dioxide (NO_2)	Attainment
Carbon Monoxide (CO)	Moderate Maintenance
Particulate Matter (PM10)	Attainment
Particulate Matter (PM2.5)	Moderate Nonattainment

Source: United States Environmental Protection Agency 2016

Table 1 shows the applicable federal attainment status for O_3, nitrogen dioxide (NO_2), CO, PM10, and PM2.5 for the portion of Placer County within the Sacramento Valley Air Basin (SVAB), including the project area. The 8-hour federal O_3 nonattainment classification applies to the Sacramento Metropolitan Area, which is defined as the area between Yolo and Solano Counties on the west and the western majority of Placer and El Dorado Counties on the east. The 24-hour PM2.5 standard nonattainment classification applies to the majority of the SVAB south of Tehama County. The CO maintenance area consists of portions of Placer, Yolo, and

Sacramento Counties that are located within the Sacramento metropolitan area. Maps showing the nonattainment designations for these pollutants are provided in Appendix B.

1.9 Public Review Comments Related to Air Quality Conformity

Circulation for public comment was not required because the NEPA determination for this project is a Categorical Exclusion.

Chapter 2 Regional Conformity

The SR 65 Capacity and Operational Improvements Project was included in the regional emissions analysis conducted by SACOG for the conforming 2016 MTP/SCS (SACOG ID PLA25529, PLA25637, and PLA25638). The project's design concept and scope have not changed significantly from what was analyzed in the regional emission analysis. This analysis found that the plan, which takes into account regionally significant projects and financial constraint, will conform to the state implementation plan(s) (SIP(s)) for maintaining the National Ambient Air Quality Standards (NAAQS) as provided in Section 176(c) of the Clean Air Act. FHWA determined that the 2016 MTP/SCS conforms to the SIP on March 8, 2016. Additional documentation related to the regional emissions analysis is contained in Appendices D and E.

The SR 65 Capacity and Operational Improvements Project is also included in the federal 2015–2018 MTIP. The project's open-to-traffic year is consistent with (within the same regional emission analysis period as) the construction completion date identified in the federal TIP and/or RTP. The federal TIP gives priority to eligible Transportation Control Measures (TCMs) identified in the SIP and provides sufficient funds to provide for their implementation. FHWA determined that the 2015–2018 MTIP, Amendment #20, conforms to the SIP on March 8, 2016. Documentation related to the public and interagency consultation process conducted to develop the TIP is contained in Appendices D and E.

Chapter 3 Localized Impact (Hot-Spot) Conformity

3.1 Carbon Monoxide Hot-Spot Analysis

The California Project-Level Carbon Monoxide Protocol† (CO Protocol) was used to analyze CO impacts for the project. The hot-spot analysis covered the most congested intersections affected by the project in 2012 (existing year), 2020 (construction year), and 2040 (design year), with 2012 conditions having the highest concentrations.

The ambient air quality effects of traffic emissions were evaluated using the modeling procedures described in Appendix B of the CO Protocol and Appendix E of this document. The assumptions used in the hot-spot analysis are consistent with those used in the regional emissions analysis.

The modeling results shown in Appendix E indicate that total CO concentrations would not cause or contribute to any new localized violations of the federal 1-hour or 8-hour CO ambient standards. Appendix F provides model input data and output reports.

The NEPA document for this project does not identify specific avoidance, minimization, and/or mitigation measures for CO. A written commitment to implement such control measures is, therefore, not required.

The approved MTP/SCS and MTIP for the project area have no CO mitigation or control measures that relate to the project's construction or operation. Therefore, a written commitment to implement CO control measures is not required.

3.2 PM2.5/PM10 Hot-Spot Analysis

The portion of Placer County within the SVAB, including the project area, is currently categorized as a nonattainment area for the federal PM2.5 (2006) standard (see Table 1).

† CAL3QHCR can also be used, with EMFAC emission factors, in place of the CO Protocol. If this type of analysis is done, the following must be described fully: why the CO Protocol was not used; how the analysis complies with EPA regulations (Appendix W and other CO modeling guidance); modeling assumptions and inputs; outputs; and evaluation regarding whether or not the project will cause, contribute to, or worsen a CO hot-spot. Interagency consultation regarding model usage, emission factors (latest EMFAC version made available for conformity use by EPA), and results is required if CAL3QHCR is used and must be documented in a suitable appendix along with listings of all model inputs and outputs.

A quantitative PM hot-spot analysis is required under the EPA Transportation Conformity Rule for Projects of Air Quality Concern (POAQC), as described in EPA's Final Rule of March 10, 2006. Projects that are not POAQC do not require detailed PM hot-spot analysis.

In March 2006, the FHWA and EPA issued a guidance document entitled *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas* (Federal Highway Administration and U.S. Environmental Protection Agency 2006). This guidance identifies examples of projects that are most likely POAQCs and details a qualitative step-by-step screening procedure to determine whether project-related particulate emissions have potential to generate new air quality violations, worsen existing violations, or delay attainment of NAAQS for PM2.5 or PM10. EPA's and FHWA's Qualitative PM hot-spot guidance was superseded in December 2010 when EPA issued a guidance document entitled *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas* (U.S. Environmental Protection Agency 2010). This guidance prescribes a quantitative approach to performing PM hot-spot analyses to satisfy project-level transportation conformity requirements. EPA's quantitative PM hot-spot guidance was last revised in November 2015 to reflect MOVES2014 and its subsequent minor revisions such as MOVES2014a, to revise design value calculations to be more consistent with other EPA programs, and to reflect guidance implementation and experience in the field (U.S. Environmental Protection Agency 2015).

Section 93.123(b)(1) of the Conformity Rule defines the projects that require a PM2.5 or PM10 hot-spot analysis as follows.

1) New highway projects that have a significant number of diesel vehicles and expanded highway projects that have a significant increase in the number of diesel vehicles.
2) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of- Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.
3) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.
4) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location.
5) Projects in or affecting locations, areas, or categories of sites that are identified in the PM2.5 or PM10 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The project is not considered a POAQC for PM2.5 because it does not meet the definition of a POAQC as defined in EPA's Transportation Conformity Guidance, outlined below.

1) **New highway projects that have a significant number of diesel vehicles and expanded highway projects that have a significant increase in the number of diesel vehicles**. Appendix B from the EPA's *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas* provides guidance on what types of projects may be projects of local air quality concern 40 CFR 93.123(b)(1). Appendix B indicates that a facility with an ADT of 125,000 and 8% trucks (10,000 truck ADT) are likely considered a Project of Air Quality Concern (POAQC). The proposed project would add carpool lanes or general purpose lanes and auxiliary lanes on SR 65 from north of Galleria Boulevard/Stanford Ranch Road to Blue Oaks Boulevard, and would add auxiliary lanes from Blue Oaks Boulevard to Lincoln Boulevard to relieve existing mainline congestion and accommodate planned and anticipated growth along the corridor by adding to mainline capacity. For existing freeway facilities, the effect of a project on truck volumes is normally the main point on which this criterion is judged. The Carpool Lane Alternative under the design year (2040) condition was selected for the analysis, as traffic volumes are forecasted to be highest for the Carpool Lane Alternative when compared to the General Purpose Lane Alternative, while the design year (2040) condition represents the year with maximum traffic volumes (Fehr & Peers 2015).

   Table G-1 in Appendix G indicates that AADT on the eight road segments on SR 65 for the Carpool Lane Alternative under design year (2040) conditions will vary between 127,000 and 170,900, depending on the location. Heavy-duty trucks comprise between 2.8% and 3.9% of this AADT, resulting in a truck AADT of 3,500 to 6,700 (Fehr & Peers 2015).

   Based on the data presented in Table G-1 in Appendix G, predicted AADT would be in excess of the EPA's AADT guidance criterion of 125,000, while predicted truck percentages and volumes would be well below the EPA's guidance criteria of 8% or 10,000 vehicles per day (maximum truck percentages and AADT are 3.9% and 6,700, respectively). Table G-1 in Appendix G also indicates truck percentages and truck volumes for all eight segments analyzed under the Carpool Lane Alternative would decrease by 0.2 to 0.5%, relative to the No Build Alternative. Accordingly, the Build Alternatives would not serve a significant number of diesel vehicles or result in a significant increase in diesel vehicles.

2) **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. Peak-hour LOS and delay at study area intersections under existing (2012), construction (2020), and design year (2040) conditions are presented in Tables G-2 and G-3 in Appendix G. Table H-2 indicates half of all key intersections analyzed would experience increases in delay with implementation of the Build Alternatives. However, as indicated in Table G-3, less than half of all key intersections analyzed would experience increases in delay in design year (2040) conditions. As indicated in Tables G-4 through G-7 in Appendix G, the Build Alternatives would result in reduced congestion and delay on the local regional network, with substantial improvements in measures of effectiveness seen under some conditions. For example, between 11 and 13% reductions in vehicle hours of delay are seen in the AM peak period in the design year and between 21 and 22% reductions in vehicle hours of delay for the PM peak period in the design year. In addition, none of the study intersections have a significant number of trucks (3% during the AM peak hour and 2% during the PM peak hour under Year 2040 conditions), therefore, the proposed project would not affect any at-grade intersections with a high number of diesel vehicles.

3) **New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location**. The project does not include new bus or rail terminals and transfer points.

4) **Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location**. The project does not include expanded bus or rail terminals and transfer points.

5) **Projects in or affecting locations, areas, or categories of sites that are identified in the PM2.5 or PM10 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation**. SMAQMD's PM2.5 SIP, *PM2.5 Implementation/Maintenance Plan and Redesignation Request for Sacramento PM2.5 Nonattainment Area*, has not identified any locations, areas, or categories of sites as s site of violation or possible violation.

The project is not considered a POAQC for PM10 and/or PM2.5 because it does not meet the definition of a POAQC as defined in EPA's Transportation Conformity Guidance. Therefore, a PM hot-spot analysis is not required.

The project underwent interagency consultation through SACOG's Project Level Conformity Group (PLCG), which issued concurrence that the project is not a POAQC on August 9, 2016. Appendix H contains the documentation submitted to SACOG's PLCG used to support its concurrence, as well as concurrence letters from EPA and Caltrans that the project is not a POAQC.

The approved PM2.5 SIP has no control measures applicable to the project. Therefore, a written commitment to implement control measures is not required.

The NEPA document for this project identifies the following mitigation, minimization, or avoidance measures related to PM10 and/or PM2.5:

1. Implement California Department of Transportation Standard Specification Section 14.
2. Implement Additional Control Measures for Construction Emissions of Fugitive Dust.

Approval of the NEPA document for this project will be considered a written commitment to implement the identified PM10 and/or PM2.5 control measures.

The approved MTP/SCS and MTIP for the project area have no PM mitigation or control measures that relate to the project's construction or operation. Therefore, a written commitment to implement PM control measures is not required.

3.3 Construction-Related Hot-Spot Emissions

40 CFR 93.123(c)(5) states the following.

> CO, PM10, and PM2.5 hot-spot analyses are not required to consider construction-related activities which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established 'Guideline' methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site.

Construction of the entire project is expected to require 2 years, therefore construction activities in one general location would occur for fewer than 5 years. Accordingly, construction-related emissions related to the project are not considered in the project-level or regional conformity analysis.

Chapter 4 References

Benson, Paul. 1984, revised 1989. CALINE4—A Dispersion Model for Predicting Air Pollutant Concentrations Near Roadways. Sacramento, CA: California Department of Transportation.

California Air Resources Board. 2015. Aerometric Data Analysis and Management System (ADAM): Top 4 Summary. Available: < http://www.arb.ca.gov/adam/topfour/topfour1.php>. Accessed: November 4, 2015.

Federal Highway Administration and U.S. Environmental Protection Agency. 2006. Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas. EPA420-B-06-902. March.

Fehr & Peers. 2015. State Route 65 Capacity and Operational Improvements Transportation Analysis Report. September 2015.

Garza, V. J., P. Graney, and D. Sperling. 1997. Transportation Project-Level Carbon Monoxide Protocol. Davis, CA: Institute of Transportation Studies, University of California, Davis.

U.S. Environmental Protection Agency. 2014. Air Data. Monitor Values Report. Last Revised: October 8, 2014. Available: <http://www.epa.gov/airdata/ad_rep_mon.html>. Accessed: September 1, 2015.

U.S. Environmental Protection Agency. 2010. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas. EPA-420-B-13-05. December.

U.S. Environmental Protection Agency. 2015. Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas. EPA-420-B-15-084. November.

U.S. Environmental Protection Agency. 2016. Nonattainment Areas for Criteria Pollutants (Green Book). Last Revised: September 22, ‖. Available: < https://www.epa.gov/green-book>. Accessed: October 3, 2016.

Appendix A. Air Quality Conformity Findings Checklist

Transportation Air Quality Conformity Findings Checklist

Project Name:	SR 65 Capacity and Operational Improvements Project		
Dist-Co-Rte-PM:.	03-PLA-65 PM R6.2 to R12.	**EA:**	EA 03-1F170
Federal-Aid No.:	EA 03-1F170		
Document Type:	☒ **23 USC 326 CE** ☐ **23 USC 327 CE** ☐ **EA** ☐ **EIS**		

Step 1. Is the project located in a nonattainment or maintenance area for ozone, nitrogen dioxide, carbon monoxide (CO), PM2.5, or PM10 per EPA's Green Book listing of non-attainment areas?

☐ If no, go to Step 17. **Transportation conformity does not apply to the project.**

☒ If yes, go to Step 2.

Step 2. Is the project exempt from conformity per 40 CFR 93.126 or 40 CFR 93.128

☐ If yes, go to Step 17. **The project is exempt from all project-level conformity requirements (40 CFR 93.126 or 128)** (check one box below and identify the project type, if applicable).

☐ 40 CFR 93.126 Project type: _____

☐ 40 CFR 93.128

☒ If no, **go** to Step 3.

Step 3. Is the project exempt from regional conformity per 40 CFR 93.127

☐ If yes, go to Step 8. **The project is exempt from regional conformity requirements (40 CFR 93.127)** (identify the project type). Project type: _____

☒ If no, go to Step 4.

Step 4. Is the project located in a region with a currently conforming RTP and TIP?

☒ If yes, t**he project is included in a currently conforming RTP and TIP per 40 CFR 93.115. The project's design and scope have not changed significantly from what was assumed in RTP conformity analysis (40 CFR 93.115[b])** Go to Step 8.

☐ If no and the project is located in an isolated rural area, go to Step 5.

☐ If no and the project is not located in an isolated rural area, STOP and do not proceed until a conforming RTP and TIP are adopted.

Step 5. For isolated rural areas, is the project regionally significant per 40 CFR 93.101, based on review by Interagency Consultation?

☐ If yes, go to Step 6.

☐ If no, go to Step 8. **The project, located in an isolated rural area, is not regionally significant and does not require a regional emissions analysis (40 CFR 93.101 and 93.109[l]).**

Step 6. Is the project included in another regional conformity analysis that meets the isolated rural area analysis requirements per 40 CFR 93.109, including Interagency Consultation and public involvement?

☐ If yes, go to Step 8. **The project, located in an isolated rural area, has met its regional analysis requirements through inclusion in a previously-approved regional conformity analysis that meets current requirements (40 CFR 93.109[l]).**

☐ If no, go to Step 7.

Step 7. The project, located in an isolated rural area, requires a separate regional emissions analysis.

☐ **Regional emissions analysis for regionally significant project, located in an isolated rural area, is complete. Regional conformity analysis was conducted that includes the project and reasonably foreseeable regionally significant projects for at least 20 years. Interagency Consultation and public participation were conducted. Based on the analysis, the interim or emission budget conformity tests applicable to the area are met (40 CFR 93.109[l] and 95.105).**[1] Go to Step 8.

Step 8. Is the project located in a CO nonattainment or maintenance area?

☐ If no, go to Step 9. **CO conformity analysis is not required.**

☒ If yes, **hot-spot analysis requirements for CO per the** CO Protocol (or per EPA's modeling guidance, CAL3QHCR can be used with EMFAC emission factors[2]) **have been met. Project will not cause or contribute to a new localized CO violation (40 CFR 93.116 and 93.123)[3].** Go to Step 9.

Step 9. Is the project located in a PM10 and/or a PM2.5 nonattainment or maintenance area?

☐ If no, go to Step 13. **PM2.5/PM10 conformity analysis is not required.**

☒ If yes, go to Step 10.

---

[1] The analysis must support this conclusion before going to the next step.

[2] Use of the CO Protocol is strongly recommended due to its use of screening methods to minimize the need for modeling. When modeling is needed, the Protocol simplifies the modeling approach. Use of CAL3QHCR must follow U.S. EPA's latest CO hot spot guidance, using EMFAC instead of MOVES; see: http://www.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm#co-hotspot.

[3] As of October 1, 2007, there are no CO nonattainment areas in California. Therefore, the requirements to not worsen existing violations and to reduce/eliminate existing violations do not apply.

Step 10. Is the project considered to be a Project of Air Quality Concern (POAQC), as described in EPA's Transportation Conformity Guidance for PM 10 and PM 2.5?

☒ If no, **the project is not a project of concern for PM10 and/or PM2.5 hot-spot analysis based on 40 CFR 93.116 and 93.123 and EPA's Hot-Spot Analysis Guidance. Interagency Consultation concurred with this determination on August 9, 2016**. Go to Step 12.

☐ If yes, go to Step 11.

Step 11. The project is a POAQC.

☐ **The project is a project of concern for PM10 and/or PM2.5 hot-spot analysis based on 40 CFR 93.116 and 93.123, and EPA's Hot-Spot Guidance. Interagency Consultation concurred with this determination on _____. Detailed PM hot-spot analysis, consistent with 40 CFR 93.116 and 93.123 and EPA's Hot-Spot Guidance, shows that the project would not cause or contribute to, or worsen, any new localized violation of PM10 and/or PM2.5 standards.** Go to Step 12.

Step 12. Does the approved PM SIP include any PM10 and/or PM2.5 control measures that apply to the project, and has a written commitment been made as part of the air quality analysis to implement the identified SIP control measures? [(Control measures can be found in the applicable Federal Register notice at: http://www.epa.gov/otaq/stateresources/transconf/reg9sips.htm#ca.]

☐ If yes, **a written commitment is made to implement the identified SIP control measures for PM10 and/or PM2.5 through construction or operation of this project (40 CFR 93.117).** Go to Step 14.

☒ If no, go to Step 13.

Step 13a. Have project-level mitigation or control measures for CO, PM10, and/or PM2.5, included as part of the project's design concept and scope, been identified as a condition of the RTP or TIP conformity determination? AND/OR

Step 13b. Are project-level mitigation or control measures for CO, PM10, and/or PM2.5 included in the project's NEPA document?

AND

Step 13c (applies only if Step 13a and/or 13b are answered "yes")**.** Has a written commitment been made as part of the air quality analysis to implement the identified measures?

☒ If yes to 13a and/or 13b and 13c, **a written commitment is made to implement the identified mitigation or control measures for CO, PM10, and/or PM2.5 through construction or operation of this project. These mitigation or control measures are identified in the project's NEPA document and/or as conditions of the RTP or TIP conformity determination[1] (40 CFR 93.125(a)).** Go to Step 14.

☐ If no, go to Step 14

Step 14. Does the project qualify for a 771.117(c)(22), (c)(23), (c)(26), (c)(27), or (c)(28)[4] Categorical Exclusion pursuant to 23 USC 326 and is an Air Quality Conformity Analysis required to document any analysis required by Steps 1 through 13 of this form?[5]

☒ If yes, then Caltrans prepares the Air Quality Conformity Analysis and makes the conformity determination. No FHWA involvement is required. See the AQCA Annotated Outline. Go to Step 17.

☐ If no, go to Step 15.

Step 15. Does the project quality for any Categorical Exclusion pursuant to 23 USC 326 (including 771.117(c)(22), (c)(23), (c)(26), (c)(27), or (c)(28) when NO Air Quality Conformity Analysis is required)?

☐ If yes, then no FHWA involvement is required and Caltrans makes the conformity determination through its signature on the CE form. **An Air Quality Conformity Analysis (AQCA) is not needed.** Go to Step 17.

☐ If no, go to Step 16.

Step 16. Does the project require preparation of a Categorical Exclusion, EA, or EIS pursuant to 23 USC 327?

☐ If yes, then Caltrans submits a conformity determination to FHWA for FHWA's conformity determination. **An AQCA is needed.** See the AQCA Annotated Outline.

Date of FHWA air quality conformity determination: _____

Go to Step 17.

Step 17. STOP as all air quality conformity requirements have been met.

Signature:	Shannon Hatcher		
Printed Name:	Shannon Hatcher	**Date:**	October 3, 2016
Title:	Air Quality, Climate Change, and Noise Project Manager		

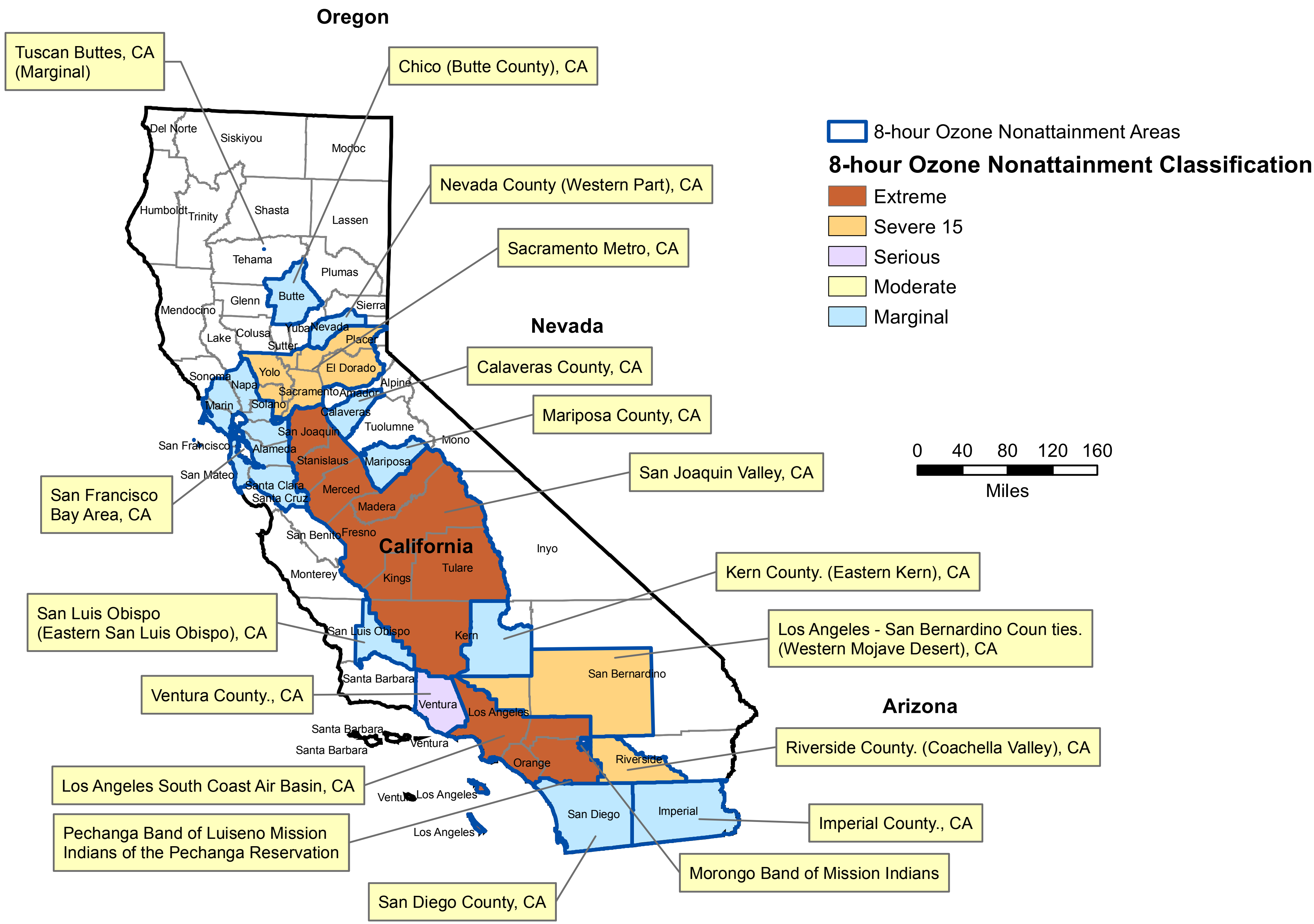
[4] Please note that certain activities covered by these categorical exclusions may require that Caltrans prepare an Air Quality Conformity Analysis rather than documenting the conformity determination with the Senior Environmental Planner's signature on the Categorical Exclusion form.

[5] Please note that for ALL projects the project file must include evidence that one of the three following situation applies: 1) Conformity does not apply to the project area; or 2) The project is exempt from all conformity analysis requirements; or 3) The project is subject to project-level conformity analysis (and possibly regional conformity analysis) and meets the criteria for a conformity determination. The project file must include all supporting documentation and this checklist.

Appendix B. Ozone, CO, and PM2.5 Nonattainment Maps

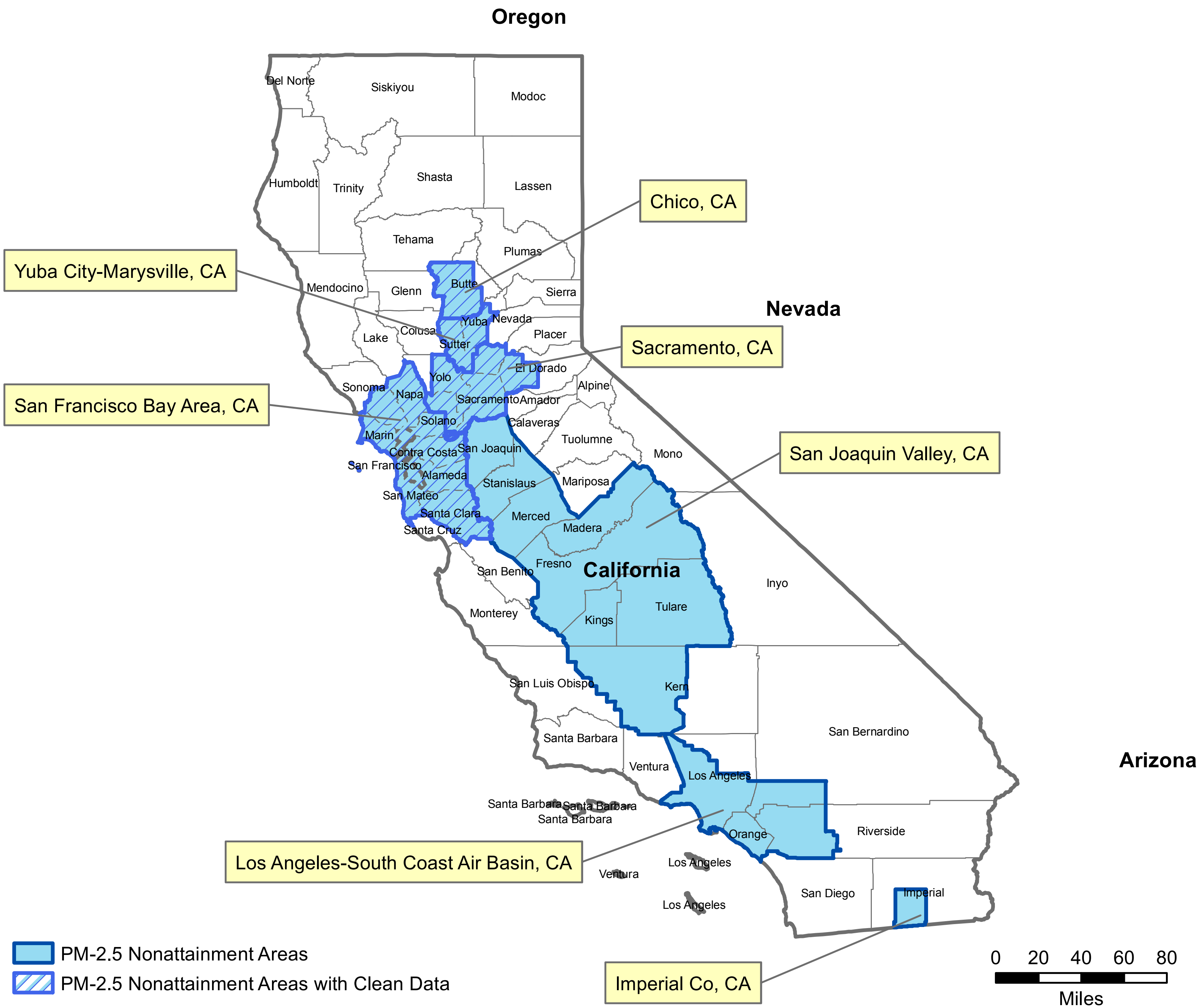
California 8-hour Ozone Nonattainment Areas (2008 Standard)

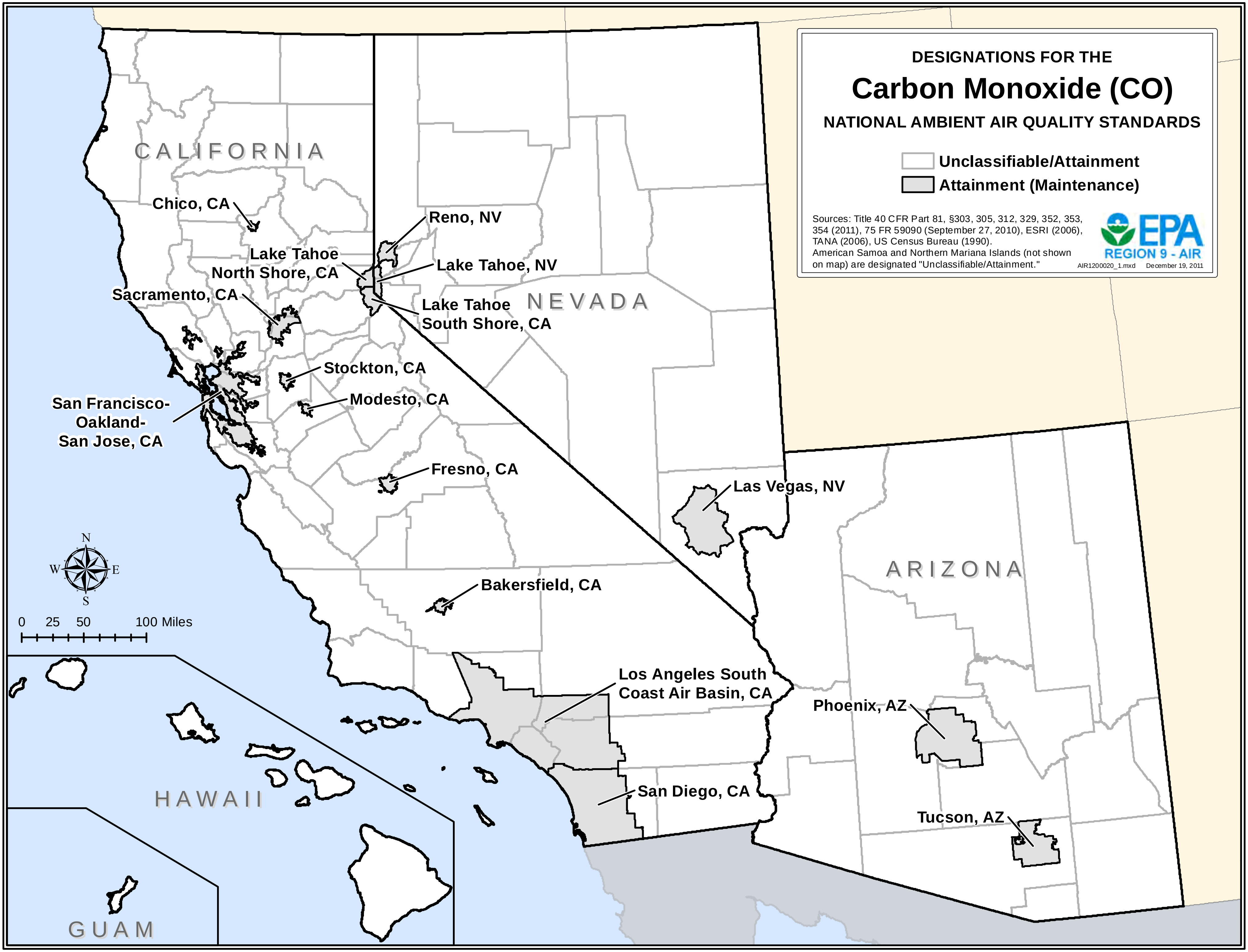
12/05/2013



California PM-2.5 Nonattainment Areas (2006 Standard)

12/05/2013




DESIGNATIONS FOR THE
Carbon Monoxide (CO)
NATIONAL AMBIENT AIR QUALITY STANDARDS
Unclassifiable/Attainment
Attainment (Maintenance)
Sources: Title 40 CFR Part 81, §303, 305, 312, 329, 352, 353, 354 (2011), 75 FR 59090 (September 27, 2010), ESRI (2006), TANA (2006), US Census Bureau (1990).
American Samoa and Northern Mariana Islands (not shown on map) are designated "Unclassifiable/Attainment."
REGION 9 - AIR
AIR1200020_1.mxd
December 19, 2011
CALIFORNIA
NEVADA
ARIZONA
HAWAII
GUAM
Chico, CA
Reno, NV
Lake Tahoe North Shore, CA
Lake Tahoe, NV
Sacramento, CA
Lake Tahoe South Shore, CA
Stockton, CA
Modesto, CA
San Francisco-Oakland-San Jose, CA
Fresno, CA
Las Vegas, NV
Bakersfield, CA
Los Angeles South Coast Air Basin, CA
Phoenix, AZ
San Diego, CA
Tucson, AZ
N
W
E
S
0
25
50
100 Miles

Appendix C. Documentation Related to Regional Conformity

Regional Emissions Analysis Conducted for Conforming RTP

The regional emissions analysis found that regional emissions will not exceed the SIP's emission budgets for mobile sources in the build year, a horizon year at least 20 years from when conformity analysis started, and additional years meeting conformity regulation requirements for periodic analysis. The regional emissions analysis was based on the latest population and employment projections for the Sacramento Region, including Sacramento, Sutter, Yolo, and Yuba Counties, and in El Dorado and Placer Counties outside of the Tahoe Basin, that were adopted by the SACOG at the time the conformity analysis was started in 2015. These assumptions are less than five years old. The modeling was conducted using current and future population, employment, traffic, and congestion estimates. The traffic data, including the fleet mix data, were based on the most recently available vehicle registration data included in the EMFAC model. EMFAC2011 was used, which was the most recent version of the model developed by the California Air Resources Board and approved for use in California by the U.S. EPA at the time of the analysis.[1]

Public and Interagency Consultation Process for TIP

The federal MTIP was developed in accordance with SACOG's policies for community input and interagency consultation procedures. These procedures ensure that the public has adequate opportunity to be informed of the federal MTIP development process and encourages public participation and comment. The MTIP, Amendment #20, was circulated for public review between September 17, 2015 and November 16, 2015. SACOG did not receive any comments on Amendment #20 or on the Air Quality Conformity Analysis.

[1] EMFAC2014 was approved by EPA on December 14, 2015, with a 24-month grace period for conversion from EMFAC 2011 to EMFAC 2014. As the air quality analysis was completed prior to EPA's approval of EMFAC2014 and falls within their 24-month grace period before EMFAC2014 is required, EMFAC2011 is used in this analysis.

Appendix D. MTP and MTIP Project Listing and Federal Approval Letters

2016

Metropolitan Transportation Plan/ Sustainable Communities Strategy

BUILDING A SUSTAINABLE SYSTEM

SACOG

Sacramento Area Council of Governments

Adopted February 18, 2016

Sacramento Area Council of Governments

1415 L Street,
Suite 300
Sacramento, CA
95814

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S A C O G

February 18, 2016

Bruce De Terra, Division Chief
Office of Federal Transportation Management Program
Division of Transportation Programming, MS 82
Department of Transportation
P.O. Box 942784
Sacramento, CA 94274-0001

Attention: Dennis Jacobs

Dear Mr. De Terra:

Please accept for your review and approval Amendment #20 to the 2015/18 Metropolitan Transportation Improvement Program (MTIP). In addition, SACOG requests that you transmit your findings to FHWA and FTA for their final review and approval.

Amendment #20 is a "Type 5" amendment, which is an amendment that requires a conformity determination and a new regional emissions analysis. Amendment #20 updates the MTIP to be consistent with the newly adopted Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). Today the Board approved both Amendment #20 to the MTIP and the 2016 update to the MTP/SCS. In doing so, SACOG adds, deletes, and changes non-exempt, regionally significant projects in the 2015/18 MTIP and MTP/SCS, requiring a new conformity determination and new regional emissions analysis. For these reasons, Amendment #20 is accompanied by a new conformity determination and regional emissions analysis performed on both the MTP/SCS and Amendment #20 to the 2015/18 MTIP.

Amendment #20 is consistent with the metropolitan transportation planning regulations per 23 Code of Federal Regulations Part 450, and also with the adopted MTP/SCS. Amendment #20 remains financially constrained and the enclosed financial summary in Section 6 affirms that funding is available. Amendment #20 does not affect air quality conformity, and, therefore, complies with the applicable air quality standards. Amendment #20 does not interfere with the timely implementation of the Transportation Control Measures contained in the State Implementation Plan. Finally, SACOG amended the MTIP in accordance with its Public Participation Plan and did not receive comments.

Thank you in advance for your attention to this matter. Any questions that you may have should be directed to José Luis Cáceres at (916) 340-6218.

Sincerely,

Renée DeVere-Oki

Renée DeVere-Oki
Team Manager Programming and Project Delivery
Enclosures

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cc: Stew Sonnenberg, Federal Highway Administration
Jerome Wiggins, Federal Transit Administration
Karina O'Connor, Environmental Protection Agency

							Conformity Year Modeling							
Project ID	COUNTY	LEAD AGENCY	TITLE	PROJECT DESCRIPTION	TOTAL COST (2015 Dollars)	Completion Year	2017	2018	2022	2024	2026	2027	2036	MTIP or MTP
PLA25519	Placer	PCTPA	I-80 Eastbound Auxiliary Lane: SR 65 to Rocklin Rd.	In Rocklin: Between SR 65 (PM 4.5) and Rocklin Rd. (PM 5.9); Construct eastbound I-80 auxiliary lane, including two-lane off-ramp, concrete barrier/retaining walls, and shoulder improvements. (Toll credits for PE, ROW, and CON)	$4,990,000	2019			X	X	X	X	X	MTIP
PLA25576	Placer	PCTPA	I-80 Westbound 5th Lane	In Roseville: Between east of Douglas Blvd. off-ramp to west of Riverside Ave.; Extend I-80 westbound auxiliary lane (PLA25542) to the east and west to create continuous 5th lane on westbound I-80. The Douglas Boulevard off - ramp would be reduced from a 2 - lane off - ramp to a 1 - lane off - ramp.	$3,700,000	2020			X	X	X	X	X	MTIP
PLA25542	Placer	PCTPA	I-80 Westbound Auxiliary Lane - Douglas Blvd. to Riverside Ave.	In Roseville: Between Douglas Blvd.(PM 2.0) and Riverside Ave. (PM 0.2); Construct westbound I-80 auxiliary lane and shoulder improvements. (Toll credits for PE, ROW, and CON)	$5,910,000	2019			X	X	X	X	X	MTIP
PLA25440	Placer	PCTPA	I-80/SR 65 Interchange Improvements Phase 1A	In Placer County: Between I-80 and Galleria Blvd./Stanford Ranch Rd.; Reconfigure I-80/SR 65 interchange to widen northbound SR 65 from 2 to 3 lanes, including widening Galleria Boulevard/Stanford Ranch Road northbound off-ramp and on-ramp, and southbound on-ramp (PA&ED, PS&E, ROW, and CON to be matched with Toll Credits) SHOPP funding (EA 03-0H260) for auxiliary lane on northbound SR 65 between I-80 and Galleria Boulevard/Stanford Ranch Road.	$37,099,700	2022			X	X	X	X	X	MTIP
PLA25648	Placer	PCTPA	I-80/SR 65 Interchange Improvements Phase 1B	In Placer County: Between Galleria Boulevard/Stanford Ranch Road and Pleasant Grove Boulevard; Reconfigure I-80/SR 65 interchange to widen northbound SR 65 from 2 to 3 lanes, and widen I-80 westbound to SR 65 northbound ramp from 1 to 2 lanes.	$17,500,000	2022			X	X	X	X	X	MTIP
PLA25649	Placer	PCTPA	I-80/SR 65 Interchange Improvements Phase 1C	In Placer County: Between I-80 and Pleasant Grove Boulevard; Reconfigure I-80/SR 65 interchange to widen southbound SR 65 from 2 to 3 lanes.	$11,500,000	2022			X	X	X	X	X	MTIP
PLA25601	Placer	PCTPA	I-80/SR 65 Interchange Improvements Phase 2	In Placer County: Between Douglas Blvd. and Rocklin Road; Reconfigure I-80/SR 65 interchange to widen southbound to eastbound ramp from 1 to 2 lanes, and replace existing eastbound to northbound loop ramp with a new 3 lane direct flyover ramp.	$110,000,000	2036							X	MTP
PLA25602	Placer	PCTPA	I-80/SR 65 Interchange Improvements Phase 3	In Placer County: Between Douglas Blvd. and Rocklin Road; Widen Taylor Road from 2 to 4 lanes between Roseville Parkway and Pacific Street, and Reconfigure I-80/SR 65 interchange to widen the southbound to westbound ramp from 2 to 3 lanes.	$179,000,000	2036							X	MTP
PLA25603	Placer	PCTPA	I-80/SR 65 Interchange Improvements Phase 4	In Placer County: Between Douglas Blvd. and Rocklin Road; Reconfigure I-80/SR 65 interchange to construct one lane HOV direct connectors from eastbound to northbound and southbound to westbound (HOV lanes would extend to between Galleria Blvd. and Pleasant Grove Blvd. on SR 65).	$95,000,000	2036							X	MTP
PLA25529	Placer	PCTPA	SR 65 Capacity & Operational Improvements Phase 1	SR 65, from Galleria Blvd. to Lincoln Blvd., make capacity and operational improvements. Phase 1: From Galleria Blvd. to Pleasant Grove Blvd., construct auxiliary lanes on northbound and southbound SR 65 , including widening Galleria Blvd. southbound off-ramp.	$16,520,000	2020			X	X	X	X	X	MTIP
PLA25637	Placer	PCTPA	SR 65 Capacity & Operational Improvements Phase 2	SR 65, from Galleria Blvd. to Lincoln Blvd., make capacity and operational improvements. Phase 2: From Galleria Blvd. to Blue Oaks Blvd., widen from 4 to 7 lanes with 1 carpool lane and 1 general purpose lane southbound, and 1 lane as general purpose northbound.	$32,500,000	2036							X	MTP
PLA25638	Placer	PCTPA	SR 65 Capacity & Operational Improvements Phase 3	SR 65, from Galleria Blvd. to Lincoln Blvd., make capacity and operational improvements. Phase 3: From Blue Oaks Blvd. to Lincoln Blvd., construct auxillary lanes both northbound and southbound.	$12,000,000	2036							X	MTP
PLA15070	Placer	Placer County	Auburn Ravine Road at I-80 Overcrossing	Auburn Ravine Road overcrossing over I-80 between Bowman Road to Lincoln Way: widen overcrossing from 2 to 4 lanes.	$29,000,000	2036							X	MTP
PLA15080	Placer	Placer County	Auburn-Folsom Rd Widening	From Placer / Sacramento County line to Douglas Blvd, : Widen to 4 lanes. Install signal at Auburn-Folsom Blvd and Fuller Dr.	$28,300,000	2015	X	X	X	X	X	X	X	MTIP
PLA20680	Placer	Placer County	Baseline Road Four to Six Lane Widening (East Portion)	Widen From 4 to 6 lanes from Watt Avenue to Fiddyment/Walerga Road.	$11,270,000	2036							X	MTP

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)

March 8, 2016

In Reply Refer To:
HDA-CA

Mr. Bruce de Terra
Chief
Division of Transportation Programming
California Department of Transportation
1120 N Street, M.S. 82
Sacramento, CA 92814

Attention: Muhaned Aljabiry, Chief
Office of Federal Transportation Management Program

SUBJECT: Conformity Determination for SACOG's Metropolitan Transportation Plan/ Sustainable Communities Strategy (MTP/ SCS) and the SACOG FY 2015 - 2018 MTIP/ FSTIP Amendment #20

Dear Mr. de Terra:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed our review of the Sacramento Area Council of Government's (SACOG) FY 2015 - 2018 Metropolitan Transportation Improvement Program (MTIP) Amendment #20 submitted by your letter dated February 25, 2016. SACOG adopted Amendment #20 with Resolution No. 03-2016 on February 18, 2016. This amendment proposes to modify the scope, completion year, and/ or amount of funding for 29-projects with a net increase in funding of approximately $64.7 million.

The conformity analysis submitted to the FHWA/ FTA by SACOG indicates that all air quality conformity requirements have been met. In accordance with the December 15, 2014, Memorandum of Understanding (MOU) between the Federal Highway Administration, California Division and the Federal Transit Administration, Region IX, the FTA has concurred with this conformity determination. Additionally, this finding has been coordinated with Region 9 of the Environmental Protection Agency (EPA) in accordance with the procedures outlined in the National Memorandum of Understanding between DOT and EPA on Transportation Conformity, dated April 25, 2000. Therefore, we find that SACOG's FY 2015 - 2018 MTIP through Amendment #20 continues to conform to the applicable State Implementation Plan (SIP) in accordance with the provisions of 40 CFR Parts 51 and 93.

We accept the revisions to the FY 2015 - 2018 FSTIP for the SACOG region in accordance with the Final Rule on Statewide and Metropolitan Transportation Planning published in the February 14, 2007 Federal Register. We find that the SACOG FY 2015 - 2018 MTIP, including Amendment #20, was developed through a continuing, cooperative, comprehensive transportation planning process in accordance with 23 U.S.C. §134 and 49 U.S.C. Chapter 53. The FTA Region IX office has concurred with the approval of this amendment.

Based upon our review, we find the MTIP financial constraint documentation submitted with this amendment is financially constrained as required by the Federal surface transportation programs authorizing legislation and statewide and metropolitan planning and programming regulations. In accordance with the above MOU with FTA, the FHWA's single signature constitutes FHWA and FTA's joint air quality conformity determination for the SACOG's MTP/ SCS and the 2015 - 2018 MTIP. Accordingly, FHWA and FTA approve this amendment in accordance with 23 CFR 450. This letter also constitutes approval and inclusion of SACOG's 2015 MTIP Amendment #20 into California's 2015 FSTIP.

If you have any questions regarding this action, please call Stew Sonnenberg at (916) 498-5889, or by email at stew.sonnenberg@dot.gov, or Jerome Wiggins at (415) 744-2819, or by email at jerome.wiggens@dot.gov.

Sincerely,

/s/ Leslie T. Rogers

Leslie T. Rogers
Regional Administrator
Federal Transit Administration

For: Vincent P. Mammano
Division Administrator
Federal Highway Administration

Appendix E. Carbon Monoxide Hot-Spot Analysis Modeling Procedures

The ambient air quality effects of traffic emissions related to the SR 65 Capacity and Operational Improvements Project were evaluated using the CALINE4 dispersion model (Benson 1989) and the modeling procedures described below. These procedures are based on Appendix B of the California Department of Transportation (Caltrans)/University of California, Davis CO Protocol.

E.1 Roadway and Traffic Conditions

Traffic volumes and operating conditions used in the modeling were obtained from the traffic analysis prepared for this project. Carbon monoxide (CO) modeling was conducted using p.m. traffic volumes. The peak hour used was chosen to represent the most stable meteorological conditions.

CO modeling was performed for the following scenarios.

1. Existing (2012).
2. Construction Year (2020) with project (build).
3. Design Year (2040) with project.

Traffic data provided by Fehr & Peers (2015) indicates that peak-period volumes and delay at the affected intersections would typically be highest under p.m. peak hour conditions. Accordingly, CO concentrations were modeled for p.m. peak hour conditions to evaluate the highest potential CO impacts of build alternatives (scenarios #2 and #3).

E.2 Vehicle Emission Rates

Vehicle emission rates were determined using the California Air Resources Board's EMFAC2011 emission rate program. Free flow traffic speeds were adjusted to a speed of 5.0 miles per hour (mph) for vehicles entering and exiting intersection segments to represent a worst-case scenario, as 5 mph is the lowest speed EMFAC allows. EMFAC2011 modeling procedures followed the guidelines recommended by Caltrans. The program assumed Placer County regional traffic data, averaged for each subarea, operating during the winter months. An average January temperature of 6.8° C was assumed.

E.3 Receptor Locations

CO concentrations were estimated at four receptor locations located near the most congested intersections affected by the project.

- Galleria Boulevard/Roseville Parkway
- I-80 eastbound off-ramp/Eureka Road/Taylor Road/Atlantic Street
- Sunrise Avenue/Douglas Boulevard
- Rocklin Road/Granite Drive

Receptors were chosen based on Caltrans' CO Protocol. Figure 2 shows the modeling network and receptors used for the proposed interchange analysis. Receptor heights were set at 5.9 feet (1.8 meters). U.S. Environmental Protection Agency modeling guidance suggests that receptors normally be chosen to be around breathing height (1.8 meters).

E.4 Meteorological Conditions

Meteorological inputs to the CALINE4 model were determined using the methodology recommended in the CO Protocol (Garza et al. 1997). The meteorological conditions used in the modeling represent a calm winter period. The worst-case wind angles option was used to determine a worst-case concentration for each receptor. The meteorological inputs are listed below.

1. 0.5 meters per second wind speed (1.64 feet per second) wind speed.
2. G stability class ground-level temperature inversion.
3. 15 degree wind direction standard deviation.
4. 1,000 meter mixing height.

E.5 Background Concentrations and Eight-Hour Values

A background concentration of 1.93 parts per million (ppm) was added to the modeled 1-hour values to account for sources of CO not included in the modeling. Eight-hour modeled values were calculated from the 1-hour values using a persistence factor of 0.7. A background concentration of 1.45 ppm was added to the modeled 8-hour values. All background concentration data were taken from the North Highlands-Blackfoot Way monitoring station from 2012 through 2014 (California Air Resources Board 2015; U.S. Environmental Protection Agency 2014).

The CO air quality modeling results are shown in Table 9.

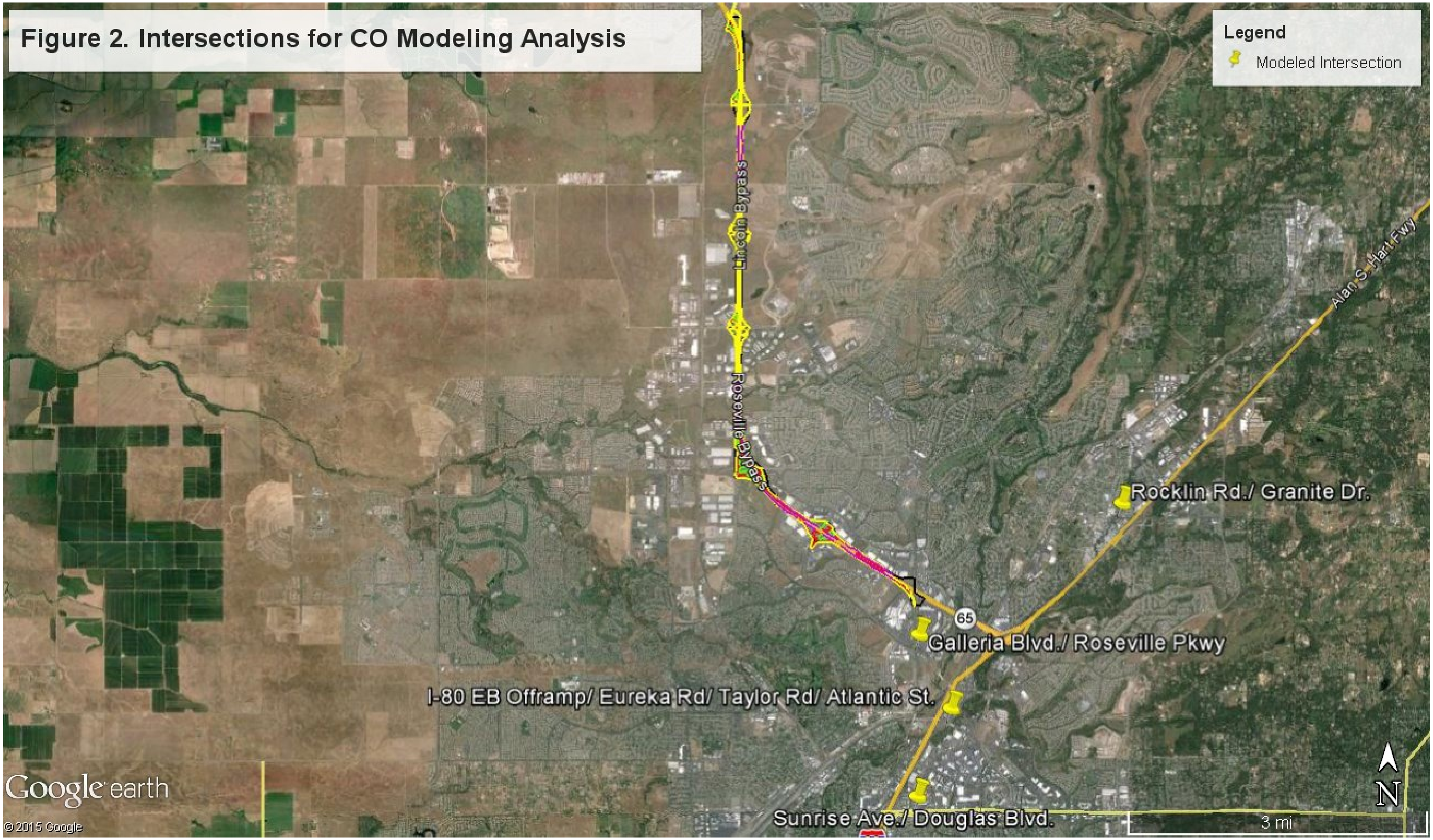

Figure 2. Intersections for CO Modeling Analysis
Legend
Modeled Intersection
Lincoln Bypass
Roseville Bypass
Alan S. Hart Fwy
65
Rocklin Rd./ Granite Dr.
Galleria Blvd./ Roseville Pkwy
I-80 EB Offramp/ Eureka Rd/ Taylor Rd/ Atlantic St.
Sunrise Ave./ Douglas Blvd.
Google earth
© 2015 Google
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Table E-1. CO Modeling Results (in Parts Per Million)

Intersection	Rec.[a]	1-Hour CO Concentrations[b] (ppm)							8-Hour CO Concentrations[c] (ppm)						
			Construction Year (2020)			Design Year (2040)				Construction Year (2020)			Design Year (2040)		
		Existing (2012)	Carpool Lane Alt.	Gen. Purp. Lane Alt.	No Build Alt.	Carpool Lane Alt.	Gen. Purp. Lane Alt.	No Build Alt.	Existing (2012)	Carpool Lane Alt.	Gen. Purp. Lane Alt.	No Build Alt.	Carpool Lane Alt.	Gen. Purp. Lane Alt.	No Build Alt.
Galleria Blvd./ Roseville Pkwy.	1	6.03	4.13	4.13	4.13	2.93	2.93	2.83	4.32	2.99	2.99	2.99	2.15	2.15	2.08
	2	5.63	3.93	3.93	3.93	2.83	2.83	2.83	4.04	2.85	2.85	2.85	2.08	2.08	2.08
	3	5.73	4.03	4.03	4.03	2.93	2.93	2.93	4.11	2.92	2.92	2.92	2.15	2.15	2.15
	4	5.73	3.93	3.93	4.03	2.93	2.93	3.03	4.11	2.85	2.85	2.92	2.15	2.15	2.22
I-80 EB Offramp/ Eureka Rd/ Taylor Rd/ Atlantic St.	5	5.23	3.73	3.73	3.73	2.83	2.83	2.83	3.76	2.71	2.71	2.71	2.08	2.08	2.08
	6	5.33	3.63	3.63	3.63	2.73	2.73	2.73	3.83	2.64	2.64	2.64	2.01	2.01	2.01
	7	5.03	3.53	3.43	3.63	2.83	2.83	2.73	3.62	2.57	2.50	2.64	2.08	2.08	2.01
	8	5.73	4.03	4.03	4.03	3.03	3.03	2.93	4.11	2.92	2.92	2.92	2.22	2.22	2.15
Sunrise Ave./ Douglas Blvd.	9	6.13	3.93	3.93	3.93	2.93	2.93	2.93	4.39	2.85	2.85	2.85	2.15	2.15	2.15
	10	5.03	3.43	3.43	3.43	2.63	2.63	2.63	3.62	2.50	2.50	2.50	1.94	1.94	1.94
	11	5.33	3.63	3.63	3.63	2.73	2.63	2.73	3.83	2.64	2.64	2.64	2.01	1.94	2.01
	12	5.73	3.73	3.73	3.73	2.73	2.73	2.73	4.11	2.71	2.71	2.71	2.01	2.01	2.01
Rocklin Rd./ Granite Dr.	13	4.73	3.73	3.73	3.73	2.73	2.73	2.73	3.41	2.71	2.71	2.71	2.01	2.01	2.01
	14	4.13	3.23	3.23	3.33	2.63	2.63	2.63	2.99	2.36	2.36	2.43	1.94	1.94	1.94
	15	3.93	3.13	3.13	3.13	2.53	2.53	2.53	2.85	2.29	2.29	2.29	1.87	1.87	1.87
	16	4.23	3.43	3.43	3.43	2.63	2.63	2.63	3.06	2.50	2.50	2.50	1.94	1.94	1.94
State Standard (ppm)		20	20	20	20	20	20	20	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Federal Standard (ppm)		35	35	35	35	35	35	35	9	9	9	9	9	9	9

[a] Consistent with Caltrans CO Protocol, receptors are located at 3 meters from the intersection, at each of the four corners to represent the nearest location in which a receptor could potentially be located adjacent to a travelled roadway. The modeled receptors indicated in Table 9 (Receptors 1-16) are not representative of the actual sensitive receptors indicated in Figure 2. All intersections modeled have two intersecting roadways.

[b] Average 1-hour background concentration between 2012 and 2014 was 1.93 ppm (California Air Resources Board 2015b).

[c] Average 8-hour background concentration between 2012 and 2014 was 1.45 ppm (U.S. Environmental Protection Agency 2014).

CO = carbon monoxide; ppm = parts per million; EB = eastbound

Appendix F. CO Modeling Data and Output Reports

EMFAC2011 Emission Rates
Region Type: County
Region: Placer
Calendar Year: 2012
Season: Winter
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed	VMT	ROG_RUNI	TOG_RUNI	CO_RUNEX	NOX_RUNI	CO2_RUNE	CO2_RUNE	PM10_RUI	PM2_5_RUNEX
						(miles/hr)	(miles/day	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)
Placer	2012	Winter	LDA	GAS	Aggregate	5	1787.465	0.259841	0.356084	3.47548	0.255451	1072.355	1010.72	0.012445	0.011327
Placer	2012	Winter	LDA	DSL	Aggregate	5	7.562396	0.171281	0.194992	1.268236	1.141819	432.0839	397.5908	0.123489	0.11361
Placer	2012	Winter	LDT1	GAS	Aggregate	5	252.0735	0.606338	0.774473	8.078247	0.605356	1243.601	1173.304	0.023764	0.02156
Placer	2012	Winter	LDT1	DSL	Aggregate	5	0.264174	0.279219	0.317872	1.667315	1.187555	436.291	397.3121	0.235638	0.216787
Placer	2012	Winter	LDT2	GAS	Aggregate	5	725.5092	0.267629	0.389139	3.932171	0.472851	1471.01	1407.138	0.012045	0.011031
Placer	2012	Winter	LDT2	DSL	Aggregate	5	0.250238	0.257803	0.293491	1.56748	1.371712	424.4659	396.942	0.213379	0.196309
Placer	2012	Winter	LHD1	GAS	Aggregate	5	10520.96	0.850756	0.969321	10.30109	0.567364	2513.497	2500.93	0.011564	0.010666
Placer	2012	Winter	LHD1	DSL	Aggregate	5	6276.477	0.599793	0.682824	3.690851	7.552268	524.1788	521.5579	0.125885	0.115814
Placer	2012	Winter	LHD2	GAS	Aggregate	5	794.1564	0.602448	0.695036	9.662195	0.403893	2513.497	2500.93	0.009421	0.008425
Placer	2012	Winter	LHD2	DSL	Aggregate	5	1262.65	0.495545	0.564145	3.243424	6.731915	521.8	519.191	0.107326	0.098739
Placer	2012	Winter	MCY	GAS	Aggregate	5	29.69706	5.393435	5.905841	35.64708	1.280419	249.5459	248.2981	0.001768	0.001408
Placer	2012	Winter	MDV	GAS	Aggregate	5	701.3501	0.388751	0.57612	5.352142	0.715083	1867.75	1809.963	0.013012	0.011955
Placer	2012	Winter	MDV	DSL	Aggregate	5	0.571929	0.142318	0.16202	0.94873	0.760802	463.5335	442.2013	0.118814	0.109308
Placer	2012	Winter	MH	GAS	Aggregate	5	289.2822	1.624138	1.871303	36.16488	0.996462	2513.497	2500.93	0.017286	0.01535
Placer	2012	Winter	MH	DSL	Aggregate	5	67.23698	1.733289	1.973235	2.603248	20.23608	2377.037	2365.152	0.638626	0.587536
Placer	2012	Winter	Motor Coa	DSL	Aggregate	5	12.30506	6.472582	7.368542	11.25481	37.19751	4015.39	3995.313	1.084397	0.997645
Placer	2012	Winter	OBUS	GAS	Aggregate	5	116.1394	0.920771	1.103139	12.9235	1.105926	2513.497	2500.93	0.004329	0.003993
Placer	2012	Winter	SBUS	GAS	Aggregate	5	14.95158	6.832181	7.515106	113.4969	3.037438	2513.497	2500.93	0.043649	0.038102
Placer	2012	Winter	SBUS	DSL	Aggregate	5	47.54645	4.427373	5.040227	5.404886	30.30737	2625.474	2612.347	1.376329	1.266222
Placer	2012	Winter	T6 Ag	DSL	Aggregate	5	39.83015	5.940001	6.762238	7.37861	27.06914	2631.743	2618.585	1.642537	1.511134
Placer	2012	Winter	T6 Public	DSL	Aggregate	5	62.15105	3.065273	3.48958	3.985021	25.72829	2615.804	2602.725	1.058278	0.973616
Placer	2012	Winter	T6 CAIRP h	DSL	Aggregate	5	1.165915	3.06494	3.489201	4.518595	19.39582	2604.773	2591.749	0.657246	0.604666
Placer	2012	Winter	T6 CAIRP s	DSL	Aggregate	5	3.902308	2.549647	2.902579	4.02073	15.43871	2602.522	2589.509	0.422823	0.388997
Placer	2012	Winter	T6 OOS he	DSL	Aggregate	5	0.668443	3.06494	3.489201	4.518595	19.39582	2604.773	2591.749	0.657246	0.604666
Placer	2012	Winter	T6 OOS sm	DSL	Aggregate	5	2.237275	2.549647	2.902579	4.02073	15.43871	2602.522	2589.509	0.422823	0.388997
Placer	2012	Winter	T6 instate	DSL	Aggregate	5	29.35672	4.892466	5.5697	6.495927	26.2847	2608.291	2595.25	1.342738	1.235319
Placer	2012	Winter	T6 instate	DSL	Aggregate	5	80.06686	3.552352	4.044082	5.159724	19.81183	2603.45	2590.433	0.786456	0.72354
Placer	2012	Winter	T6 instate	DSL	Aggregate	5	178.0733	4.782136	5.444098	6.352193	25.50526	2607.146	2594.11	1.305423	1.200989
Placer	2012	Winter	T6 instate	DSL	Aggregate	5	492.9218	3.432303	3.907416	4.994499	19.00181	2601.473	2588.466	0.752976	0.692738
Placer	2012	Winter	T6 utility	DSL	Aggregate	5	3.874531	1.865515	2.123747	2.771382	20.10772	2602.847	2589.833	0.526954	0.484798
Placer	2012	Winter	T6TS	GAS	Aggregate	5	156.3598	2.265124	2.591423	35.00275	1.711588	2513.497	2500.93	0.013215	0.011752
Placer	2012	Winter	T7 Ag	DSL	Aggregate	5	49.87115	9.484757	10.79767	15.85816	46.71018	4055.306	4035.029	2.412598	2.21959
Placer	2012	Winter	T7 CAIRP	DSL	Aggregate	5	346.4879	6.99333	7.961374	12.91996	32.70234	4020.441	4000.338	0.786934	0.723979
Placer	2012	Winter	T7 CAIRP c	DSL	Aggregate	5	8.701616	7.080503	8.060614	13.07596	33.20823	4021.476	4001.369	0.79985	0.735862
Placer	2012	Winter	T7 NNOOS	DSL	Aggregate	5	389.786	4.64301	5.285713	8.789516	19.87101	4002.43	3982.418	0.387362	0.356373
Placer	2012	Winter	T7 NOOS	DSL	Aggregate	5	126.1821	6.882913	7.835672	12.75434	32.70234	4020.982	4000.877	0.759215	0.698478
Placer	2012	Winter	T7 other p	DSL	Aggregate	5	1.256646	3.373153	3.840078	6.025025	51.45719	4060.66	4040.357	0.472297	0.434513
Placer	2012	Winter	T7 POAK	DSL	Aggregate	5	16.81924	3.222141	3.668162	5.611104	53.94117	4064.203	4043.882	0.494374	0.454824
Placer	2012	Winter	T7 POLA	DSL	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2012	Winter	T7 Public	DSL	Aggregate	5	26.16592	6.260985	7.127655	10.62795	46.67194	4097.513	4077.025	2.353519	2.165237
Placer	2012	Winter	T7 Single	DSL	Aggregate	5	116.037	7.757346	8.831148	12.76552	43.61873	4029.07	4008.924	2.14006	1.968855
Placer	2012	Winter	T7 single c	DSL	Aggregate	5	22.50994	7.444021	8.474451	12.26483	42.64522	4023.88	4003.761	2.001191	1.841096
Placer	2012	Winter	T7 SWCV	DSL	Aggregate	5	16.30478	1.318212	1.500684	2.299832	42.1966	4090.744	4070.29	0.298861	0.274952
Placer	2012	Winter	T7 tractor	DSL	Aggregate	5	149.5958	10.85318	12.35552	18.05622	46.05804	4030.357	4010.205	2.363742	2.174643
Placer	2012	Winter	T7 tractor	DSL	Aggregate	5	16.78282	11.43354	13.01621	18.8641	47.3348	4029.967	4009.817	2.561796	2.356852
Placer	2012	Winter	T7 utility	DSL	Aggregate	5	1.17532	3.451184	3.92891	5.87924	36.8196	4015.879	3995.799	0.976562	0.898437
Placer	2012	Winter	T7IS	GAS	Aggregate	5	13.00931	13.99711	15.29727	232.8801	7.777982	2513.497	2500.93	0.01313	0.011155
Placer	2012	Winter	UBUS	GAS	Aggregate	5	30.5859	4.038265	4.396655	34.92805	2.678504	2513.497	2500.93	0.005791	0.005373
Placer	2012	Winter	UBUS	DSL	Aggregate	5	83.828	1.425644	1.623001	8.152289	20.41997	2461.297	2448.99	0.493018	0.453577
Placer	2012	Winter	All Other B	DSL	Aggregate	5	27.0927	4.830698	5.499382	6.471855	26.94113	2621.003	2607.898	1.219026	1.121504

EMFAC2011 Emission Rates
Region Type: County
Region: Placer
Calendar Year: 2020
Season: Winter
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	VMT (miles/day	ROG_RUNI (gms/mile)	TOG_RUNI (gms/mile)	CO_RUNEX (gms/mile)	NOX_RUNI (gms/mile)	CO2_RUNE (gms/mile)	CO2_RUNE (gms/mile)	PM10_RUI (gms/mile)	PM2_5_RUNEX (gms/mile)
Placer	2020	Winter	LDA	GAS	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	LDA	DSL	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	LDT1	GAS	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	LDT1	DSL	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	LDT2	GAS	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	LDT2	DSL	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	LHD1	GAS	Aggregated	5	11857.93	0.357786	0.424995	4.314903	0.294377	2513.497	2262.148	0.005429	0.005033
Placer	2020	Winter	LHD1	DSL	Aggregated	5	6937.612	0.416407	0.474052	3.130002	4.242457	520.9447	468.8502	0.08764	0.080629
Placer	2020	Winter	LHD2	GAS	Aggregated	5	901.6011	0.124053	0.169463	1.830226	0.193557	2513.497	2262.148	0.003255	0.003015
Placer	2020	Winter	LHD2	DSL	Aggregated	5	1370.218	0.354932	0.404066	2.848973	3.836528	520.0415	468.0373	0.078361	0.072092
Placer	2020	Winter	MCY	GAS	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	MDV	GAS	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	MDV	DSL	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	MH	GAS	Aggregated	5	334.3768	0.3192	0.420806	6.352573	0.423125	2513.497	2262.147	0.00561	0.005189
Placer	2020	Winter	MH	DSL	Aggregated	5	74.94922	1.509904	1.718925	2.39988	16.10568	2389.476	2150.528	0.414082	0.380956
Placer	2020	Winter	Motor Coa	DSL	Aggregated	5	15.2852	2.421865	2.757109	4.802255	11.65812	3981.589	3583.43	0.082186	0.075611
Placer	2020	Winter	OBUS	GAS	Aggregated	5	117.014	0.407281	0.501949	5.636887	0.504468	2513.497	2262.147	0.002012	0.001867
Placer	2020	Winter	SBUS	GAS	Aggregated	5	17.25806	2.866684	3.219286	39.49084	1.934284	2513.497	2262.147	0.018525	0.017188
Placer	2020	Winter	SBUS	DSL	Aggregated	5	49.50327	1.309685	1.490976	1.99049	25.77931	2632.233	2369.01	0.231237	0.212738
Placer	2020	Winter	T6 Ag	DSL	Aggregated	5	41.59436	2.313415	2.633647	3.506768	10.12172	2584.145	2325.73	0.367431	0.338037
Placer	2020	Winter	T6 Public	DSL	Aggregated	5	77.98124	0.836999	0.952859	1.39629	12.74817	2603.121	2342.809	0.085679	0.078825
Placer	2020	Winter	T6 CAIRP h	DSL	Aggregated	5	1.391484	1.058776	1.205335	1.856711	6.319983	2573.548	2316.193	0.051007	0.046926
Placer	2020	Winter	T6 CAIRP s	DSL	Aggregated	5	4.759123	1.084687	1.234833	1.923457	3.571197	2563.519	2307.167	0.043517	0.040036
Placer	2020	Winter	T6 OOS he	DSL	Aggregated	5	0.797767	1.058776	1.205335	1.856711	6.319983	2573.548	2316.193	0.051007	0.046926
Placer	2020	Winter	T6 OOS sm	DSL	Aggregated	5	2.728505	1.084687	1.234833	1.923457	3.571197	2563.519	2307.167	0.043517	0.040036
Placer	2020	Winter	T6 instate	DSL	Aggregated	5	52.46013	1.142206	1.300315	1.966523	11.10869	2590.115	2331.103	0.076233	0.070134
Placer	2020	Winter	T6 instate	DSL	Aggregated	5	140.1396	1.271995	1.448069	2.255607	4.846698	2568.647	2311.782	0.05841	0.053737
Placer	2020	Winter	T6 instate	DSL	Aggregated	5	223.1275	1.134864	1.291956	1.964744	10.0395	2586.661	2327.995	0.069825	0.064239
Placer	2020	Winter	T6 instate	DSL	Aggregated	5	625.0797	1.233637	1.404402	2.187588	4.572565	2567.476	2310.728	0.055152	0.050739
Placer	2020	Winter	T6 utility	DSL	Aggregated	5	5.066328	0.815818	0.928746	1.439114	5.767122	2579.588	2321.629	0.035192	0.032377
Placer	2020	Winter	T6TS	GAS	Aggregated	5	197.8882	0.523094	0.631678	7.16767	0.530648	2513.497	2262.147	0.003188	0.002951
Placer	2020	Winter	T7 Ag	DSL	Aggregated	5	51.75546	3.867006	4.402292	7.176022	18.57925	4000.431	3600.388	0.459345	0.422598
Placer	2020	Winter	T7 CAIRP	DSL	Aggregated	5	469.3559	2.662913	3.031523	5.30627	8.574062	3964.755	3568.279	0.082993	0.076353
Placer	2020	Winter	T7 CAIRP c	DSL	Aggregated	5	20.89206	2.663583	3.032287	5.30608	8.712187	3965.34	3568.806	0.083483	0.076804
Placer	2020	Winter	T7 NNOOS	DSL	Aggregated	5	528.0079	2.26303	2.576288	4.514954	5.814729	3958.594	3562.734	0.064999	0.059799
Placer	2020	Winter	T7 NOOS	DSL	Aggregated	5	170.9275	2.661998	3.030482	5.303974	8.585729	3964.772	3568.295	0.083121	0.076471
Placer	2020	Winter	T7 other p	DSL	Aggregated	5	1.516091	5.980481	6.808323	11.89675	26.23109	4084.476	3676.029	0.124146	0.114214
Placer	2020	Winter	T7 POAK	DSL	Aggregated	5	27.65973	5.999852	6.830374	11.93528	26.29847	4085.555	3677	0.124175	0.114241
Placer	2020	Winter	T7 POLA	DSL	Aggregated	5	0	0	0	0	0	0	0	0	0
Placer	2020	Winter	T7 Public	DSL	Aggregated	5	32.62586	1.313796	1.495657	2.431427	32.69859	4088.322	3679.489	0.230158	0.211745
Placer	2020	Winter	T7 Single	DSL	Aggregated	5	157.1849	1.955525	2.226216	3.791054	17.84161	4007.021	3606.319	0.100993	0.092914
Placer	2020	Winter	T7 single c	DSL	Aggregated	5	54.04502	1.955354	2.226022	3.791188	18.00102	4007.878	3607.09	0.100953	0.092877
Placer	2020	Winter	T7 SWCV	DSL	Aggregated	5	20.33016	1.653311	1.882169	3.115672	23.81535	4016.504	3614.854	0.156744	0.144204
Placer	2020	Winter	T7 tractor	DSL	Aggregated	5	202.6439	2.825352	3.216448	5.545632	17.48559	3997.189	3597.47	0.117369	0.107979
Placer	2020	Winter	T7 tractor	DSL	Aggregated	5	40.29456	2.853081	3.248016	5.569696	20.0685	4005.44	3604.896	0.129741	0.119362
Placer	2020	Winter	T7 utility	DSL	Aggregated	5	1.61596	1.471607	1.675312	2.894027	13.36848	4000.234	3600.21	0.0637	0.058604
Placer	2020	Winter	T7IS	GAS	Aggregated	5	15.2013	4.932785	5.732246	133.6094	4.687909	2513.497	2262.148	0.002976	0.002662
Placer	2020	Winter	UBUS	GAS	Aggregated	5	36.25494	3.579021	3.882648	29.37059	2.310969	2513.497	2262.147	0.004592	0.004261
Placer	2020	Winter	UBUS	DSL	Aggregated	5	99.36538	1.146553	1.305275	7.287798	16.41383	2398.518	2158.666	0.411182	0.378288
Placer	2020	Winter	All Other B	DSL	Aggregated	5	33.12472	1.232716	1.403353	2.128714	9.610592	2581.803	2323.623	0.077148	0.070976

EMFAC2011 Emission Rates
Region Type: County
Region: Placer
Calendar Year: 2035
Season: Winter
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed	VMT	ROG_RUNI	TOG_RUNI	CO_RUNE›	NOX_RUNI	CO2_RUNI	CO2_RUNI	PM10_RUI	PM2_5_RUNEX
						(miles/hr)	(miles/day	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/mile)
Placer	2035	Winter	LDA	GAS	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	LDA	DSL	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	LDT1	GAS	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	LDT1	DSL	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	LDT2	GAS	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	LDT2	DSL	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	LHD1	GAS	Aggregate	5	13953.01	0.047158	0.077516	0.732794	0.11052	2513.497	2262.148	0.001395	0.001294
Placer	2035	Winter	LHD1	DSL	Aggregate	5	7974.956	0.20731	0.236008	2.510485	1.5895	519.0508	467.1457	0.055599	0.051151
Placer	2035	Winter	LHD2	GAS	Aggregate	5	1101.074	0.033125	0.060563	0.516628	0.081108	2513.497	2262.147	0.001033	0.000959
Placer	2035	Winter	LHD2	DSL	Aggregate	5	1635.09	0.183701	0.209132	2.292815	1.420013	519.0781	467.1703	0.050173	0.046159
Placer	2035	Winter	MCY	GAS	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	MDV	GAS	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	MDV	DSL	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	MH	GAS	Aggregate	5	387.376	0.054194	0.096575	0.752364	0.131379	2513.497	2262.148	0.001025	0.000951
Placer	2035	Winter	MH	DSL	Aggregate	5	89.06197	1.061453	1.208394	1.865149	10.76188	2408.689	2167.82	0.112549	0.103545
Placer	2035	Winter	Motor Coa	DSL	Aggregate	5	19.82838	2.3591	2.685655	4.712242	6.068083	3956.383	3560.744	0.069697	0.064121
Placer	2035	Winter	OBUS	GAS	Aggregate	5	135.3024	0.071924	0.115862	1.042829	0.137664	2513.497	2262.148	0.00099	0.000919
Placer	2035	Winter	SBUS	GAS	Aggregate	5	19.90691	0.654186	0.773915	9.108072	0.853272	2513.497	2262.147	0.004389	0.004072
Placer	2035	Winter	SBUS	DSL	Aggregate	5	46.71976	2.281405	2.597206	4.045577	12.56862	2617.434	2355.691	0.064331	0.059184
Placer	2035	Winter	T6 Ag	DSL	Aggregate	5	39.67927	1.199057	1.365035	2.126267	3.877313	2560.316	2304.285	0.046345	0.042637
Placer	2035	Winter	T6 Public	DSL	Aggregate	5	104.9525	0.887145	1.009947	1.568143	3.121741	2562.97	2306.673	0.034551	0.031787
Placer	2035	Winter	T6 CAIRP h	DSL	Aggregate	5	1.714406	1.047124	1.192071	1.856847	3.179918	2559.771	2303.794	0.038962	0.035845
Placer	2035	Winter	T6 CAIRP s	DSL	Aggregate	5	5.935137	0.995141	1.132892	1.764666	2.924044	2559.758	2303.782	0.036386	0.033475
Placer	2035	Winter	T6 OOS he	DSL	Aggregate	5	0.982905	1.047124	1.192071	1.856847	3.179918	2559.771	2303.794	0.038962	0.035845
Placer	2035	Winter	T6 OOS sm	DSL	Aggregate	5	3.402738	0.995141	1.132892	1.764666	2.924044	2559.758	2303.782	0.036386	0.033475
Placer	2035	Winter	T6 instate	DSL	Aggregate	5	66.3747	1.137353	1.29479	2.01685	3.619596	2559.83	2303.847	0.043423	0.039949
Placer	2035	Winter	T6 instate	DSL	Aggregate	5	194.8438	1.035935	1.179334	1.837007	3.12387	2559.773	2303.796	0.038406	0.035334
Placer	2035	Winter	T6 instate	DSL	Aggregate	5	276.5357	1.141365	1.299357	2.023964	3.638817	2559.839	2303.855	0.043619	0.04013
Placer	2035	Winter	T6 instate	DSL	Aggregate	5	806.5079	1.037949	1.181626	1.840577	3.133763	2559.775	2303.798	0.038505	0.035425
Placer	2035	Winter	T6 utility	DSL	Aggregate	5	7.018945	0.838258	0.954293	1.486469	2.149032	2559.765	2303.789	0.028595	0.026308
Placer	2035	Winter	T6TS	GAS	Aggregate	5	233.7801	0.072552	0.117002	1.061929	0.139518	2513.497	2262.148	0.00104	0.000965
Placer	2035	Winter	T7 Ag	DSL	Aggregate	5	49.37253	2.497298	2.842984	4.986957	6.566654	3956.995	3561.296	0.074674	0.0687
Placer	2035	Winter	T7 CAIRP	DSL	Aggregate	5	612.3156	2.572821	2.928961	5.142669	6.937884	3956.349	3560.714	0.078127	0.071877
Placer	2035	Winter	T7 CAIRP c	DSL	Aggregate	5	24.4201	2.57297	2.929131	5.142971	6.938994	3956.349	3560.714	0.078133	0.071882
Placer	2035	Winter	T7 NNOOS	DSL	Aggregate	5	688.8322	2.233784	2.542993	4.460214	5.565072	3956.346	3560.711	0.064801	0.059617
Placer	2035	Winter	T7 NOOS	DSL	Aggregate	5	222.9898	2.572821	2.928961	5.14267	6.937883	3956.349	3560.714	0.078127	0.071877
Placer	2035	Winter	T7 other p	DSL	Aggregate	5	1.923671	3.095829	3.524366	6.195514	9.074166	3956.344	3560.709	0.098693	0.090798
Placer	2035	Winter	T7 POAK	DSL	Aggregate	5	57.50259	3.095829	3.524366	6.195514	9.053272	3956.344	3560.709	0.098693	0.090798
Placer	2035	Winter	T7 POLA	DSL	Aggregate	5	0	0	0	0	0	0	0	0	0
Placer	2035	Winter	T7 Public	DSL	Aggregate	5	43.91012	1.689947	1.923876	3.297875	12.00744	3984.098	3585.688	0.085803	0.078938
Placer	2035	Winter	T7 Single	DSL	Aggregate	5	205.0613	2.164196	2.463773	4.319045	5.268575	3956.584	3560.926	0.061922	0.056969
Placer	2035	Winter	T7 single c	DSL	Aggregate	5	63.17158	2.145191	2.442137	4.280961	5.195347	3956.546	3560.892	0.061198	0.056302
Placer	2035	Winter	T7 SWCV	DSL	Aggregate	5	27.36172	1.932912	2.200473	3.850255	4.795914	3959.615	3563.653	0.053367	0.049098
Placer	2035	Winter	T7 tractor	DSL	Aggregate	5	264.3666	2.723214	3.100172	5.444225	7.531767	3956.538	3560.884	0.083884	0.077173
Placer	2035	Winter	T7 tractor	DSL	Aggregate	5	47.09908	2.754291	3.13555	5.506675	7.65239	3956.555	3560.899	0.085092	0.078284
Placer	2035	Winter	T7 utility	DSL	Aggregate	5	2.384217	1.692269	1.926519	3.37008	3.376063	3956.396	3560.756	0.043503	0.040022
Placer	2035	Winter	T7IS	GAS	Aggregate	5	13.35405	2.468702	3.119634	116.8445	3.938737	2513.497	2262.147	0.001008	0.000936
Placer	2035	Winter	UBUS	GAS	Aggregate	5	42.80168	1.442945	1.601118	17.58666	1.699865	2513.497	2262.147	0.001822	0.00169
Placer	2035	Winter	UBUS	DSL	Aggregate	5	117.3083	0.810097	0.922242	5.65711	10.67909	2303.905	2073.514	0.299256	0.275316
Placer	2035	Winter	All Other B	DSL	Aggregate	5	42.97031	1.229527	1.399723	2.180299	4.068706	2559.919	2303.927	0.04797	0.044133

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch_20
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 0.5 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 0.0 PPM
SIGTH= 15. DEGREES TEMP= 6.8 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Link_1	-1000	-5	0	-5	AG	525	8.0	0.0	17.0
B. Link_2	0	-4	1000	-4	AG	482	8.0	0.0	13.3
C. Link_3	1000	5	0	5	AG	557	8.0	0.0	17.0
D. Link_4	0	4	-1000	4	AG	591	8.0	0.0	13.3
E. Link_5	-11	1000	-11	0	AG	1191	8.0	0.0	27.9
F. Link_6	-5	0	-5	-1000	AG	1777	8.0	0.0	17.0
G. Link_7	11	-1000	11	0	AG	2011	8.0	0.0	27.9
H. Link_8	5	0	5	1000	AG	1434	8.0	0.0	17.0

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z

```
 ------------*---------------------
  1. R_001    *    -25     10   1.8
  2. R_002    *     14     14   1.8
  3. R_003    *    -14    -14   1.8
  4. R_004    *     25    -10   1.8

1

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

                   JOB: C:\Lakes\CALRoads View\Stanford Ranch_20
                   RUN: CALINE4 RUN      (WORST CASE ANGLE)
             POLLUTANT: Carbon Monoxide


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

                 *       * PRED  *                CONC/LINK
                 *  BRG  * CONC  *                  (PPM)
   RECEPTOR      * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 ----------------*-------*-------*----------------------------------------
  1. R_001       *  168. *   2.3 *  0.2  0.0  0.0  0.3  0.1  0.9  0.7  0.0
  2. R_002       *  185. *   3.1 *  0.0  0.2  0.3  0.0  0.0  0.8  1.5  0.3
  3. R_003       *  171. *   2.8 *  0.0  0.0  0.0  0.0  0.0  1.9  1.0  0.0
  4. R_004       *  277. *   2.3 *  0.4  0.2  0.0  0.4  0.1  0.4  0.8  0.0

1
EXIT
```

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

                 JOB: C:\Lakes\CALRoads View\Stanford Ranch_20
                 RUN: CALINE4 RUN      (WORST CASE ANGLE)
           POLLUTANT: Carbon Monoxide


     I.  SITE VARIABLES

          U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
        BRG= WORST CASE            VD=  0.0 CM/S
       CLAS=     7 (G)             VS=  0.0 CM/S
       MIXH= 1000. M              AMB=  0.0 PPM
      SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)


    II.  LINK VARIABLES

       LINK      *  LINK COORDINATES (M)   *               EF     H     W
    DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*------------------------*----------------------------
--
  A. Link_1       * -1000    -5     0    -5 *  AG    475   4.0    0.0
17.0
  B. Link_2       *     0    -4  1000    -4 *  AG    530   4.0    0.0
13.3
  C. Link_3       *  1000     5     0     5 *  AG    630   4.0    0.0
17.0
  D. Link_4       *     0     4 -1000     4 *  AG    505   4.0    0.0
13.3
  E. Link_5       *   -11  1000   -11     0 *  AG   1300   4.0    0.0
27.9
  F. Link_6       *    -5     0    -5 -1000 *  AG   1890   4.0    0.0
17.0
  G. Link_7       *    11 -1000    11     0 *  AG   2170   4.0    0.0
27.9
  H. Link_8       *     5     0     5  1000 *  AG   1650   4.0    0.0
17.0


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

```
 ------------*---------------------
 1. R_001    *    -25     10   1.8
 2. R_002    *     14     14   1.8
 3. R_003    *    -14    -14   1.8
 4. R_004    *     25    -10   1.8

1
```

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

                   JOB: C:\Lakes\CALRoads View\Stanford Ranch_20
                   RUN: CALINE4 RUN      (WORST CASE ANGLE)
             POLLUTANT: Carbon Monoxide


  IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

               *       * PRED  *                 CONC/LINK
               *  BRG  * CONC  *                   (PPM)
  RECEPTOR     * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
 --------------*-------*-------*----------------------------------------
 1. R_001      *  168. *   1.2 *  0.1  0.0  0.0  0.1  0.1  0.5  0.4  0.0
 2. R_002      *  185. *   1.7 *  0.0  0.1  0.2  0.0  0.0  0.4  0.8  0.2
 3. R_003      *  171. *   1.5 *  0.0  0.0  0.0  0.0  0.0  1.0  0.5  0.0
 4. R_004      *  189. *   1.2 *  0.0  0.0  0.0  0.0  0.0  0.4  0.8  0.0

1
EXIT
```

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch_20
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

```
          U=   0.5 M/S             Z0= 100. CM             ALT=     0.
(M)
        BRG= WORST CASE            VD=  0.0 CM/S
       CLAS=     7 (G)             VS=  0.0 CM/S
       MIXH= 1000. M              AMB=  0.0 PPM
      SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Link_1	*	-1000	-5	0	-5	*	AG	425	1.8	0.0	17.0
B. Link_2	*	0	-4	1000	-4	*	AG	560	1.8	0.0	13.3
C. Link_3	*	1000	5	0	5	*	AG	670	1.8	0.0	17.0
D. Link_4	*	0	4	-1000	4	*	AG	480	1.8	0.0	13.3
E. Link_5	*	-11	1000	-11	0	*	AG	1390	1.8	0.0	27.9
F. Link_6	*	-5	0	-5	-1000	*	AG	1880	1.8	0.0	17.0
G. Link_7	*	11	-1000	11	0	*	AG	1820	1.8	0.0	27.9
H. Link_8	*	5	0	5	1000	*	AG	1385	1.8	0.0	17.0

(X1, Y1, X2, Y2 = LINK COORDINATES (M))

III. RECEPTOR LOCATIONS

RECEPTOR	*	X	Y	Z

(X, Y, Z = COORDINATES (M))

1. R_001	*	-25	10	1.8
2. R_002	*	14	14	1.8
3. R_003	*	-14	-14	1.8
4. R_004	*	25	-10	1.8

1

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: C:\Lakes\CALRoads View\Stanford Ranch_20
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	168.	0.5	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.0
2. R_002	185.	0.7	0.0	0.0	0.1	0.0	0.0	0.2	0.3	0.1
3. R_003	171.	0.6	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.0
4. R_004	190.	0.5	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0

1
EXIT

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

                  JOB: C:\Lakes\CALRoads View\Stanford Ranch_11
                  RUN: CALINE4 RUN      (WORST CASE ANGLE)
            POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S            Z0= 100. CM            ALT=     0.
(M)
         BRG= WORST CASE           VD=  0.0 CM/S
        CLAS=     7 (G)            VS=  0.0 CM/S
        MIXH= 1000. M             AMB=  0.0 PPM
       SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
     DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*-------------------------*----------------------------
--
  A. Link_1       * -1000    -2     0    -2 *  AG    383   8.0    0.0
10.0
  B. Link_2       *     0     0  1000     0 *  AG      0   8.0    0.0
10.0
  C. Link_3       *  1000     2     0     2 *  AG    764   8.0    0.0
10.0
  D. Link_4       *     0     2 -1000     2 *  AG    925   8.0    0.0
10.0
  E. Link_5       *    -5  1000    -5     0 *  AG   1773   8.0    0.0
17.0
  F. Link_6       *    -5     0    -5 -1000 *  AG   1890   8.0    0.0
17.0
  G. Link_7       *     5 -1000     5     0 *  AG   2168   8.0    0.0
17.0
  H. Link_8       *     5     0     5  1000 *  AG   2273   8.0    0.0
17.0


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

1. R_001	*	-14	7	1.8
2. R_002	*	14	7	1.8
3. R_003	*	-14	-7	1.8
4. R_004	*	14	-5	1.8

1

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch_11
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	171.	3.7	0.2	0.0	0.0	0.5	0.2	1.7	1.1	0.0
2. R_002	189.	3.6	0.0	0.0	0.4	0.0	0.0	1.0	2.0	0.3
3. R_003	9.	3.6	0.2	0.0	0.0	0.4	1.6	0.2	0.0	1.1
4. R_004	351.	3.6	0.0	0.0	0.4	0.0	0.9	0.0	0.2	2.1

1
EXIT

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

                JOB: C:\Lakes\CALRoads View\Stanford Ranch_11
                RUN: CALINE4 RUN      (WORST CASE ANGLE)
          POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
       U=   0.5 M/S             Z0= 100. CM             ALT=     0.
(M)
     BRG= WORST CASE            VD=  0.0 CM/S
    CLAS=     7 (G)             VS=  0.0 CM/S
    MIXH= 1000. M              AMB=  0.0 PPM
   SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)
```

II. LINK VARIABLES

```
    LINK       *  LINK COORDINATES (M)   *              EF     H     W
 DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*------------------------*-----------------------------
--
  A. Link_1       * -1000    -2     0    -2 *  AG    380   4.0    0.0
10.0
  B. Link_2       *     0     0  1000     0 *  AG      0   4.0    0.0
10.0
  C. Link_3       *  1000     2     0     2 *  AG    825   4.0    0.0
10.0
  D. Link_4       *     0     2 -1000     2 *  AG    925   4.0    0.0
10.0
  E. Link_5       *    -5  1000    -5     0 *  AG   1905   4.0    0.0
17.0
  F. Link_6       *    -5     0    -5 -1000 *  AG   1935   4.0    0.0
17.0
  G. Link_7       *     5 -1000     5     0 *  AG   2295   4.0    0.0
17.0
  H. Link_8       *     5     0     5  1000 *  AG   2545   4.0    0.0
17.0
```

III. RECEPTOR LOCATIONS

```
            *    COORDINATES (M)
  RECEPTOR  *    X      Y      Z
```

```
 ------------*---------------------
 1. R_001    *    -14      7   1.8
 2. R_002    *     14      7   1.8
 3. R_003    *    -14     -7   1.8
 4. R_004    *     14     -5   1.8

1

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

             JOB: C:\Lakes\CALRoads View\Stanford Ranch_11
             RUN: CALINE4 RUN      (WORST CASE ANGLE)
       POLLUTANT: Carbon Monoxide


  IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

             *       * PRED  *                 CONC/LINK
             *  BRG  * CONC  *                   (PPM)
  RECEPTOR   * (DEG) * (PPM) *   A    B    C    D    E    F    G    H
-------------*-------*-------*----------------------------------------
 1. R_001    *  171. *   1.9 *  0.1  0.0  0.0  0.3  0.1  0.9  0.6  0.0
 2. R_002    *  189. *   1.9 *  0.0  0.0  0.2  0.0  0.0  0.5  1.0  0.1
 3. R_003    *    9. *   1.9 *  0.1  0.0  0.0  0.2  0.9  0.1  0.0  0.6
 4. R_004    *  351. *   1.9 *  0.0  0.0  0.2  0.0  0.5  0.0  0.1  1.2

1
EXIT
```

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

                  JOB: C:\Lakes\CALRoads View\Stanford Ranch_11
                  RUN: CALINE4 RUN      (WORST CASE ANGLE)
            POLLUTANT: Carbon Monoxide
```

```
    I.  SITE VARIABLES

          U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
        BRG= WORST CASE            VD=  0.0 CM/S
       CLAS=     7 (G)             VS=  0.0 CM/S
       MIXH= 1000. M              AMB=  0.0 PPM
      SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)
```

```
   II.  LINK VARIABLES

       LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*------------------------*----------------------------
--
  A. Link_1      * -1000    -2     0    -2 *  AG    385   1.8    0.0
10.0
  B. Link_2      *     0     0  1000     0 *  AG      0   1.8    0.0
10.0
  C. Link_3      *  1000     2     0     2 *  AG   1055   1.8    0.0
10.0
  D. Link_4      *     0     2 -1000     2 *  AG   1425   1.8    0.0
10.0
  E. Link_5      *    -5  1000    -5     0 *  AG   1915   1.8    0.0
17.0
  F. Link_6      *    -5     0    -5 -1000 *  AG   1915   1.8    0.0
17.0
  G. Link_7      *     5 -1000     5     0 *  AG   2250   1.8    0.0
17.0
  H. Link_8      *     5     0     5  1000 *  AG   2265   1.8    0.0
17.0
```

```
  III.  RECEPTOR LOCATIONS

             *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

```
 ------------*---------------------
 1. R_001    *    -14      7   1.8
 2. R_002    *     14      7   1.8
 3. R_003    *    -14     -7   1.8
 4. R_004    *     14     -5   1.8
```

1

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

              JOB: C:\Lakes\CALRoads View\Stanford Ranch_11
              RUN: CALINE4 RUN      (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	171.	0.9	0.0	0.0	0.0	0.2	0.0	0.4	0.3	0.0
2. R_002	189.	0.9	0.0	0.0	0.1	0.0	0.0	0.2	0.5	0.1
3. R_003	9.	0.9	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.3
4. R_004	351.	0.9	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.5

1
EXIT

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

                  JOB: C:\Lakes\CALRoads View\Stanford Ranch_12
                  RUN: CALINE4 RUN      (WORST CASE ANGLE)
            POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M              AMB=  0.0 PPM
       SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)


   II.  LINK VARIABLES

        LINK       *  LINK COORDINATES (M)   *               EF     H     W
     DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*------------------------*----------------------------
--
  A. Link_1       * -1000    -4     0    -4 *  AG    583   8.0    0.0
13.3
  B. Link_2       *     0    -4  1000    -4 *  AG    983   8.0    0.0
13.3
  C. Link_3       *  1000     2     0     2 *  AG    204   8.0    0.0
10.0
  D. Link_4       *     0     0 -1000     0 *  AG      0   8.0    0.0
10.0
  E. Link_5       *    -9  1000    -9     0 *  AG   1890   8.0    0.0
24.3
  F. Link_6       *    -7     0    -7 -1000 *  AG   1930   8.0    0.0
20.6
  G. Link_7       *     7 -1000     7     0 *  AG   2404   8.0    0.0
20.6
  H. Link_8       *     7     0     7  1000 *  AG   2168   8.0    0.0
20.6


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

1. R_001	*	-21	5	1.8
2. R_002	*	18	7	1.8
3. R_003	*	-18	-10	1.8
4. R_004	*	18	-10	1.8

1

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch_12
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	170.	2.7	0.3	0.0	0.0	0.0	0.1	1.4	1.0	0.0
2. R_002	189.	3.6	0.0	0.4	0.1	0.0	0.0	0.9	2.0	0.2
3. R_003	8.	3.1	0.3	0.0	0.0	0.0	1.6	0.2	0.0	0.9
4. R_004	351.	3.5	0.0	0.5	0.1	0.0	0.8	0.0	0.3	1.7

1
EXIT

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

                 JOB: C:\Lakes\CALRoads View\Stanford Ranch_12
                 RUN: CALINE4 RUN      (WORST CASE ANGLE)
           POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M              AMB=  0.0 PPM
       SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
     DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*-------------------------*----------------------------
--
  A. Link_1       * -1000    -4     0    -4 *  AG    770   4.0    0.0
13.3
  B. Link_2       *     0    -4  1000    -4 *  AG   1055   4.0    0.0
13.3
  C. Link_3       *  1000     2     0     2 *  AG    225   4.0    0.0
10.0
  D. Link_4       *     0     0 -1000     0 *  AG      0   4.0    0.0
10.0
  E. Link_5       *    -9  1000    -9     0 *  AG   1935   4.0    0.0
24.3
  F. Link_6       *    -7     0    -7 -1000 *  AG   2115   4.0    0.0
20.6
  G. Link_7       *     7 -1000     7     0 *  AG   2535   4.0    0.0
20.6
  H. Link_8       *     7     0     7  1000 *  AG   2295   4.0    0.0
20.6


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

1. R_001	*	-21	5	1.8
2. R_002	*	18	7	1.8
3. R_003	*	-18	-10	1.8
4. R_004	*	18	-10	1.8

1

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch_12
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	170.	1.5	0.2	0.0	0.0	0.0	0.0	0.7	0.5	0.0
2. R_002	189.	1.9	0.0	0.2	0.1	0.0	0.0	0.5	1.0	0.1
3. R_003	8.	1.6	0.2	0.0	0.0	0.0	0.8	0.1	0.0	0.5
4. R_004	351.	1.8	0.0	0.3	0.0	0.0	0.4	0.0	0.2	0.9

1
EXIT

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

                  JOB: C:\Lakes\CALRoads View\Stanford Ranch_12
                  RUN: CALINE4 RUN      (WORST CASE ANGLE)
            POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S            Z0= 100. CM            ALT=     0.
(M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M              AMB=  0.0 PPM
       SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *               EF     H     W
     DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*------------------------*----------------------------
--
  A. Link_1       * -1000    -4     0    -4 *  AG   1290   1.8    0.0
13.3
  B. Link_2       *     0    -4  1000    -4 *  AG   1210   1.8    0.0
13.3
  C. Link_3       *  1000     2     0     2 *  AG    350   1.8    0.0
10.0
  D. Link_4       *     0     0 -1000     0 *  AG      0   1.8    0.0
10.0
  E. Link_5       *    -9  1000    -9     0 *  AG   1915   1.8    0.0
24.3
  F. Link_6       *    -7     0    -7 -1000 *  AG   2560   1.8    0.0
20.6
  G. Link_7       *     7 -1000     7     0 *  AG   2465   1.8    0.0
20.6
  H. Link_8       *     7     0     7  1000 *  AG   2250   1.8    0.0
20.6


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

```
 ------------*---------------------
 1. R_001    *    -21      5   1.8
 2. R_002    *     18      7   1.8
 3. R_003    *    -18    -10   1.8
 4. R_004    *     18    -10   1.8

1
```

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

              JOB: C:\Lakes\CALRoads View\Stanford Ranch_12
              RUN: CALINE4 RUN      (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	169.	0.8	0.1	0.0	0.0	0.0	0.0	0.4	0.2	0.0
2. R_002	189.	0.9	0.0	0.1	0.0	0.0	0.0	0.2	0.5	0.0
3. R_003	82.	0.8	0.1	0.2	0.1	0.0	0.0	0.3	0.1	0.0
4. R_004	351.	0.8	0.0	0.1	0.0	0.0	0.2	0.0	0.1	0.4

1
EXIT

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

                  JOB: C:\Lakes\CALRoads View\Stanford Ranch_13
                  RUN: CALINE4 RUN      (WORST CASE ANGLE)
            POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

           U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
         BRG= WORST CASE            VD=  0.0 CM/S
        CLAS=     7 (G)             VS=  0.0 CM/S
        MIXH= 1000. M              AMB=  0.0 PPM
       SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)


   II.  LINK VARIABLES

        LINK      *  LINK COORDINATES (M)   *              EF     H     W
     DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*-------------------------*----------------------------
--
  A. Link_1       * -1000    -9     0    -9 *  AG    554   8.0    0.0
24.3
  B. Link_2       *     0    -4  1000    -4 *  AG    454   8.0    0.0
13.3
  C. Link_3       *  1000     9     0     9 *  AG    617   8.0    0.0
24.3
  D. Link_4       *     0     4 -1000     4 *  AG    327   8.0    0.0
13.3
  E. Link_5       *   -11  1000   -11     0 *  AG   1469   8.0    0.0
27.9
  F. Link_6       *    -7     0    -7 -1000 *  AG   1491   8.0    0.0
20.6
  G. Link_7       *    11 -1000    11     0 *  AG   1840   8.0    0.0
27.9
  H. Link_8       *     7     0     7  1000 *  AG   2208   8.0    0.0
20.6


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

1. R_001	*	-25	10	1.8
2. R_002	*	18	21	1.8
3. R_003	*	-18	-21	1.8
4. R_004	*	25	-10	1.8

1

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch_13
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	169.	2.1	0.2	0.0	0.0	0.2	0.1	0.9	0.7	0.0
2. R_002	187.	2.9	0.0	0.1	0.3	0.0	0.0	0.7	1.2	0.6
3. R_003	8.	2.7	0.2	0.0	0.0	0.1	1.0	0.4	0.0	1.0
4. R_004	349.	2.4	0.0	0.2	0.2	0.0	0.6	0.0	0.2	1.3

1
EXIT

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

                  JOB: C:\Lakes\CALRoads View\Stanford Ranch_13
                  RUN: CALINE4 RUN      (WORST CASE ANGLE)
            POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
          U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
        BRG= WORST CASE            VD=  0.0 CM/S
       CLAS=     7 (G)             VS=  0.0 CM/S
       MIXH= 1000. M              AMB=  0.0 PPM
      SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)
```

II. LINK VARIABLES

```
       LINK      *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION  *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ---------------*-------------------------*----------------------------
--
  A. Link_1      * -1000    -9     0    -9 *  AG    340   4.0    0.0
24.3
  B. Link_2      *     0    -4  1000    -4 *  AG    470   4.0    0.0
13.3
  C. Link_3      *  1000     9     0     9 *  AG    640   4.0    0.0
24.3
  D. Link_4      *     0     4 -1000     4 *  AG    160   4.0    0.0
13.3
  E. Link_5      *   -11  1000   -11     0 *  AG   1545   4.0    0.0
27.9
  F. Link_6      *    -7     0    -7 -1000 *  AG   1655   4.0    0.0
20.6
  G. Link_7      *    11 -1000    11     0 *  AG   2020   4.0    0.0
27.9
  H. Link_8      *     7     0     7  1000 *  AG   2260   4.0    0.0
20.6
```

III. RECEPTOR LOCATIONS

```
            *    COORDINATES (M)
   RECEPTOR *    X      Y      Z
```

```
------------*---------------------
 1. R_001    *    -25     10   1.8
 2. R_002    *     18     21   1.8
 3. R_003    *    -18    -21   1.8
 4. R_004    *     25    -10   1.8
```

1

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

              JOB: C:\Lakes\CALRoads View\Stanford Ranch_13
              RUN: CALINE4 RUN      (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	A	B	C	D	E	F	G	H
			CONC/LINK (PPM)							
1. R_001	169.	1.0	0.1	0.0	0.0	0.0	0.1	0.5	0.4	0.0
2. R_002	187.	1.5	0.0	0.1	0.1	0.0	0.0	0.4	0.7	0.3
3. R_003	8.	1.3	0.1	0.0	0.0	0.0	0.5	0.2	0.0	0.5
4. R_004	349.	1.2	0.0	0.1	0.1	0.0	0.3	0.0	0.1	0.6

1
EXIT

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch_13
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 0.5 M/S	Z0= 100. CM	ALT= 0. (M)
BRG= WORST CASE	VD= 0.0 CM/S	
CLAS= 7 (G)	VS= 0.0 CM/S	
MIXH= 1000. M	AMB= 0.0 PPM	
SIGTH= 15. DEGREES	TEMP= 6.8 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Link_1	-1000	-9	0	-9	AG	455	1.8	0.0	24.3
B. Link_2	0	-4	1000	-4	AG	520	1.8	0.0	13.3
C. Link_3	1000	9	0	9	AG	665	1.8	0.0	24.3
D. Link_4	0	4	-1000	4	AG	320	1.8	0.0	13.3
E. Link_5	-11	1000	-11	0	AG	1855	1.8	0.0	27.9
F. Link_6	-7	0	-7	-1000	AG	1680	1.8	0.0	20.6
G. Link_7	11	-1000	11	0	AG	1560	1.8	0.0	27.9
H. Link_8	7	0	7	1000	AG	2015	1.8	0.0	20.6

III. RECEPTOR LOCATIONS

RECEPTOR	X	Y	Z

1. R_001	*	-25	10	1.8
2. R_002	*	18	21	1.8
3. R_003	*	-18	-21	1.8
4. R_004	*	25	-10	1.8

1

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch_13
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	10.	0.5	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.2
2. R_002	188.	0.6	0.0	0.0	0.1	0.0	0.0	0.2	0.2	0.1
3. R_003	7.	0.6	0.0	0.0	0.0	0.0	0.3	0.1	0.0	0.2
4. R_004	349.	0.6	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.3

1
EXIT

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

                JOB: C:\Lakes\CALRoads View\Stanford Ranch 14
                RUN: CALINE4 RUN      (WORST CASE ANGLE)
          POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

          U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
        BRG= WORST CASE            VD=  0.0 CM/S
       CLAS=     7 (G)             VS=  0.0 CM/S
       MIXH= 1000. M              AMB=  0.0 PPM
      SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)


   II.  LINK VARIABLES

       LINK       *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*-------------------------*-----------------------------
--
  A. Link_1       * -1000   -11     0   -11 *  AG   1958   8.0    0.0
27.9
  B. Link_2       *     0    -7  1000    -7 *  AG   1668   8.0    0.0
20.6
  C. Link_3       *  1000    11     0    11 *  AG   2147   8.0    0.0
27.9
  D. Link_4       *     0     7 -1000     7 *  AG   2041   8.0    0.0
20.6
  E. Link_5       *   -11  1000   -11     0 *  AG   1536   8.0    0.0
27.9
  F. Link_6       *    -7     0    -7 -1000 *  AG   1337   8.0    0.0
20.6
  G. Link_7       *    11 -1000    11     0 *  AG   1208   8.0    0.0
27.9
  H. Link_8       *     7     0     7  1000 *  AG   1803   8.0    0.0
20.6


  III.  RECEPTOR LOCATIONS

              *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

```
 ------------*---------------------
  1. R_001    *    -25     18   1.8
  2. R_002    *     18     25   1.8
  3. R_003    *    -18    -25   1.8
  4. R_004    *     25    -18   1.8

1

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

                  JOB: C:\Lakes\CALRoads View\Stanford Ranch 14
                  RUN: CALINE4 RUN      (WORST CASE ANGLE)
            POLLUTANT: Carbon Monoxide


   IV.  MODEL RESULTS (WORST CASE WIND ANGLE )

                *        * PRED  *                 CONC/LINK
                *  BRG   * CONC  *                   (PPM)
   RECEPTOR     * (DEG)  * (PPM) *   A    B    C    D    E    F    G    H
 ---------------*--------*-------*----------------------------------------
  1. R_001      *   97.  *   3.7 *  0.0  0.7  1.3  0.6  0.6  0.0  0.0  0.4
  2. R_002      *  259.  *   3.4 *  0.7  0.0  0.3  1.2  0.4  0.0  0.0  0.8
  3. R_003      *    8.  *   3.4 *  0.8  0.0  0.0  0.4  1.0  0.4  0.0  0.8
  4. R_004      *  277.  *   3.4 *  1.2  0.5  0.0  0.9  0.0  0.3  0.5  0.0

1
EXIT
```

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch 14
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

```
      U=   0.5 M/S            Z0= 100. CM            ALT=     0. (M)
    BRG= WORST CASE           VD=  0.0 CM/S
   CLAS=     7 (G)            VS=  0.0 CM/S
   MIXH= 1000. M             AMB=  0.0 PPM
  SIGTH=   15. DEGREES      TEMP=  6.8 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Link_1	-1000	-11	0	-11	AG	2255	4.0	0.0	27.9
B. Link_2	0	-7	1000	-7	AG	1760	4.0	0.0	20.6
C. Link_3	1000	11	0	11	AG	2255	4.0	0.0	27.9
D. Link_4	0	7	-1000	7	AG	2330	4.0	0.0	20.6
E. Link_5	-11	1000	-11	0	AG	1725	4.0	0.0	27.9
F. Link_6	-7	0	-7	-1000	AG	1555	4.0	0.0	20.6
G. Link_7	11	-1000	11	0	AG	1415	4.0	0.0	27.9
H. Link_8	7	0	7	1000	AG	2005	4.0	0.0	20.6

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z

```
 ------------*---------------------
 1. R_001    *    -25     18   1.8
 2. R_002    *     18     25   1.8
 3. R_003    *    -18    -25   1.8
 4. R_004    *     25    -18   1.8


1
```

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

              JOB: C:\Lakes\CALRoads View\Stanford Ranch 14
              RUN: CALINE4 RUN      (WORST CASE ANGLE)
        POLLUTANT: Carbon Monoxide
```

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	97.	2.0	0.0	0.4	0.7	0.3	0.3	0.0	0.0	0.2
2. R_002	259.	1.9	0.4	0.0	0.2	0.6	0.2	0.0	0.0	0.4
3. R_003	8.	1.9	0.4	0.0	0.0	0.2	0.5	0.2	0.0	0.4
4. R_004	277.	1.9	0.7	0.3	0.0	0.5	0.0	0.2	0.3	0.0

1
EXIT

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

                 JOB: C:\Lakes\CALRoads View\Stanford Ranch 14
                 RUN: CALINE4 RUN      (WORST CASE ANGLE)
           POLLUTANT: Carbon Monoxide


    I.  SITE VARIABLES

          U=   0.5 M/S             Z0= 100. CM            ALT=     0.
(M)
        BRG= WORST CASE            VD=  0.0 CM/S
       CLAS=     7 (G)             VS=  0.0 CM/S
       MIXH= 1000. M              AMB=  0.0 PPM
      SIGTH=   15. DEGREES       TEMP=  6.8 DEGREE (C)


   II.  LINK VARIABLES

       LINK       *  LINK COORDINATES (M)   *              EF     H     W
    DESCRIPTION   *   X1    Y1    X2    Y2  * TYPE  VPH  (G/MI)  (M)
(M)
  ----------------*-------------------------*----------------------------
--
  A. Link_1       * -1000   -11     0   -11 *  AG   2790   1.8    0.0
27.9
  B. Link_2       *     0    -7  1000    -7 *  AG   2055   1.8    0.0
20.6
  C. Link_3       *  1000    11     0    11 *  AG   2090   1.8    0.0
27.9
  D. Link_4       *     0     7 -1000     7 *  AG   2580   1.8    0.0
20.6
  E. Link_5       *   -11  1000   -11     0 *  AG   1855   1.8    0.0
27.9
  F. Link_6       *    -7     0    -7 -1000 *  AG   1905   1.8    0.0
20.6
  G. Link_7       *    11 -1000    11     0 *  AG   1295   1.8    0.0
27.9
  H. Link_8       *     7     0     7  1000 *  AG   1490   1.8    0.0
20.6


  III.  RECEPTOR LOCATIONS

                *    COORDINATES (M)
    RECEPTOR  *    X      Y      Z
```

1. R_001	*	-25	18	1.8
2. R_002	*	18	25	1.8
3. R_003	*	-18	-25	1.8
4. R_004	*	25	-18	1.8

1

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

JOB: C:\Lakes\CALRoads View\Stanford Ranch 14
RUN: CALINE4 RUN (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. R_001	98.	0.9	0.0	0.2	0.3	0.2	0.2	0.0	0.0	0.1
2. R_002	259.	0.9	0.2	0.0	0.1	0.3	0.1	0.0	0.0	0.1
3. R_003	7.	0.9	0.2	0.0	0.0	0.1	0.3	0.1	0.0	0.1
4. R_004	277.	1.0	0.4	0.1	0.0	0.2	0.0	0.1	0.1	0.0

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EXIT

Appendix G. Selected Traffic Data

This appendix includes the following selected traffic data from the State Route 65 Capacity and Operational Improvements Transportation Analysis Report (Fehr & Peers 2015).

Table G-1. AADT Volumes and Truck Percentages

Segment	Existing Year (2009[1]) Conditions			Design Year (2040) Conditions										
				Alternative 1 (Carpool Lane Alternative)				Alternative 2 (GP Lane Alternative)				Alternative 3 (No Build Alternative)		
	AADT	Truck AADT	% Truck	AADT	Truck AADT	% Truck	Δ % Truck from No Build Alternative	AADT	Truck AADT	% Truck	Δ % Truck from No Build Alternative	AADT	Truck AADT	% Truck
Stanford Ranch Rd/ Galleria Blvd to Pleasant Grove Blvd	104,400	3,500	3.4%	169,200	6,600	3.9%	-0.2%	170,900	6,700	3.9%	-0.2%	152,400	6,300	4.1%
Pleasant Grove Blvd to Blue Oaks Blvd	83,400	3,100	3.7%	159,800	6,300	3.9%	-0.4%	162,300	6,400	3.9%	-0.4%	140,800	6,000	4.3%
Blue Oaks Blvd to Sunset Blvd	65,300	2,400	3.7%	134,600	4,900	3.6%	-0.5%	135,700	4,900	3.6%	-0.5%	112,100	4,600	4.1%
Whitney Ranch Pkwy/Placer Pkwy to Twelve Bridges Dr	54,000	1,900	3.5%	126,500	3,500	2.8%	-0.2%	127,000	3,500	2.8%	-0.2%	112,700	3,400	3.0%

Notes:

[1]The existing conditions total volume data is from 2009 as reported in the PeMS database. The existing truck volumes are estimated from the base year SACMET model.

[2]The existing condition total volume data from Twelve Bridges Dr to Lincoln Blvd is estimated based on 2009 PeMS data at Sunset Blvd and the base year SACMET model.

Source: Fehr & Peers 2015

Table G-2. Intersection Operations Results – Construction Year (2020) Conditions

Intersection	Carpool Lane Alternative		General Purpose Lane Alternative		No Build Alternative	
	AM	PM	AM	PM	AM	PM
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	C / 31	**D / 47**	C / 35	D / 44	**D / 52**	**F / 126**
10. Stanford Ranch Rd / Five Star Blvd	C / 27	**F / 92**	C / 27	**E / 76**	C / 29	**D / 48**
11. Stanford Ranch Rd / SR 65 NB Ramps	B / 15	C / 23	B / 20	C / 25	B / 18	B / 12
12. Galleria Blvd / SR 65 SB Ramps	B / 17	B / 16	B / 17	B / 17	B / 17	B / 16
16. Roseville Pkwy / Taylor Rd	**D / 49**	**D / 51**	**D / 46**	**D / 53**	**F / 133**	**D / 42**
18. Atlantic St / Wills Rd	C / 24	**D / 39**	C / 24	**D / 36**	B / 19	C / 22
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	C / 25	**D / 52**	C / 25	**E / 72**	C / 22	**D / 41**
21. Eureka Rd / Sunrise Ave	C / 32	**D / 44**	C / 33	**D / 44**	C / 26	**E / 62**
23. Douglas Blvd / Harding Blvd	**D / 51**	**E / 77**	C / 30	**F / 128**	**D / 36**	**F / 92**
24. Douglas Blvd / I-80 WB Ramps	C / 23	C / 35	C / 24	C / 31	B / 20	C / 31
25. Douglas Blvd / I-80 EB Ramps	B / 20	**D / 41**	A / 10	**D / 35**	B / 12	C / 29
26. Douglas Blvd / Sunrise Ave	C / 33	**D / 54**	C / 33	**F / 86**	C / 28	**D / 39**
28. Pacific St / Sunset Blvd	C / 24	C / 30	C / 24	C / 29	C / 27	**F / 86**
29. Rocklin Rd / Granite Dr	B / 17	**F / 130**	B / 18	**F / 130**	B / 19	**F / 127**
30. Rocklin Rd / I-80 WB Ramps	C / 23	C / 27	C / 29	C / 25	C / 21	**D / 38**
31. Rocklin Rd / I-80 EB Ramps	**D / 42**	**E / 57**	**D / 49**	**D / 46**	**D / 37**	C / 33

Note: **Bold** font indicates intersections at LOS D, E, or F. Underlined font indicate an increase in delay from the no build to build alternatives. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

Table G-3. Intersection Operations Results – Design Year (2040) Conditions

Intersection	Carpool Lane Alternative		General Purpose Lane Alternative		No Build Alternative	
	AM	PM	AM	PM	AM	PM
6. Blue Oaks Blvd / Washington Blvd / SR 65 SB Ramps	**E / 57**	**F / 140**	**E / 59**	**F / 153**	**F / 90**	**F / 214**
7. Blue Oaks Blvd / SR 65 NB Ramps	B / 17	**D / 45**	B / 16	**D / 49**	B / 17	**F / 94**
10. Stanford Ranch Rd / Five Star Blvd	C / 27	**F / 82**	C / 26	**E / 57**	C / 26	**F / 85**
11. Stanford Ranch Rd / SR 65 NB Ramps	B / 11	**D / 36**	B / 12	B / 19	B / 19	C / 21
12. Galleria Blvd / SR 65 SB Ramps	B / 19	C / 25	B / 17	B / 19	**D / 55**	C / 27
13. Galleria Blvd / Antelope Creek Dr	A / 10	C / 28	A / 10	C / 29	A / 8	C / 28
14. Galleria Blvd / Roseville Pkwy	**D / 47**	**F / 93**	**D / 45**	**F / 82**	**D / 41**	**F / 93**
15. Roseville Pkwy / Creekside Ridge Dr	A / 8	**D / 50**	A / 8	**D / 47**	A / 8	**D / 50**
16. Roseville Pkwy / Taylor Rd	**E / 70**	**D / 52**	**E / 66**	**D / 52**	**E / 60**	**E / 55**
17. Roseville Pkwy / Sunrise Ave	C / 33	**E / 70**	C / 35	**E / 57**	C / 33	**F / 89**
20. Eureka Rd / Taylor Rd / I-80 EB Ramps	C / 30	**E / 75**	C / 30	**F / 81**	C / 30	**F / 99**
21. Eureka Rd / Sunrise Ave	**D / 41**	**F / 94**	D / 41	**F / 103**	**D / 41**	**F / 104**
23. Douglas Blvd / Harding Blvd	C / 26	**F / 91**	C / 28	**F / 96**	C / 26	**E / 69**
24. Douglas Blvd / I-80 WB Ramps	C / 21	C / 28	B / 19	C / 33	C / 22	C / 20
25. Douglas Blvd / I-80 EB Ramps	C / 28	**D / 37**	C / 24	**D / 37**	C / 29	**D / 39**
26. Douglas Blvd / Sunrise Ave	**D / 54**	**F / 254**	**D / 44**	**F / 241**	**D / 43**	**F / 239**
29. Rocklin Rd / Granite Dr	C / 29	**F / 95**	C / 28	**F / 84**	C / 26	**F / 101**
30. Rocklin Rd / I-80 WB Ramps	C / 23	**E / 68**	C / 24	**E / 63**	C / 22	**D / 54**
31. Rocklin Rd / I-80 EB Ramps	C / 30	C / 21	C / 26	B / 20	**D / 41**	C / 21

Note: **Bold** font indicates intersections at LOS D, E, or F. Underlined font indicate an increase in delay from the no build to build alternatives. The LOS and average delay in seconds per vehicle are reported.

Source: Fehr & Peers, 2015

Table G-4. Comparison of Overall Network Performance – Construction (2020) Year AM Peak Period

Performance Measure		Existing Conditions	Carpool Lane Alternative	% Change from No Build	General Purpose Lane Alternative	% Change from No Build	No Build Alternative
Volume Served		143,450	167,490	-0.7%	167,510	-0.7%	168,620
(% of total demand)		100%	99%	0.0%	99%	0.0%	99%
Vehicle Miles of Travel (VMT)		645,270	799,520	1.4%	797,360	1.1%	788,490
Person Miles of Travel		786,260	982,670	1.7%	979,180	1.4%	965,810
Vehicle Hours of Travel (VHT)		13,760	18,060	-1.1%	18,000	-1.5%	18,270
Vehicle Hours of Delay (VHD)		2,670	4,350	-8.0%	4,330	-8.5%	4,730
(% of VHT)		19%	24%	-7.7%	24%	-7.7%	26%
Average Delay per Vehicle (min)		1.12	1.56	-7.1%	1.55	-7.7%	1.68
Person Hours of Delay		3,240	5,160	-7.9%	5,140	-8.2%	5,600
Average Speed		46.9	44.3	2.5%	44.3	2.5%	43.2
Average Speed for HOVs		47.0	46.7	2.2%	46.6	2.0%	45.7
Travel Time: Ferrari Ranch Rd to I-80	SOV	-	8:09	-7.2%	8:09	-7.2%	8:47
	HOV	-	8:04	-8.0%	8:08	-7.2%	8:46
Travel Time: Blue Oaks Blvd to Antelope Rd	SOV	9:44	8:51	-4.5%	8:50	-4.7%	9:16
	HOV	9:27	8:33	-3.9%	8:33	-3.9%	8:54

Source: Fehr & Peers 2015

Table G-5. Comparison of Overall Network Performance – Construction (2020) Year PM Peak Period

Performance Measure		Existing Conditions	Carpool Lane Alternative	% Change from No Build	General Purpose Lane Alternative	% Change from No Build	No Build Alternative
Volume Served		198,170	231,400	-1.1%	232,110	-0.8%	233,870
(% of total demand)		101%	99%	0.0%	99%	0.0%	99%
Vehicle Miles of Travel (VMT)		730,100	924,670	1.7%	930,140	2.3%	909,560
Person Miles of Travel		880,180	1,146,120	2.0%	1,150,200	2.4%	1,123,280
Vehicle Hours of Travel (VHT)		16,850	27,210	5.2%	25,890	0.1%	25,870
Vehicle Hours of Delay (VHD)		3,950	10,940	11.2%	9,520	-3.3%	9,840
(% of VHT)		23%	40%	5.3%	37%	-2.6%	38%
Average Delay per Vehicle (min)		1.20	2.84	12.7%	2.46	-2.4%	2.52
Person Hours of Delay		4,670	12,770	10.9%	11,220	-2.6%	11,520
Average Speed		43.3	34.0	-3.4%	35.9	2.0%	35.2
Average Speed for HOVs		44.7	39.1	-1.0%	39.8	0.8%	39.5
Travel Time: Ferrari Ranch Rd to I-80	SOV	-	7:56	0.0%	7:59	0.6%	7:56
	HOV	-	7:56	0.2%	7:59	0.8%	7:55
Travel Time: Blue Oaks Blvd to Antelope Rd	SOV	9:16	20:03	15.3%	14:05	-19.0%	17:23
	HOV	9:11	9:23	-2.6%	9:09	-5.0%	9:38

Source: Fehr & Peers 2015

Table G-6. Comparison of Overall Network Performance – Design (2040) Year AM Peak Period

Performance Measure		Existing Conditions	Carpool Lane Alternative	% Change from No Build	General Purpose Lane Alternative	% Change from No Build	No Build Alternative
Volume Served		143,450	208,160	-0.3%	207,470	-0.6%	208,800
(% of total demand)		100%	99%	0.0%	99%	0.0%	99%
Vehicle Miles of Travel (VMT)		645,270	940,220	2.5%	950,660	3.6%	917,290
Person Miles of Travel		786,260	1,113,340	1.7%	1,133,470	3.5%	1,094,920
Vehicle Hours of Travel (VHT)		13,760	21,710	-1.9%	21,960	-0.8%	22,140
Vehicle Hours of Delay (VHD)		2,670	5,540	-12.5%	5,620	-11.2%	6,330
(% of VHT)		19%	26%	-10.3%	26%	-10.3%	29%
Average Delay per Vehicle (min)		1.12	1.60	-12.1%	1.63	-10.4%	1.82
Person Hours of Delay		3,240	6,320	-13.7%	6,490	-11.3%	7,320
Average Speed		46.9	43.3	4.6%	43.3	4.6%	41.4
Average Speed for HOVs		47.0	46.4	5.0%	45.9	3.8%	44.2
Travel Time: Ferrari Ranch Rd to I-80	SOV	-	7:49	-30.1%	7:53	-29.5%	11:11
	HOV	-	7:43	-30.1%	7:50	-29.0%	11:02
Travel Time: Blue Oaks Blvd to Antelope Rd	SOV	9:44	8:35	-11.4%	8:37	-11.0%	9:41
	HOV	9:27	8:23	-12.8%	8:29	-11.8%	9:37

Source: Fehr & Peers 2015

Table G-7. Comparison of Overall Network Performance – Design (2040) Year PM Peak Period

Performance Measure		Existing Conditions	Carpool Lane Alternative	% Change from No Build	General Purpose Lane Alternative	% Change from No Build	No Build Alternative
Volume Served		198,170	300,780	-0.6%	300,820	-0.6%	302,580
(% of total demand)		101%	100%	1.0%	100%	1.0%	99%
Vehicle Miles of Travel (VMT)		730,100	1,160,700	4.9%	1,166,400	5.4%	1,106,390
Person Miles of Travel		880,180	1,402,510	5.6%	1,402,330	5.6%	1,328,540
Vehicle Hours of Travel (VHT)		16,850	30,890	-6.2%	30,920	-6.1%	32,920
Vehicle Hours of Delay (VHD)		3,950	10,470	-21.7%	10,430	-22.0%	13,380
(% of VHT)		23%	34%	-17.1%	34%	-17.1%	41%
Average Delay per Vehicle (min)		1.20	2.09	-21.1%	2.08	-21.5%	2.65
Person Hours of Delay		4,670	12,230	-20.8%	12,160	-21.3%	15,450
Average Speed		43.3	37.6	11.9%	37.7	12.2%	33.6
Average Speed for HOVs		44.7	40.5	8.6%	40.4	8.3%	37.3
Travel Time: Ferrari Ranch Rd to I-80	SOV	-	7:52	-29.2%	7:53	-29.1%	11:07
	HOV	-	7:51	-17.9%	7:51	-17.9%	9:34
Travel Time: Blue Oaks Blvd to Antelope Rd	SOV	9:16	6:31	-44.7%	6:32	-44.6%	11:47
	HOV	9:11	6:20	-3.6%	6:20	-3.6%	6:34

Source: Fehr & Peers 2015

Appendix H. PM Interagency Consultation

The SR 65 Capacity and Operational Improvements Project underwent interagency consultation (IAC) through SACOG's Project Level Conformity Group (PLCG). The PLCG issued concurrence that the project is not a project of air quality concern (POAQC) on August 9, 2016.This appendix provides evidence that the IAC concurred with the conclusion that the project is not a POAQC, including concurrence emails from the U.S. Environmental Protection Agency and the Federal Highway Administration.

This project was categorically excluded from NEPA requirements. Therefore no public circulation of this hot-spot review or an updated conformity determination is required.

Ngan, Sandy

From:	Jose Luis Caceres <JCaceres@sacog.org>
Sent:	Tuesday, August 09, 2016 11:39 AM
To:	Yoon, Laura
Cc:	Sandy.Ngan@icfi.com,Luke McNeel-Caird <lmcneel-caird@pctpa.net>,Claire.Bromund@icfi.com
Subject:	Fwd: Re: POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st

Save this too. This is EPA's concurrence.

- José Luis Cáceres

---------- Forwarded message ----------
From: "OConnor, Karina" <OConnor.Karina@epa.gov>
Date: Jul 15, 2016 8:14 AM
Subject: Re: POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st
To: "Lee, Jason@DOT" <jason.lee@dot.ca.gov>,Jose Luis Caceres <JCaceres@sacog.org>
Cc:

> EPA also concurs that this is not a project of air quality concern.

>
>
> Karina OConnor
>
> EPA, Region 9
>
> Air Planning Office (AIR-2)
>
> (775) 434-8176
> oconnor.karina@epa.gov
>
> ________________________________
> **From:** Lee, Jason@DOT <jason.lee@dot.ca.gov>
> **Sent:** Friday, July 15, 2016 6:59:49 AM
> **To:** Jose Luis Caceres; OConnor, Karina
> **Subject:** RE: POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st
>
>
> Hi Jose!
>
>
>
> Caltrans concurs that the project above is NOT a Project of Air Quality of Concern (POAQC) after reviewing the attached IAC.
>
>

>
> Thanks a lot!
>
>
>
>
>
> Sorry for a late response! I was out of town for a while!
>
>
>
> Jason Lee, PE
>
> Air Quality and Noise Unit
>
>
>
> **From:** Jose Luis Caceres [mailto:JCaceres@sacog.org]
> **Sent:** Wednesday, July 13, 2016 10:36 AM
> **To:** oconnor.karina@epa.gov; Lee, Jason@DOT <jason.lee@dot.ca.gov>
> **Subject:** FW: POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st
>
>
>
> Karina and Jason,
>
>
>
> I'm just following up on this POAQC request. Assuming that you agree that this project is not a project of quality concern, could I please get an email from each of you confirming that? If you could send something this week, that would be great.
>
>
>
> - José Luis
>
>
>
> **From:** Jose Luis Caceres
> **Sent:** Friday, June 17, 2016 7:51 AM
> **To:** sspaethe@fraqmd.org; Wright Molly (mwright@airquality.org); Heather.Phillips@arb.ca.gov; sharon.tang@dot.ca.gov; douglas.coleman@dot.ca.gov; shalanda_christian@dot.ca.gov; Lee Jason (jason.lee@dot.ca.gov); rodney.tavitas@dot.ca.gov; alexander.fong@dot.ca.gov; jbarton@edctc.org; dave.johnston@edcgov.us; Ungvarsky.John@epa.gov; oconnor.karina@epa.gov; Joseph.Vaughn@dot.gov; lmcneel-caird@pctpa.net; AGreen@placer.ca.gov; Renee DeVere-Oki; Jose Luis Caceres; CAnderson@airquality.org; ALETA KENNARD; pphilley@airquality.org; mjones@ysaqmd.org
> **Cc:** Shengyi Gao; lmcneel-caird@pctpa.net; alee@markthomas.com; Hatcher, Shannon; Cooper, Keith; Ngan, Sandy; Bromund, Claire; Yoon, Laura
> **Subject:** POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st
>
>

>
> (Resending with the correct deadline.)
>
>
>
> Project Level Conformity Group,
>
>
>
> Attached for interagency review is PCTPA's SR 65 Capacity & Operational Improvements Phase 1 project (PLA25529). As part of project level conformity under NEPA, it requires a determination of whether it is a project of air quality concern.
>
>
>
> Please confirm that you concur that this is NOT a Project of Air Quality Concern (POAQC). Please email questions and comments by 5 p.m., Friday, July 1st.
>
>
>
> This project falls under the 6004 federal process. As such, it requires written concurrence by EPA (Karina O'Conner) and Caltrans (Jason Lee). Please remember to use "reply all," to make comments to the group. Otherwise, you may also contact the consultant for the sponsor directly:
>
>
>
> LAURA YOON | Air Quality and Climate Change Specialist | 916.231.9774 | laura.yoon@icfi.com | icfi.com
>
> ICF INTERNATIONAL | 630 K Street, Suite 400, Sacramento, CA 95814 | 916.276.5874 (m)
>
>
>
>
>
> Sincerely,
>
>
>
> José Luis Cáceres
> Transportation Planner, SACOG
> (916) 340-6218

Ngan, Sandy

From:	Jose Luis Caceres <JCaceres@sacog.org>
Sent:	Tuesday, August 09, 2016 11:39 AM
To:	Yoon, Laura
Cc:	Claire.Bromund@icfi.com,Sandy.Ngan@icfi.com,Luke McNeel-Caird <lmcneel-caird@pctpa.net>
Subject:	Fwd: RE: POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st

Laura,

Save this. This is Caltrans' concurrence.

- José Luis Cáceres

---------- Forwarded message ----------
From: "Lee, Jason@DOT" <jason.lee@dot.ca.gov>
Date: Jul 15, 2016 6:59 AM
Subject: RE: POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st
To: Jose Luis Caceres <JCaceres@sacog.org>,oconnor.karina@epa.gov
Cc:

> Hi Jose!
>
> Caltrans concurs that the project above is NOT a Project of Air Quality of Concern (POAQC) after reviewing the attached IAC.
>
> Thanks a lot!
>
> Sorry for a late response! I was out of town for a while!
>
> Jason Lee, PE
>
> Air Quality and Noise Unit

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Sent: Wednesday, July 13, 2016 10:36 AM
To: oconnor.karina@epa.gov; Lee, Jason@DOT <jason.lee@dot.ca.gov>
Subject: FW: POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st

Karina and Jason,

I'm just following up on this POAQC request. Assuming that you agree that this project is not a project of quality concern, could I please get an email from each of you confirming that? If you could send something this week, that would be great.

- José Luis

From: Jose Luis Caceres
Sent: Friday, June 17, 2016 7:51 AM
To: sspaethe@fraqmd.org; Wright Molly (mwright@airquality.org); Heather.Phillips@arb.ca.gov; sharon.tang@dot.ca.gov; douglas.coleman@dot.ca.gov; shalanda_christian@dot.ca.gov; Lee Jason (jason.lee@dot.ca.gov); rodney.tavitas@dot.ca.gov; alexander.fong@dot.ca.gov; jbarton@edctc.org; dave.johnston@edcgov.us; Ungvarsky.John@epa.gov; oconnor.karina@epa.gov; Joseph.Vaughn@dot.gov; lmcneel-caird@pctpa.net; AGreen@placer.ca.gov; Renee DeVere-Oki; Jose Luis Caceres; CAnderson@airquality.org; ALETA KENNARD; pphilley@airquality.org; mjones@ysaqmd.org
Cc: Shengyi Gao; lmcneel-caird@pctpa.net; alee@markthomas.com; Hatcher, Shannon; Cooper, Keith; Ngan, Sandy; Bromund, Claire; Yoon, Laura
Subject: POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st

(Resending with the correct deadline.)

Project Level Conformity Group,

Attached for interagency review is PCTPA's SR 65 Capacity & Operational Improvements Phase 1 project (PLA25529). As part of project level conformity under NEPA, it requires a determination of whether it is a project of air quality concern.

Please confirm that you concur that this is NOT a Project of Air Quality Concern (POAQC). **Please email questions and comments by 5 p.m., Friday, July 1st.**

This project falls under the 6004 federal process. As such, it requires written concurrence by EPA (Karina O'Conner) and Caltrans (Jason Lee). Please remember to use "reply all," to make comments to the group. Otherwise, you may also contact the consultant for the sponsor directly:

LAURA YOON | Air Quality and Climate Change Specialist | 916.231.9774 | laura.yoon@icfi.com | icfi.com

ICF INTERNATIONAL | 630 K Street, Suite 400, Sacramento, CA 95814 | 916.276.5874 (m)

Sincerely,

José Luis Cáceres
Transportation Planner, SACOG
(916) 340-6218

Ngan, Sandy

From: Jose Luis Caceres <JCaceres@sacog.org>
Sent: Tuesday, August 09, 2016 11:38 AM
To: Jerry Barton <jbarton@edctc.org>,Kennard Aleta <akennard@airquality.org>,Ungvarsky.John@epa.gov,Heather.Phillips@arb.ca.gov,CAnderson@airquality.org,Renee DeVere-Oki <RDeVere-Oki@sacog.org>,sharon.tang@dot.ca.gov,lmcneel-caird@pctpa.net,"Wright Molly (mwright@airquality.org)" <mwright@airquality.org>,oconnor.karina@epa.gov,alexander.fong@dot.ca.gov,shalanda_christian@dot.ca.gov,sspaethe@fraqmd.org,rodney.tavitas@dot.ca.gov,mjones@ysaqmd.org,AGreen@placer.ca.gov,douglas.coleman@dot.ca.gov,"Lee Jason (jason.l
Cc: Yoon, Laura
Subject: Re: POAQC SR 65 Capacity & Operational Improvements Phase 1 project: Due July 1st

Project Level Conformity Group:

I received concurrence on July 15 from both Caltrans and EPA. PCTPA's SR 65 Capacity & Operational Improvements Phase 1 project (PLA25529) has been determined through SACOG's interagency review process to NOT be a project of air quality concern.

José Luis Cáceres
Transportation Planner, SACOG
(916) 340-6218

On Jun 17, 2016 7:51 AM, Jose Luis Caceres <JCaceres@sacog.org> wrote:

> (Resending with the correct deadline.)
>
> Project Level Conformity Group,
>
> Attached for interagency review is PCTPA's SR 65 Capacity & Operational Improvements Phase 1 project (PLA25529). As part of project level conformity under NEPA, it requires a determination of whether it is a project of air quality concern.
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>
> ICF INTERNATIONAL | 630 K Street, Suite 400, Sacramento, CA 95814 | 916.276.5874 (m)

Sincerely,

José Luis Cáceres
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