AIR QUALITY REPORT

MAGNOLIA AVENUE BRIDGE WIDENING PROJECT

City of Corona
Riverside County, California
District 08
Federal Aid Project No. STPL-5104(046)

Prepared by

Urban Crossroads
1133 Camelback St. #8329
Newport Beach, CA 92658

April 15, 2021
Revised June 7, 2021
Revised June 23, 2021
Revised November 10, 2021

This document contains blank pages to accommodate two-sided printing.

AIR QUALITY REPORT

MAGNOLIA AVENUE BRIDGE WIDENING PROJECT

RIVERSIDE COUNTY, CALIFORNIA

CALIFORNIA DEPARTMENT OF TRANSPORTATION DISTRICT 8

Federal Aid Project No. STPL-5104(046)

Prepared By: William A. Maddux Date: December 8, 2020

William Maddux, Senior Associate

Phone Number 619-778-1971
Company Urban Crossroads, Inc.
City Newport Beach, CA

Approved By: Barry Ghaemi Date: 4/15/2021

Barry Ghaemi, Senior Engineer

Phone Number (951) 739-4961
Department Department of Public Works
Agency City of Corona

Concurred By: _____ Date: _____

Sean Yeung, PE
Senior Environmental Engineer

Phone Number (909) 383-4030
Office Name Local Assistance
District/Region District 8

This document contains blank pages to accommodate two-sided printing.

Contents

Appendices

List of Tables

List of Figures

Acronyms and Abbreviations

Term	Definition
ºF	Degrees Fahrenheit
AADT	Average annual daily traffic
AB	Assembly bill
ADT	Average daily traffic
pAQMP	Air Quality Management Plan
ARB	California Air Resources Board
ATM	Active Traffic Management
BACM	Best available control measures
BMP	Best Management Practice
BRT	Bus rapid transit
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAP	Climate Action Program
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
County	[County Name]
EO	Executive Order
FCAA	Federal Clean Air Act
FHWA	Federal Highway Administration
ft	Feet
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GHG	Greenhouse gas
IPCC	International Panel on Climate Change
ITS	Intelligent Transportation Systems
LOS	Level of service
LRTP	Long Range Transportation Plan
mi	Miles
MOVES	Motor Vehicle Emission Simulator
mph	Miles per hour
MPO	Metropolitan Planning Organization

Term	Definition
MSA	Metropolitan Statistical Area
MSAT	Mobile Source Air Toxics
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NATA	National Air Toxics Assessment
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NO_2	Nitrogen dioxide
NOA	Naturally occurring asbestos
NO_x	Nitrogen oxide
O&M	Operations and maintenance
O_3	Ozone
OMB	White House Office of Management & Budget
OPR	Office of Planning and Research
PM	Particulate matter
PM_{10}	Particulate matter less than 10 microns in diameter
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
ppm	Parts per million
Protocol	Transportation Project-Level Carbon Monoxide Protocol
ROGs	Reactive organic gases
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
SB	Senate Bill
SIP	State Implementation Plan
SO_2	Sulfur dioxide
TACs	Toxic air contaminants
TDM	Transportation Demand Management
TSM	Transportation System Management
TIP	Transportation Improvement Program
USC	United States Code
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency
UV	Ultraviolet
VHT	Vehicle hours traveled
VMT	Vehicle miles traveled
VOCs	Volatile organic compounds

1. Proposed Project Description

1.1 Introduction

The purpose of this Air Quality Report is to evaluate potential short- and long-term air quality impacts resulting from the widening of Magnolia Avenue pursuant to USC 327. Data used in this analysis was obtained from the *Magnolia Avenue Bridge Widening from El Camino Avenue to 1,000 Feet East of All American Avenue* Traffic Impact Analysis prepared by KOA Consultants dated September 2020.

In an effort to address existing traffic deficiencies and additional traffic flow associated with existing and future commercial and residential developments, Caltrans and the City of Corona intend to improve traffic operations by widening and modifying the roadway lane configuration on Magnolia Avenue from El Camino Avenue to 1,000 feet east of All American Way. Caltrans is the lead agency under NEPA. The City of Corona is the lead agency under CEQA. This project is included in the City General Plan and the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) as well as the Federal Transportation Implementation Plan (FTIP). Relevant Pages of these documents are included in Appendix A.

1.2 Location and Background

The project being considered by Caltrans include improvements on Magnolia Avenue between El Camino Avenue to 1,000 feet east of All American Way, or to approximately the intersection of the eastbound lane to Leeson Lane, approximately 150 feet past Trademark Circle. The Project alignment is 1,000 feet from Interstate 15 and is bounded by light and heavy industrial land both to the north and south of the project as shown on Figure 1.

The City of Corona (City) is proposing to widen the Magnolia Avenue Bridge over Temescal Wash Channel and Magnolia Avenue from El Camino Avenue to 1,000 feet east of the All American Way generally to increase the number of travel lanes and place sidewalk and curb and gutter. Improvements will include restriping for three, 12-foot-wide lanes in each direction, a 12-foot-wide median, 5-foot-wide shoulders, and 6-foot-wide sidewalks, curb, and gutter in locations that currently lack sidewalk, curb, and gutter. The total roadway width would be increased to approximately 100 feet, curb to curb, throughout the alignment, and right-of-way will vary but will generally be approximately 112 feet wide throughout the alignment.

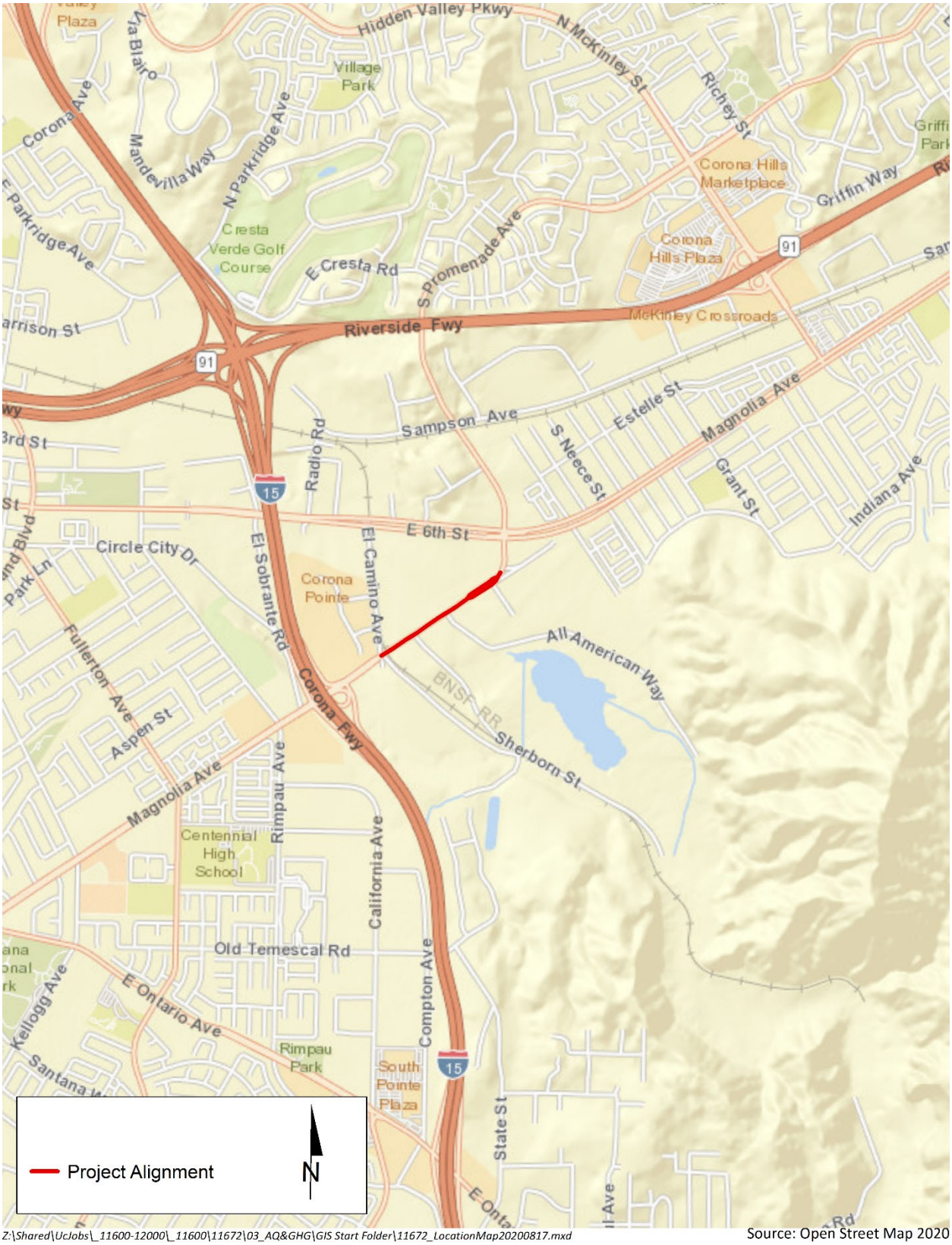
Western Section of Alignment (El Camino Avenue to Temescal Creek Bridge)

The paved travel way in this section is generally approximately 82 feet wide, contains two lanes of travel in each direction, turn lanes, and a striped median to the Temescal Creek Channel Bridge. The right-of-way in this section is approximately 100 feet wide - approximately 40 feet to the north and approximately 60 feet to the south of centerline.

Sidewalk, curb and gutter exist on the south side but not on the north side. City-owned street lights are present on both sides of the street.

The BNSF railroad crossing exists approximately 80 feet east of the intersection with El Camino Avenue.

Figure 1 Project Location Map



Z:\Shared\UcJobs_11600-12000_11600\11672\03_AQ&GHG\GIS Start Folder\11672_LocationMap20200817.mxd

Source: Open Street Map 2020

Sherborn Street intersects on the south side, approximately half way between El Camino Avenue and the bridge approach.

All electrical and low-voltage (phone, cable) utilities are located underground throughout this section.

Temescal Creek Channel Bridge

The Temescal Creek Channel is an improved, 84-foot-wide by 15-foot-deep rectangular concrete channel. The channel has a storm drain into the channel that includes a grated drop inlet at the north side of Magnolia Avenue west of the Channel; a 30-inch storm drain line that ties into the Channel at the northeast, southeast and southwest corners of the bridge. The channel is owned and maintained by the Riverside County Flood Control and Water Conservation District (RCFC &WCD).

The existing bridge over the Channel is 67.5 feet wide providing a travelled way of 64 feet from barrier to barrier. The bridge deck is striped with two lanes in each direction and a striped median. At each approach, the bridge barrier is protected by a standard metal beam guardrail. There are no sidewalks on the bridge. The existing structure was built in 1986. It consists of two spans of cast-in-place reinforced concrete box girder, a pier wall along the centerline of the Channel, and two abutments. The bridge abutments were constructed outside the rectangular concrete channel. The bridge has a high Sufficiency Rating of 95.8 indicating the feasibility of the proposed structure widening with proper rehabilitation, if required.

The City of Corona's 30-inch water transmission line (Cross-Town Feeder) is attached to the exterior edge of the south side of the bridge, and other utilities (Southern California Edison and cable and phone) are within conduits attached to the bridge exterior along the north side.

Eastern Section of Alignment (Temescal Creek Bridge to Eastbound Leeson Lane)

The paved travel way in this section is generally approximately 82 feet wide, contains two lanes of travel in each direction, and turn lanes. A thin concrete median is present in this section, from approximately 1475 Magnolia Avenue to the alignment terminus at the eastbound lane of Leeson Lane. The right-of-way in this section is approximately 110 feet wide - approximately 60 feet to the north and approximately 50 feet to the south of centerline.

Sidewalk, curb and gutter exist on both the north and south sides, side but not in front of the Corona Auto Parts Store, located at 1450 Magnolia Avenue, which is on the southeast corner of All American Way and Magnolia Avenue. City-owned street lights are present on both sides of the street.

All American Way intersects immediately east and adjacent to the bridge on the south side. Other intersecting streets include Trademark Circle (south side) and Leeson Lane toward the end of the alignment.

Low voltage utilities (ie., phone and cable) rise approximately 112 feet west of the Magnolia Avenue bridge, and are located on poles on the south side of the street, for approximately 679 feet to 1480 Magnolia Avenue. The utilities then transition to underground at this location, and remain underground through the end of the Project alignment at the eastbound Leeson Lane.

1.3 Purpose and Need

The purpose of the Project is to increase existing traffic capacity and improve pedestrian and non-motorized travel on Magnolia Avenue between El Camino Avenue to 1,000 feet east of All American Way, which is approximately the intersection with the eastbound lane of Leeson Lane.

The proposed improvements will accomplish the following in the Project area:

1. Provide sidewalks and curbs and gutters and ADA compliance, where none currently exists
2. Provide an additional lane of travel in each direction
3. Widen the bridge over Temescal Creek Channel to accommodate the additional lanes and sidewalks and curbs and gutters
4. Provide for ultimate build-out of the roadway as planned by the City.

The road section between El Camino Road and All American Way begins approximately 600 feet east of I-15 and contains industrial land uses on both sides of the Project alignment. The industrial uses include a quarry south of the Project alignment with entrances off of Sherborn Street and All American. Way. As such, this approximate 2,100 linear foot section of roadway experiences a high volume of heavy truck traffic. Build-out of the roadway to the design envisioned by the General Plan, which included these land uses, would improve overall circulation in the Project area.

Therefore, the project is needed because Magnolia Avenue is classified as a six-lane Major Arterial in the City of Corona General Plan which provides access to Interstate 15 (I-15), however currently Magnolia is striped and constructed to accommodate four lanes, which results in degraded traffic conditions and potential pedestrian conflicts. The proposed project is intended to resolve these concerns.

1.4 Baseline and Forecasted Conditions for No-Build and Project Alternatives

The proposed alternatives are limited to the No-Build Alternative, and the Proposed Widening Alternative. These alternatives are each discussed in the following sections.

1.4.1 Existing Roadways and Traffic Conditions

Based on discussions with City of Corona staff and affected agencies, the Project Team identified the study area intersections that would be most likely to be impacted by implementation of the various Project alternatives (KOA 2020). The arterials in the City that could potentially be affected by the Project are described in this section. The baseline year for this traffic study is 2019.

- Magnolia Avenue
    - Magnolia Avenue is a Major Arterial running on an east-west roadway through the City of Corona. Magnolia Avenue consists of two (2) lanes west of El Camino Avenue and two (2) lanes east of the intersections. In the study area, Magnolia Avenue is accessible from the I-15 freeway. The roadway begins at South Main Street and terminates at 14th Street in the City of Riverside. Land

uses along the study route are mostly light and heavy industrial. The posted speed limit on Magnolia Avenue is 45 mph.

- El Camino Avenue
    - El Camino Avenue is a two-lane commercial collector roadway running on a north alignment adjacent to the west of the I-15 Freeway. The roadway is separated by a median and extends south of 6th Street to Magnolia Ave. The speed limit is posted at 40 mph and parking is not permitted along most of the roadway. Land uses along the roadway are mostly commercial uses.
- Sherborn Street
    - Sherborn Street is located in a development site which runs south of the Magnolia Avenue. The Street is zoned for future industrial development and currently signalized at the intersection of Sherborn Street and Magnolia Avenue.
- All American Way
    - All American Way is a truck route, which is accessed by All American Asphalt facilities. The Roadway is classified as a General Industrial zone with Heavy Manufacturing and a Mineral Resources overlay.
- Trademark Circle
    - Trademark Circle is a local street used for access to commercial building. The street extends south of Magnolia Avenue approximately 0.12 Miles onto a cul-da-sac.
- Leeson Lane
    - Leeson Lane is an undeveloped local street that extends 0.2 miles east of Magnolia Ave into a cul-da-sac.
- 6th Street
    - Sixth Street is Major Arterial with four (4) Lane east-west roadway directions, north of the Project site. Land uses along the study route are mostly light and heavy industrial. The posted speed limit on 6th street is 45 mph.

Table 1 provides a summary of the existing traffic conditions. Traffic data is included in Appendix B.

Table 1 Summary of Existing Traffic Conditions.

Scenario/ Analysis Year	Location	AADT		% Truck	VMT (mi)	Average Speed During Peak Travel (mph)	Average Speed During Off-Peak Travel (mph)
		Total	Truck				
Existing/Year 2018	Magnolia Avenue	21,740	1,220	5.61	45,654,000	45	45
VMT based on the Project length multiplied by the ADT. Source: KOA 2020							

1.4.2 No-Build Alternative

The No-Build (No Action/Project) Alternative consists of those transportation projects that are already planned for construction by or before 2026. Consequently, the No-Build alternative represents future travel conditions in the project study area without the Magnolia Bridge Widening Project and is the baseline against which the other Magnolia Bridge Widening alternatives will be assessed to meet NEPA requirements. Table 2 provides a summary of the future traffic conditions under the No-Build Scenario. No-Build traffic data is included in Appendix B.

Table 2 Summary of Future No-Build Traffic Conditions

Scenario/ Analysis Year	Location	AADT		% Truck	VMT (mi)	Average Speed (mph)
		Total	Truck			
No Build Design Year 2026	Magnolia Avenue	24,972	1,401	5.61	52,441,200	45
No Build Horizon Year 2045	Magnolia Avenue	37,850	2,123	5.61	79,485,000	45
VMT based on the Project length multiplied by the ADT. Source: KOA 2020						

1.4.3 Project Build Alternative

The proposed Project alignment is located in the City of Corona, along Magnolia Avenue, beginning at approximately the intersection El Camino Avenue and ending approximately 1,000 feet east of All American Way where Magnolia Avenue curves north. Leeson Lane intersects Magnolia Avenue within its curve north. The eastbound lane of Leeson Lane intersects at the base of the curve, and the westbound lane of Leeson Lane intersects Magnolia Avenue approximately 141 feet north of the eastbound Leeson Lane/Magnolia Avenue intersection.

The City of Corona is proposing to widen the Magnolia Avenue Bridge over Temescal Wash Channel and Magnolia Avenue from El Camino Avenue to 1,000 feet east of the All American Way generally to increase the number of travel lanes and place sidewalk and curb and gutter. Improvements will include restriping for three, 12-foot-wide lanes in each direction, a 12-foot-wide median, 5-foot-wide shoulders, and 6-foot-wide sidewalks, curb, and gutter in locations that currently lack sidewalk, curb, and gutter. The total roadway width would be increased to approximately 100 feet, curb to curb, throughout the alignment, and right-of-way would be consistently approximately 112 feet wide throughout the alignment.

The work will include the following:

- Roadway widening including drainage improvements;
- Modification to street signs, street lighting, and landscaping;
- Pavement rehabilitation where required;
- Modifying the existing roadway striping;
- Installing new curbs and gutters and sidewalks in the missing sections;
- Re-striping and or replacing the existing BNSF railroad crossing (crossing arms may be relocated depending on final design);
- Widening and rehabilitating the concrete bridge over the Temescal Creek Channel;
- Relocating utilities that conflict with the planned improvements;
- Provide ADA compliant access ramps at all intersections.

As a part of the bridge construction, one abutment would be extended on each end of the bridge, along with one pier within the Temescal Creek Channel. Table 3 provides a summary of the future traffic conditions under the Build Scenario.

This project is included in the Southern California Association of Government's 2019 Federal Transit Improvement Program. It is also included in the Southern California Association of Government's 2020-2045 Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) and the 2019 cost-constrained FTIP. Traffic data is included in Appendix B.

Figure 2 Map of the Project and Nearby Roadways

Figure 3 Map of the Project Location

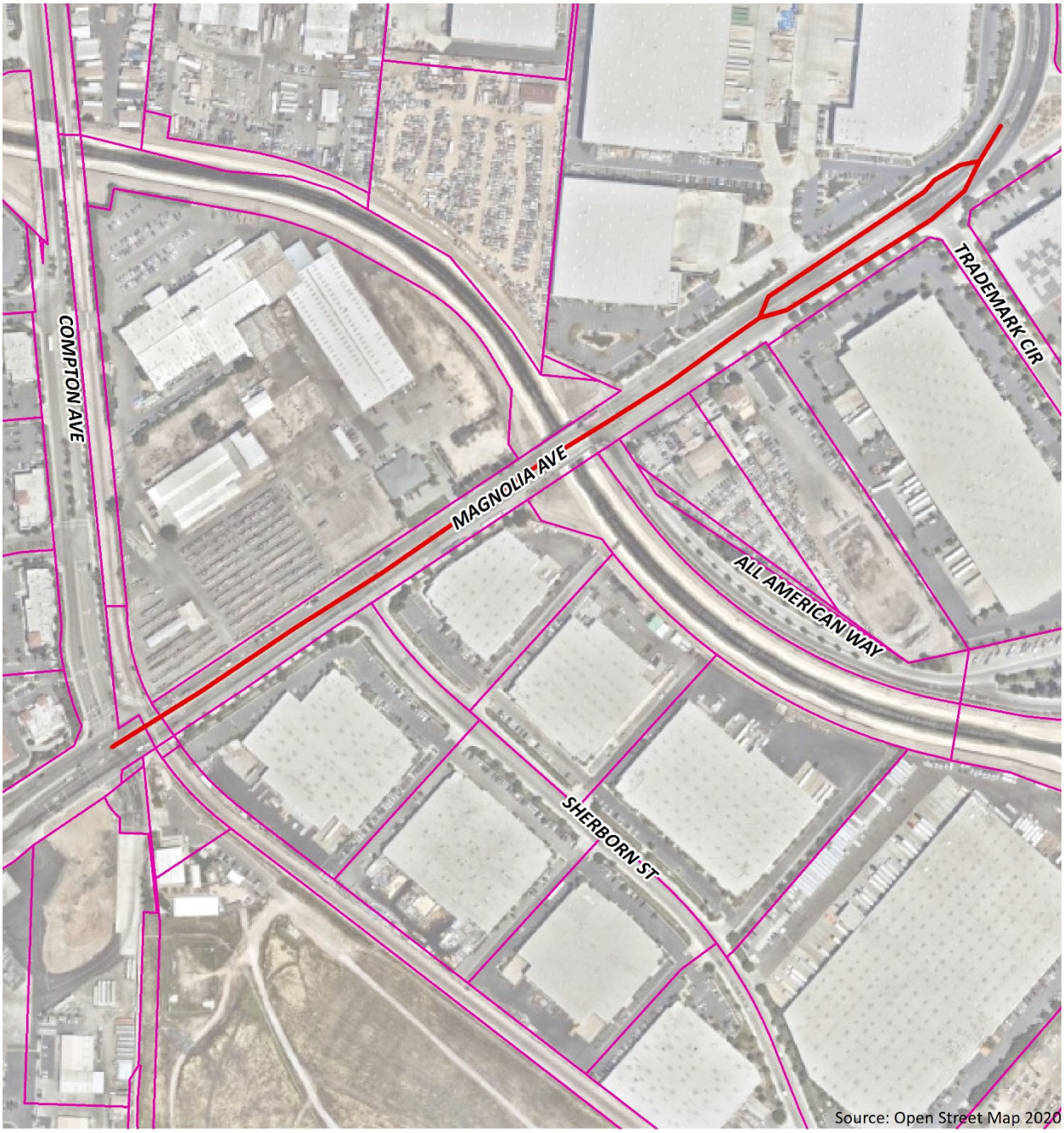


Table 3 Summary of Future Build Traffic Conditions

Scenario/ Analysis Year	Location	AADT		% Truck	VMT (mi)	Average Speed (mph)
		Total	Truck			
No Build Design Year 2026	Magnolia Avenue	24,972	1,401	5.61	52,441,200	45
No Build Horizon Year 2040	Magnolia Avenue	37,850	2,123	5.61	79,485,000	45

1.4.4 Comparison of Existing/Baseline and Build Alternative

Table 4 summarizes design features and operational impacts on traffic conditions near the proposed project.

Table 4 Summary of Long-Term Operational Impacts on Traffic Conditions of Existing, No-Build, and Build Alternatives.

Scenario/ Analysis Year	Location	Design Features and Operational Impacts on Traffic Conditions
Baseline (existing) 2019	Magnolia Avenue	Under existing conditions of Magnolia Avenue, between All American Way and Sherborn Street, the segment operates at a LOS of B.
No-Build Alternative Design Year 2026	Magnolia Avenue	Under the No Build scenario, the segment Magnolia Avenue, Between All America Way and Sherborn Street, operate at LOS C.
Widening Alternative Design Year 2026	Magnolia Avenue	Under the Widening scenario, the segment Magnolia Avenue, Between All America Way and Sherborn Street, operate at LOS B.
No-Build Alternative Horizon Year 2040	Magnolia Avenue	Under the No Build scenario, the segment Magnolia Avenue, Between All America Way and Sherborn Street, operate at LOS F.
Widening Alternative Horizon Year 2040	Magnolia Avenue	Under the Widening scenario, the segment Magnolia Avenue, Between All America Way and Sherborn Street, operate at LOS C.

1.5 Construction Activities and Schedule

Construction is planned to last approximately two years; no construction activities are anticipated to last more than five years at any individual site. Emissions from construction-related activities are thus considered temporary as defined in 40 CFR 93.123(c)(5); and are not required to be included in PM hot-spot analyses to meet conformity requirements. Table 5 described the anticipated milestone completion dates.

Table 5 Construction Activities and Schedule.

Construction Phase	Begin Date	Completion Date
Start of Construction	January 2024	--
Grubbing / Land Clearing	January 2024	March 2024
Roadway, Bridge and Channel Construction	March 2024	October 2025
Final Paving, Striping, Lighting	October 2025	January 2026
End of Construction	--	January 2026

2. Regulatory Setting

Many statutes, regulations, plans, and policies have been adopted at the federal, state, and local levels to address air quality issues related to transportation and other sources. The proposed Project is subject to air quality regulations at each of these levels. This section introduces the pollutants governed by these regulations and describes the regulation and policies that are relevant to the proposed project.

2.1 Pollutant-Specific Overview

Air pollutants are governed by multiple federal and state standards to regulate and mitigate health impacts. At the federal level, there are six criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been established: CO, Pb, NO_2, O_3, PM ($PM_{2.5}$ and PM_{10}), and SO_2. The U.S. EPA has also identified nine priority mobile source air toxics: 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. In California, sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride are also regulated.

2.1.1 Criteria Pollutants

The Clean Air Act requires the U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for six criteria air contaminants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, lead, and sulfur dioxide. It also permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants. Table 6 documents the current air quality standards while Table 7 summarizes the sources and health effects of the six criteria pollutants and pollutants regulated in the state of California.

2.1.2 Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. The U.S. EPA has assessed this expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are part of U.S. EPA's Integrated Risk Information System (IRIS) (https://www.epa.gov/iris). In addition, the U.S. EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-hazard contributors from the 2011 National Air Toxics Assessment (NATA) (https://www.epa.gov/national-air-toxics-assessment). These are *1,3-butadiene*, *acetaldehyde*, *acrolein*, *benzene*, *diesel particulate matter (diesel PM)*, *ethylbenzene*, *formaldehyde*, *naphthalene*, and *polycyclic organic matter*. While the Federal Highway Administration (FHWA) considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future U.S. EPA rules.

The 2007 U.S. EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using U.S. EPA's MOVES2014a model, even if vehicle activity (vehicle-miles traveled, VMT) increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emission rate for the priority MSATs is projected for the same time period, as shown in Figure 4.

Table 6 Table of State and Federal Ambient Air Quality Standards.

Ambient Air Quality Standards						
Pollutant	**Averaging Time**	**California Standards [1]**		**National Standards [2]**		
		Concentration [3]	**Method [4]**	**Primary [3,5]**	**Secondary [3,6]**	**Method [7]**
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

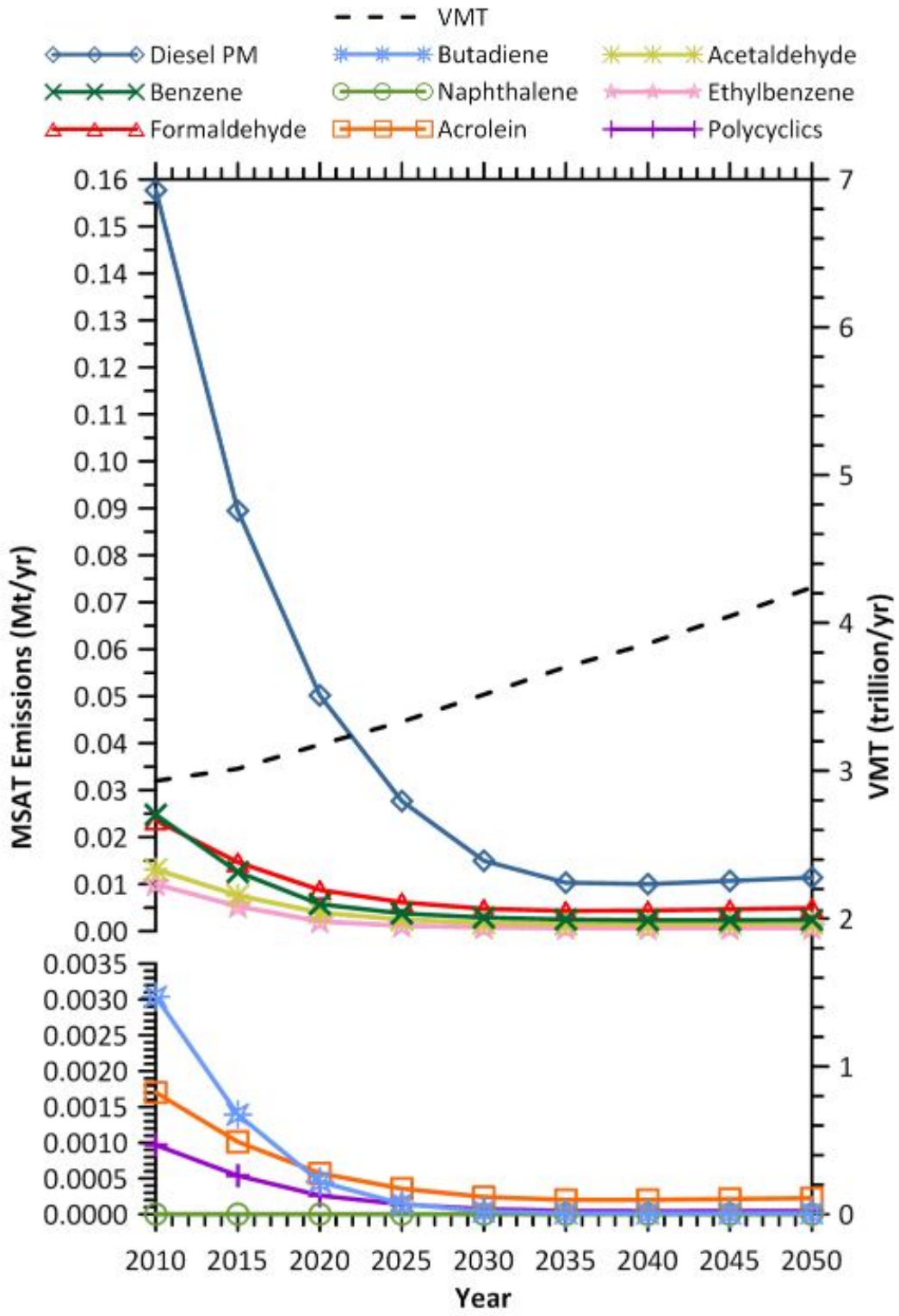
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

Table 7 State and Federal Criteria Air Pollutant Effects and Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Ozone (O_3)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
Respirable Particulate Matter (PM_{10})	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.
Fine Particulate Matter ($PM_{2.5}$)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.
Carbon Monoxide (CO)	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Nitrogen Dioxide (NO_2)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the "NOx" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.
Sulfur Dioxide (SO_2)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.
Lead (Pb)	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.
Visibility-Reducing Particles (VRP)	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.
Sulfate	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.
Hydrogen Sulfide (H_2S)	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes.

Figure 4 Projected National MSAT Trends, 2010-2050



Source: FHWA 2006 https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/

2.1.3 Greenhouse Gases

The term greenhouse gas (GHG) is used to describe atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and water vapor, among others. A growing body of research attributes long-term changes in temperature, precipitation, and other elements of Earth's climate to large increases in GHG emissions since the mid-nineteenth century, particularly from human activity related to fossil fuel combustion. Anthropogenic GHG emissions of particular interest include CO_2, CH_4, N_2O, and fluorinated gases.

GHGs differ in how much heat each traps in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the warming potential of other gases is assessed as multiples of CO_2. For example, the 2007 International Panel on Climate Change *Fourth Assessment Report* calculates the GWP of CH_4 as 25 and the GWP of N_2O as 298, over a 100-year time horizon.[1] Generally, estimates of all GHGs are summed to obtain total emissions for a Project or given time period, usually expressed in metric tons (MT CO_2e), or million metric tons (MMT CO_2e).[2]

As evidence has mounted for the relationship of climate changes to rising GHGs, federal and state governments have established numerous policies and goals targeted to improving energy efficiency and fuel economy, and reducing GHG emissions. Nationally, electricity generation is the largest source of GHG emissions, followed by transportation. In California, however, transportation is the largest contributor to GHGs.

At the federal level, the National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. However, the U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) issued the first corporate fuel economy (CAFE) standards in 2010, requiring cars and light-duty vehicles to achieve certain fuel economy targets by 2016, with the intention of gradually increasing the targets and the range of vehicles to which they would apply.

California has enacted aggressive GHG reduction targets, starting with Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 is California's signature climate change legislation. It set the goal of reducing statewide GHG emissions to 1990 levels by 2020, and required the ARB to develop a Scoping Plan that describes the approach California will take to achieve that goal and to update it every 5 years. In 2015, Governor Jerry Brown enhanced the overall adaptation planning effort with Executive Order (EO) B-30-15, establishing an interim GHG reduction goal of 40 percent below 1990 levels by 2030, and requiring state agencies to factor climate change into all planning and investment decisions.

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, furthered state climate action goals by mandating coordinated transportation and land use planning through preparation of sustainable communities strategies (SCS). The ARB sets GHG emissions reduction targets for passenger vehicles for each region.

---

[1] See Table 2.14 in IPCC Fourth Assessment Report: Climate Change 2007 (AR4): The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom, and New York, NY, USA. http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter2.pdf.

[2] See http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/CEQA-Guidance-Tools.

Each regional metropolitan planning organization must include in its regional transportation plan an SCS proposing actions toward achieving the regional emissions reduction targets.[3]

With these and other State Senate and Assembly bills and executive orders, California advances an innovative and proactive approach to dealing with GHG emissions and climate change.

2.1.4 Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the ARB in 1986. All types of asbestos are hazardous and may cause lung disease and cancer.

Asbestos can be released from serpentine and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos-bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentine may contain chrysotile asbestos, especially near fault zones. Ultramafic rock, a rock closely related to serpentinite, may also contain asbestos minerals. Asbestos can also be associated with other rock types in California, though much less frequently than serpentinite and/or ultramafic rock. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. The California Department of Conservation, Division of Mines and Geology has developed a map showing the general location of ultramafic rock in the state (www.conservation.ca.gov/cgs/minerals/hazardous_minerals/asbestos/Pages/index.aspx).

2.2 Regulations

2.2.1 Federal and California Clean Air Act

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws and related regulations by the U.S. EPA and the (ARB) set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

[3] https://www.arb.ca.gov/cc/sb375/sb375.htm

2.2.2 Transportation Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional—or, planning and programming level—and the project level. The proposed Project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. The U.S. EPA regulations at 40 CFR 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California), sulfur dioxide (SO_2). California has attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP), and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), FHWA, and Federal Transit Administration (FTA), make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and the TIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP and the project has a design concept and scope[4] that has not changed significantly from those in the RTP and TIP. If the design concept and scope have changed substantially from that used in the RTP Conformity analysis, RTP and TIP amendments may be needed. Project-level conformity also needs to demonstrate that project analyses have used the latest planning assumptions and U.S. EPA-approved emissions models; the project complies with any control measures in the SIP in PM areas. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

2.2.3 National Environmental Policy Act (NEPA)

NEPA requires that policies and regulations administered by the federal government are consistent with its environmental protection goals. NEPA also requires that federal agencies use an interdisciplinary approach to planning and decision-making for any actions that could impact the environment. It requires environmental review of federal actions including the creation of Environmental Documents (EDs) that describe the environmental effects of a proposed Project and its alternatives (including a section on air quality impacts).

[4] "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

2.2.4 California Environmental Quality Act (CEQA)

CEQA[5] is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. CEQA documents address CCAA requirements for transportation projects. While state standards are often more strict than federal standards, the state has no conformity process.

2.2.5 Local

The U.S. EPA has delegated responsibility to states to establish rules to protect air quality. In California, CARB delegates this authority to local air districts. Caltrans' Standard Specification 14-9.02 (Caltrans, 2015) requires compliance with all applicable air quality laws and regulations including local and air district ordinances and rules.

The SCAQMD has issued several rules to reduce emissions from both construction and operation of projects. For the purpose of expanding a highway and modifying a bridge, the rules relevant to this Project are Rule 403 – Fugitive Dust, and Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities. Rule 403-Fugitive dust is an effort by the SCAQMD to reduce PM_{10} and $PM_{2.5}$. Rule 1403 is designed to reduce exposure to asbestos which is a carcinogen and is categorized as a hazardous air pollutant.

Rule 403 provides that construction activity must shut down when winds exceed 25 miles per hour. While it's not necessarily required to water disturbed soil to reduce fugitive dust emissions, it is a standard process within the SCAQMD.

Rule 1403, adopted by the SCAQMD on October 6, 1989, establishes Survey Requirements, notification, and work practice requirements to prevent asbestos emissions from emanating during renovation and demolition activities.

3. Affected Environment

The topography of a region can substantially impact air flow and resulting pollutant concentrations. California is divided into 15 air basins with similar topography and meteorology to better manage air quality throughout the state. Each air basin has a local air district that is responsible for identifying and implementing air quality strategies to comply with ambient air quality standards.

The Magnolia Avenue Bridge Widening from El Camino Avenue to All American Way Project site is located in proximity to the City of Corona in Riverside County, an area within the South Coast Air Basin (Basin) which includes Los Angeles County, Orange County, parts of Riverside County, and parts of San Bernardino County. Air quality regulation in the Basin is administered by the South Coast Air Quality Management District (SCAQMD). The current (2018) population of Riverside County is 2.416 million, which is expected to rise to 3.252 million by 2045 (SCAQMD 2019; 2020). The county's economy is largely driven by manufacturing, logistics, environmental technology, and education.

[5] For general information about CEQA, see: http://resources.ca.gov/ceqa/more/faq.html.

3.1 Climate, Meteorology, and Topography

Meteorology (weather) and terrain influence air quality. Certain weather parameters are highly correlated to air quality, including temperature, the amount of sunlight, and the type of winds at the surface and above the surface. Winds can transport ozone and ozone precursors from one region to another, contributing to air quality problems downwind of source regions. Furthermore, mountains can act as a barrier that prevents ozone from dispersing.

The Project site is located in the South Coast Air Basin, a 6,745-square mile sub-region of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The larger South Coast district boundary includes 10,743 square miles.

The Project area is bound by the Santa Ana Mountains to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Corona Airport climatological station is located in the same SRA and is representative of meteorological conditions near the project. The highest temperatures occur in July with an average high temperature of 89 degrees Fahrenheit (°F) and an average low temperature of 60 °F. The coolest temperatures in December with an average high temperature of 67 °F and a low temperature of 39 °F. The average precipitation is 10.7 inches per year (IEM 2020). Snow has only been recorded in the city once in the 20th century, in the winter of 1949. Mountains averaging 3,000 feet in altitude to the west of the city and 8,000 feet in altitude further northeast of the city trap pollutants. The semi-persistent marine layer creates frequent inversions, also helping to trap pollution in the winter and significantly increase ozone concentrations in the summer. Figure 5 shows a wind rose near the Project site at the Corona Airport.

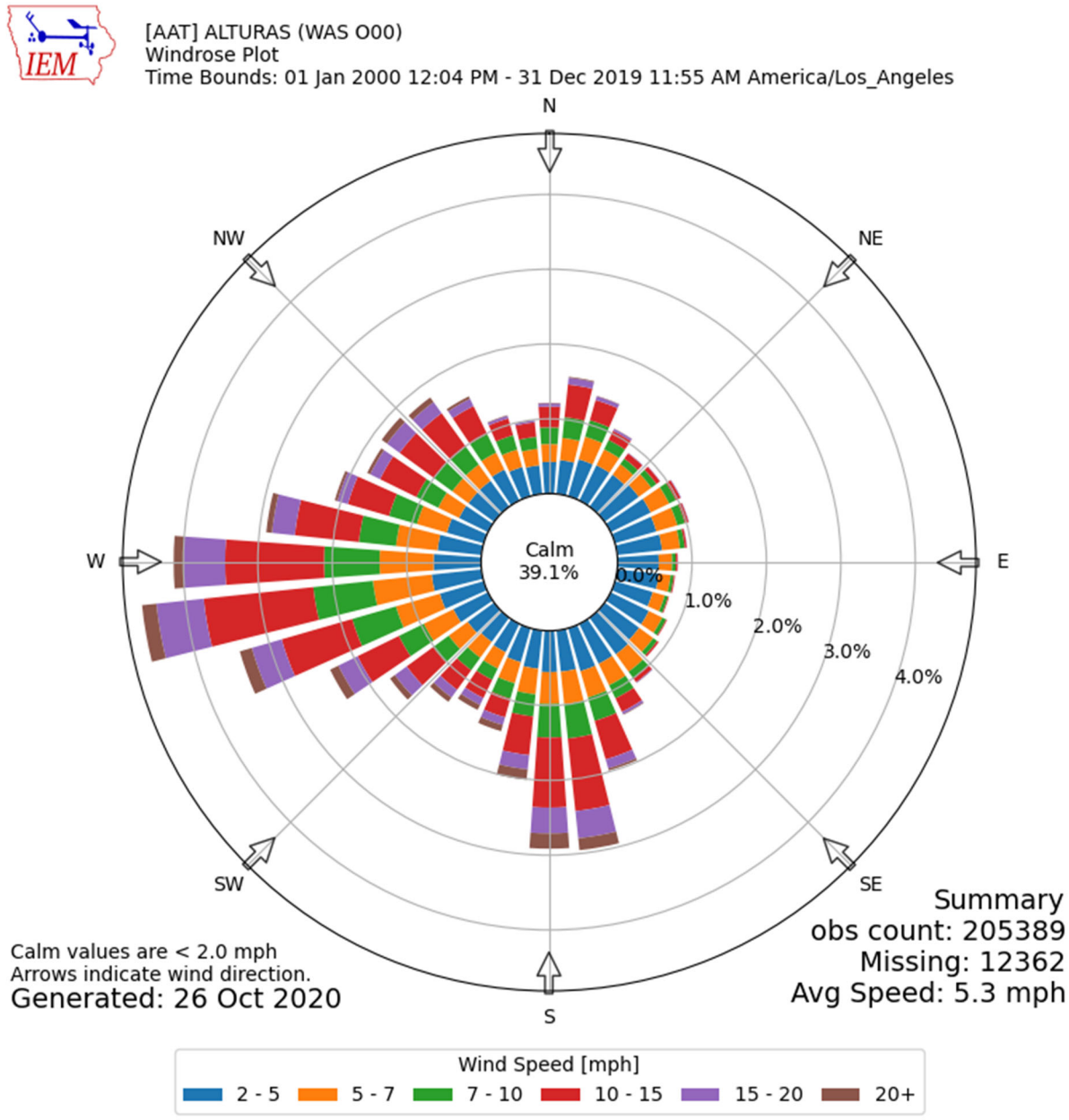
3.2 Existing Air Quality

This section summarizes existing air quality conditions near the proposed Project area. It includes attainment statuses for criteria pollutants, describes local ambient concentrations of criteria pollutants for the past 3 years, and discusses MSAT and GHG emissions. The closest air quality monitoring site is the Metropolitan Riverside 1 monitoring station, administered by the South Coast Air Quality Management District, which is 11.13 miles from the Project site as shown in Figure 6.

3.2.1 Criteria Pollutants and Attainment Status

Table 8 lists the state and federal attainment status for all regulated pollutants within the Riverside county subsection of the Basin. By federal standards, the Riverside county section of the Basin is currently in extreme nonattainment for O_3 (precursors: VOC or NO_X); nonattainment for $PM_{2.5}$; maintenance for PM_{10}; attainment NO_2; maintenance for CO; and attainment/maintenance for lead. Per state standards, the South Coast Air Basin is in non-attainment for both 1 and 8 hour O3 (precursors: VOC or NOx), attainment for CO, attainment for NO_2, non-attainment for PM_{10} and $PM_{2.5}$, attainment for H_2S, attainment for sulfates, and attainment for vinyl chloride. There are no federal standards for H_2S, sulfates, or vinyl chloride, and there are no state standards for SO_2 or lead. No data was available to identify Riverside County's attainment status for visibility reducing particles. Table 9 lists air quality trends in data collected at the Municipal Riverside 1 air quality monitoring station for the past 3 years. As it is within the same air basin and is classified as one attainment area, the Municipal Riverside 1 air station is the best station to evaluate air quality for the site. In the years monitored, pollution concentrations have been largely stable, though there have been significant decreases in pollution between the 1970s and 2018.

Figure 5 Predominant Wind Patterns Near the Project.



Source: IEM 2020

Figure 6 Map of Air Quality Monitoring Stations Located Near the Project

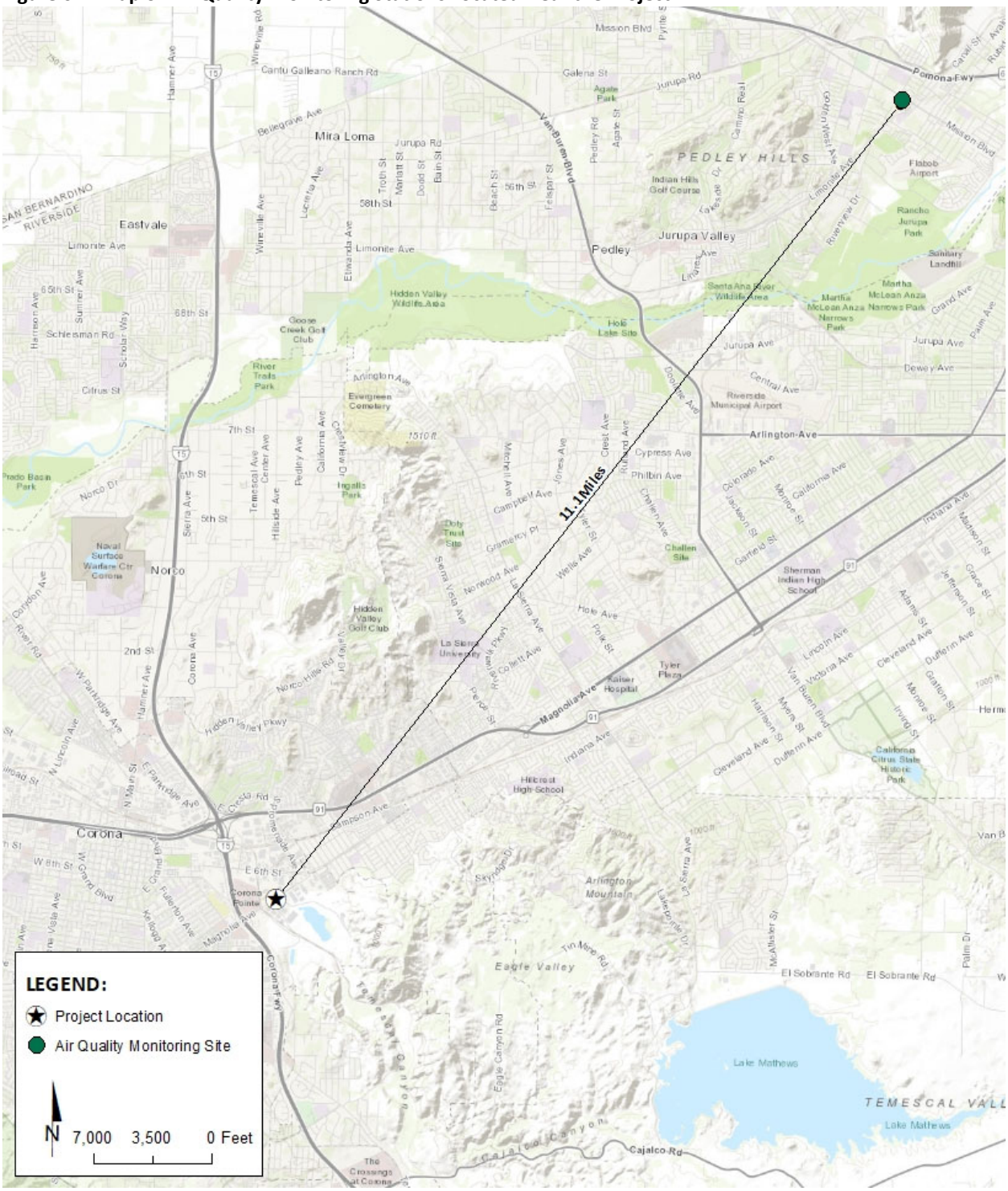


Table 8 State and Federal Attainment Status

Pollutant	State Attainment Status	Federal Attainment Status
Ozone (O_3)	Nonattainment	Nonattainment - Extreme
Respirable Particulate Matter (PM_{10})	Nonattainment	Maintenance
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment - Moderate
Carbon Monoxide (CO)	Attainment	Maintenance
Nitrogen Dioxide (NO_2)	Attainment	Unclassifiable/Attainment
Sulfur Dioxide (SO_2)	Attainment	Unclassifiable/Attainment
Lead (Pb)	Attainment	Unclassifiable/Attainment
Visibility-Reducing Particles	Unclassifiable/Attainment	N/A
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassifiable/Attainment	N/A
Vinyl Chloride	Unclassifiable/Attainment	N/A
Source: US EPA 2020; CARB 2019.		

3.2.2 Mobile Source Air Toxics

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Federal Clean Air Act. The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. The EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources, 66 FR 17229 (March 29, 2001). This rule was issued under the authority in Section 202 of the Federal Clean Air Act. In its rule, the EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Even if VMT increases by 145 percent as assumed between years 2010 and 2050, FHWA projects would reduce on-highway emissions by an average of 72 percent. Thus, the EPA concluded that no further motor vehicle emissions standards or fuel standards were necessary to control MSATs. The EPA is preparing a subsequent rule under the authority of Section 202(l) of the Federal Clean Air Act that would address these issues and make adjustments to the primary and secondary MSATs.

Incomplete or Unavailable Information for Project Specific MSAT Health Impacts Analysis

According to FHWA, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

Table 9 Air Quality Concentrations for the Past 3 Years Measured at the Metropolitan Riverside 1 monitoring station.

Pollutant	Standard	Year		
		2017	2018	2019
Ozone (O_3)				
Maximum 1-Hour Concentration (ppm)		0.120	0.117	0.118
Maximum 8-Hour Concentration (ppm)		0.105	0.103	0.095
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	33	31	26
Number of Days Exceeding Federal/State 8-Hour Standard	> 0.07 ppm	80	70	64
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		1.9	2.6	1.5
Maximum 8-Hour Concentration (ppm)		1.7	2.4	1.2
Nitrogen Dioxide (NO_2)				
Maximum 1-Hour Concentration (ppm)		0.063	0.054	0.056
Annual Arithmetic Mean Concentration (ppm)		0.015	0.014	0.014
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Particulate Matter ≤ 10 Microns (PM_{10})				
Maximum 24-Hour Concentration (µg/m^3)		75	64	97
Annual Arithmetic Mean (µg/m^3)		32.2	29.7	25.3
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m^3	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m^3	11	3	4
Particulate Matter ≤ 2.5 Microns ($PM_{2.5}$)				
Maximum 24-Hour Concentration (µg/m^3)		50.3	50.7	46.7
Annual Federal Arithmetic Mean (µg/m^3)		12.2	12.4	11.1
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m^3	6	2	4
Sulfur Dioxide (SO_2)				
Maximum 1 Hour Concentration (µg/m^3)	> 75 ppb	2.5	1.7	1.8

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects".[6] Each report contains assessments of no-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

[6] U.S. Environmental Protection Agency, Integrated Risk Information System (IRIS), November 2013. http://www.epa.gov/ncea/iris/index.html

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are: cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations7 or in the future as vehicle emissions substantially decrease.[8]

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI.[9]

As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel particulate matter. The EPA states that with respect to diesel engine exhaust, “[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk (EPA IRIS database, Diesel Engine Exhaust, Section II.C).15

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine a "safe" or "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

---

[7] Health Effects Institute, Mobile-Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects, November 2007

[8] Health Effects Institute, Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects, May 2009.

[9] Health Effects Institute, Mobile-Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects, November 2007. https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-andhealth-effects

Due to the limitations in the methodologies for forecasting health impacts, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

3.2.3 Greenhouse Gas and Climate Change

GCC is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this air quality report cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 4.3.5 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

The proposed Project is located in the City of Corona, Riverside County, and is included in the Southern California Association of Governments (SCAG) Connect SoCal, the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) as project RIV160405.

Through Connect SoCal, SCAG commits to an emissions reduction of 8% by 2020, 18% by 2035, and 21% by 2040 from 2005 levels per SB 375, using the 2015 greenhouse gas inventory provided by the California Air Resources Board as its evaluation metric.

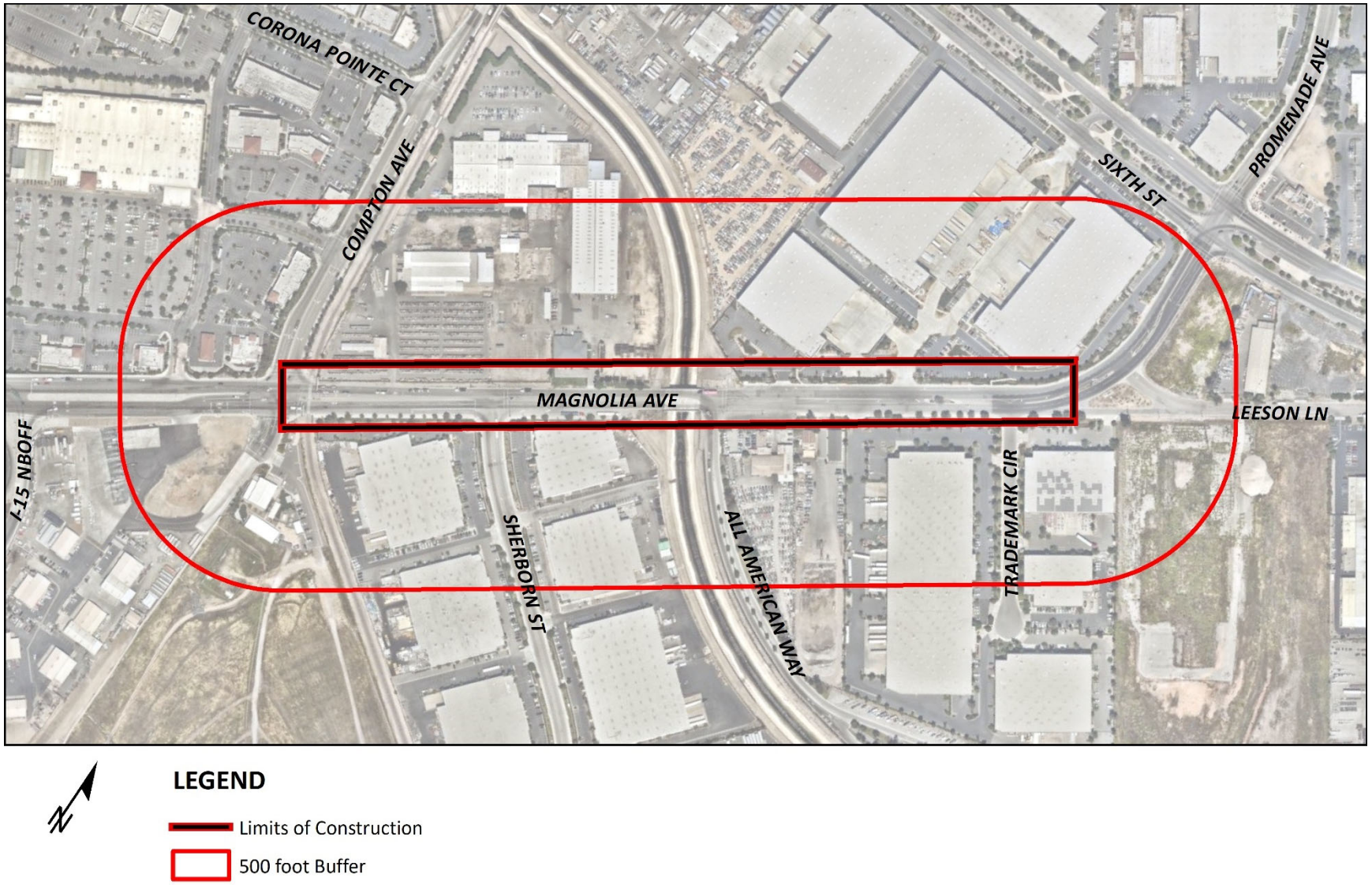
The Project is also subject to targets established in the 2012 City of Corona Climate Action Plan, which mandates a 80% emissions reduction by 2050 based on a 1990 baseline.[10] The City of Corona last built a greenhouse gas inventory in 2008, and projected several possible emissions scenarios from 2012 to 2020. No updates to the Climate Action Plan have been developed at this time and no estimate is available to predict updated legislation.

3.3 Sensitive Receptors

On the basis of research showing that the zone of greatest concern near roadways is within 500 feet, this report evaluated all receptors within a 500-foot radius of the Project alignment. Based on the review, there are no residences, schools, hospitals, other health care facilities, child/day care facilities, parks, or playgrounds within 500 feet of the Project site. Figure 7 includes the limits of construction and a 500-foot buffer used to identify the presence of nearby receptors.

[10] https://www.coronaca.gov/home/showdocument?id=1186

Figure 7 500 Foot Sensitive Receptor Buffer and Construction Limits



3.4 Conformity Status

3.4.1 Regional Conformity

The Project area is located in the Riverside County portion of the Basin, which is federally designated non-attainment for O3 and PM2.5. The Project area is also designated maintenance for CO and PM10. Since the Project site is in non-attainment and maintenance for specific NAAQS, the Project must be evaluated relative to regional conformity.

SCAG serves as the Metropolitan Planning Organization for the Project. The current SCAG regional transportation plan, SCAG's 2020-2045 RTP/SCS, also known as Connect SoCal, which was found to conform by SCAG on September 3, 2020, and the FHWA and FTA made a regional conformity determination finding on June 5, 2020. The current transportation improvement plan is SCAG's 2019 Federal Transportation Improvement Program (FTIP). The 2019 Federal Transportation Improvement Program (FTIP) was determined to conform by FHWA and FTA on December 17, 2018. The 2019 FTIP has been amended 26 times and is currently processing amendment 27. Conformity status information is summarized in Table 10. The relevant pages of the RTP/SCS and FTIP are included in Appendix A.

Table 10 Status of Plans Related to Regional Conformity.

MPO	Plan/TIP	Date of adoption by MPO	Date of Approval by FHWA	Last Amendment	Date of Approval by FHWA of Last Amendment
SCAG	RTP/SCS	September 30, 2020	June 5, 2020	NA	May 12, 2017
SCAG	FTIP	September 6, 2018	December 17, 2018	19-26	Pending

3.4.2 Project-Level Conformity

The Project is located in the Riverside County, which is in non-attainment for PM_{10}, thus a project-level hot-spot analysis for $PM_{2.5}$ is required under 40 CFR 93.109 for any Project of Air Quality Concern (POAQC). The project is not designated as a TCM in the $PM_{2.5}$ attainment plan. The Project does not cause or contribute to any new localized CO and/or $PM_{2.5}$ violations, or delay timely attainment of any NAAQS or any required interim emission reductions or other milestones during the timeframe of the transportation plan (or regional emissions analysis).

3.4.3 Interagency Consultation

The project was presented to the SCAG Air Quality Conformity Task Force on February 23, 2021 (see Appendix E for Project consultation form and TCWG determination). Participating agencies included U.S. EPA, FHWA, Federal Transit Administration, Caltrans, CARB, and the SCAQMD. The Widening Alternative was not considered a Project of Air Quality Concern (POAQC) because it was determined not to meet the criteria as defined in U.S. EPA Transportation Conformity Guidance. Important to the context for project-level Transportation Conformity, the Project would not result in a change in AADT or truck volumes.

3.5 NEPA Analysis/Requirement

NEPA applies to all projects that receive federal funding or involve a federal action. NEPA requires that all reasonable alternatives for the project are rigorously explored and objectively evaluated. For NEPA, the air quality study addresses federal criteria pollutants (O_3, $PM_{2.5}$, PM_{10}, CO, NO_2, SO_2, and Pb), MSATs, and asbestos. For purposes of NEPA, this analysis compares emissions from the future year Build scenario to those from the future year No-Build scenario.

3.6 CEQA Analysis/Requirement

CEQA requires that a range of reasonable alternatives to the project that would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project are explored. For CEQA, this air quality study estimates emission of ozone, PM_{10}, $PM_{2.5}$, CO, NO_2, SO_2, as well as GHGs. Construction emission estimates will include emissions from traffic due and off road equipment. For CEQA analyses, analysts should compare emissions from the future year Build scenarios to emissions from the Baseline (existing conditions). The difference between future No Build and Build may help inform significance determinations, which will be made by the PDT.

4. Environmental Consequences

This section describes the methods, impact criteria, and results of air quality analyses of the proposed project. Analyses in this report were conducted using methodology and assumptions that are consistent with the requirements of NEPA, CEQA, the CAAAs of 1990, and the CCAA of 1988. The analyses also use guidelines and procedures provided in applicable air quality analysis protocols, such as the Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) (Garza et al., 1997), Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{10} and $PM_{2.5}$ Nonattainment and Maintenance Areas (U.S. EPA, 2015), and the FHWA Updated Interim Guidance on Air Toxics Analysis in NEPA Documents (FHWA, 2016).

4.1 Impact Criteria

Project-related emissions will have an adverse environmental impact if they result in pollutant emissions levels that either create or worsen a violation of an ambient air quality standard, see Table 6 or contribute to an existing air quality violation.

4.2 Short-Term Effects (Construction Emissions)

4.2.1 Construction Equipment, Traffic Congestion, and Fugitive Dust

In order to relieve congestion from heavy truck traffic, the Magnolia Avenue Widening project will expand capacity on Magnolia Avenue, reducing delays and congestion. The project will also improve access for pedestrians, including the disabled. The proposed improvements will include ADA compliant sidewalks, curb and gutter, an additional travel lane in each direction including the widening of the bridge over Temescal Creek Channel, to comply with the ultimate build-out of the roadway as planned in the City's General Plan. Site preparation and roadway construction will involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. During construction, short-term impacts to air quality are expected from the release of PM emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to material movement. Emissions from construction equipment are also anticipated and would include CO, NO_X, VOCs, $PM_{10,}$ and $PM_{2.5}$, and toxic air contaminants (TACs) such as diesel exhaust particulate matter. While Magnolia Avenue would remain open during construction, construction activities are expected to temporarily result in minor traffic congestion in the area. These impacts to air quality would be temporary and limited to the immediate area surrounding the construction site.

Under the transportation conformity regulations (40 CFR 93.123(c)(5)), construction-related activities that cause temporary increases in emissions are not required to conduct hot-spot analyses. These temporary increases in emissions are those that occur only during the construction phase and last five years or less at any individual site. They typically fall into two main categories:

> *Fugitive Dust*: A major emission from construction due to ground disturbance. All air districts and the California Health and Safety Code (Sections 41700-41701) prohibit "visible emissions" exceeding three minutes in one hour – this applies not only to dust but also to engine exhaust. In general, this is interpreted as visible emissions crossing the right-of-way line. The South Coast Air Quality Management district also provides limits on the amount of fugitive dust produced by a project based on the location of the nearest sensitive receptors, termed LST thresholds.

Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site may deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions may vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction equipment emissions: Diesel exhaust particulate matter is a California-identified toxic air contaminant, and localized issues may exist if diesel-powered construction equipment is operated near sensitive receptors.

The construction period for the proposed project spans two years. In addition, transportation project construction emissions have not been identified as a significant contributor to nonattainment conditions. Therefore, an analysis of construction emissions is not needed for conformity purposes.

However, construction emissions have been estimated in accordance with CEQA requirements and for disclosure in the NEPA document. Construction emissions were estimated using the latest Sacramento Metropolitan Air Quality Management District's Road Construction Emission Model (RCEM) (http://www.airquality.org/ceqa/, Version 9.0.0). While the model was developed for Sacramento conditions in terms of silt loading and other materials movements assumptions, it is considered adequate for estimating road construction emissions by the SCAQMD as it is recommended by the SCAQMD for linear and roadway projects. Construction emissions were estimated for the Widening Alternative using equipment inventories and construction scheduling information included in the model, which is based on roadway construction surveys. These inputs are combined with emissions factors from the EMFAC2017 and OFFROAD2017 models, which are incorporated into RCEM. Construction-related emissions for the Widening Alternative are presented in Table 11. The results of the construction emission calculations are included in Appendix C. The emissions presented are based on the best information available at the time of calculations. The emissions represent the peak daily construction emissions that would be generated the Widening Alternative.

Table 11 Construction Emissions for Roadways.

Activity	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)	CO (lbs/day)	NO_x (lbs/day)	CO_2e (tons/day)
Grubbing/Land Clearing	50.4	10.7	9.6	9.3	1.3
Grading/Excavation	51.9	12.1	43.3	44.0	4.8
Drainage/Utilities/Sub-Grade	50.9	11.2	27.4	22.5	2.8
Paving	0.5	0.5	17.1	11.2	1.6
Maximum	51.9	12.1	43.3	44.0	4.8
SCAQMD Thresholds	150	55	550	100	NA
Exceed Local Standards	No	No	No	No	NA

Implementation of the following measures, some of which may also be required for other purposes such as storm water pollution control, will reduce air quality impacts resulting from construction activities. Please note that although these measures are anticipated to reduce construction-related emissions, these reductions cannot be quantified at this time.

The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2018). Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

- Water or a dust palliative will be applied to the site as often as necessary to control fugitive dust emissions.
- Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.
- Construction equipment and vehicles will be properly tuned and maintained. All diesel-powered construction equipment will use low sulfur fuel as required by CA Code of Regulations Title 17, Section 93114.
- A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely re-vegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
- Construction areas will be kept clean and orderly.
- Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used. All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust during transportation.
- Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to reduce PM emissions.
- To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- A publicly visible sign would be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person would be required to respond and take corrective action within 48 hours. The SCAQMD phone number would also be visible to ensure compliance with applicable regulations.

4.2.2 Asbestos

Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. The State Department of Conservation, in conjunction with the United States Geological Survey, has prepared a map and spreadsheet inventory of asbestos areas and areas known to contain serpentinite and ultraformic rocks. The locations of the identified deposits were examined and it was determined that the project is not in an area containing NOA. Standard dust control measures such as watering would effectively control unanticipated NOA exposure.

Structural Asbestos

Demolition of activities would be subject to SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). SCAQMD Rule 1403 is intended to limit asbestos emissions and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule addresses the national emissions standards for asbestos along with some additional requirements. The rule requires the Lead Agency and its contractors to notify SCAQMD of any regulated renovation or demolition activity. This notification includes a

description of structures and methods utilized to determine whether asbestos-containing materials are potentially present. All asbestos-containing material found on the site must be removed prior to demolition or renovation activity in accordance with SCAQMD Rule 1403, including specific requirements for surveying, notification, removal, and disposal of material containing asbestos. Therefore, projects that comply with Rule 1403 would ensure that asbestos-containing materials would be disposed of appropriately and safely.

4.2.3 Lead

Lead is normally not an air quality issue for transportation projects unless the project involves disturbance of soils containing high levels of aerially deposited lead or painting or modification of structures with lead-based coatings. No industrial sources of lead emissions have been identified near the project site. Regardless, soils will be tested for the presence of hazardous materials such as lead. If lead is present, the project would be required to develop a Lead Compliance Plan to minimize exposure per SCAQMD rules and regulations.

4.3 Long-Term Effects (Operational Emissions)

Operational emissions take into account long-term changes in emissions due to the project (excluding the construction phase). The operational emissions analysis compares forecasted emissions for Existing/Baseline conditions and the No Build and Widening Alternatives.

Regional operational emissions associated with project implementation were calculated using EMFAC2017, version 1.03. EMFAC2017 is the most recent on-road emissions modeling tool in California that has been approved for use by the U.S. EPA. EMFAC2017 contains a comprehensive emissions inventory of motor vehicles that provides estimated emission rates for air pollutants. The emission rates provided by EMFAC2017 in grams per mile were used in conjunction with daily traffic volumes and average speeds to calculate changes in emissions. For modeling the future No Build alternatives were assumed to have average speeds of 40 miles per hour (MPH), while the existing conditions and future build options were assumed to operate at 45 MPH. The air quality analysis relied upon traffic data presented in Table 1 through Table 3, to prepare emissions estimates. The Widening Alternative would not generate new vehicle trips and would have the greatest effect on congestion. The traffic study only includes traffic volumes along Magnolia Avenue as the project would not alter the adjoining roadways and would not alter travel patterns in Corona. Therefore, the sum of changes in AADT volumes were used to characterize daily emissions resulting from implementation of the Widening Alternative relative to the No-Build Alternative in 2026 and 2040. This methodology represents a reasonable assessment of how exhaust emissions would change in the project area with the Widening Alternative. Table 11 shows emissions in the existing condition and 2026 and 2040 for the No Build and Widening Alternatives. Emissions decrease in 2026 and 2040 compared to the existing condition primarily due to fleet turnover and improvements in exhaust controls. When compared to the No Build Alternative, the Widening Alternative would result in slight reductions in daily criteria pollutant emissions due to improved traffic flow. The results of the operations emission calculations are included in Appendix D.

Table 12 Summary of Comparative Emissions Analysis.

Scenario/ Analysis Year	CO (tons/day)	PM_{10} (tons/day)	$PM_{2.5}$ (tons/day)	NO_X (tons/day)
Baseline (Existing Conditions) 2019	1.81	0.08	0.08	3.79
No-Build 2026	0.07	0.01	0.01	0.86
Widening Alternative 2026	0.07	0.01	0.01	0.13
No-Build 2040	0.84	>0.01	>0.01	0.14
Widening Alternative 2040	0.77	>0.01	>0.01	0.13
Source:				

4.3.1 Regional Conformity

As stated, SCAG is the MPO in the Basin. The proposed Project is listed in the SCAG 2020-2045 RTP/SCS, which was found to conform by SCAG on September 3, 2020, and the FHWA and FTA made a regional conformity determination finding on June 5, 2020. The Project is also included in SCAG's 2019 FTIP, on page 3, designated as Project ID RIV160405, and described as "In western Riverside County for the city of Corona – Magnolia Ave Bridge Widening from 4 to 6 lanes from Camino Ave to 1000 ft E/O All American Wy, including the widening over Temescal Channel; Project to include construction of missing sidewalk, bike lanes, ADA compliant ramps, and decorative landscaping." The 2019 Federal Transportation Improvement Program (FTIP) was determined to conform by FHWA and FTA on December 17, 2018. The 2019 FTIP has been amended 26 times and is currently processing amendment 27. The Project has been in all amendments and has not been altered. The last FTIP amendment was approved by SCAG August 11, 2020 and the FHWA approved the regional conformity determination August 18, 2020. The design concept and scope of the proposed Project is consistent with the project description in the 2020-2045 SCAG RTP/SCS, the 2019 FTIP, and the "open to traffic" assumptions of SCAG's regional emissions analysis. Conformity status information is summarized in Table 10. Photocopies of relevant pages from the RTP/SCS and FTIP are included in Appendix A.

4.3.2 CO Analysis

The Transportation Conformity Rule requires a statement that:

federal projects must not cause or contribute to any new localized CO violations or increase the frequency or severity of any existing CO violations in CO nonattainment and maintenance areas.

The CO portion of the Rule applies to the proposed project because the Basin is classified as a federal CO maintenance area. The air quality analyses of the RTP and RTIP do not include the analyses of local CO impacts; these must be addressed on a project level.

Procedures and guidelines for use in evaluating the potential local level CO impacts of a project are contained in *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (UCD ITS 1997). The CO Protocol complies with the CAA, federal and state conformity rules, the National Environmental Policy Act (NEPA), and the California Environmental Quality Act (CEQA). The CO Protocol was developed for project-level conformity (hot-spot) analysis and was approved for use by the U.S. EPA in 1997. It provides qualitative and quantitative screening procedures, as well as quantitative (modeling) analysis methods to assess project-level CO impacts. The qualitative screening step is designed to avoid the use of detailed modeling for projects that clearly cannot cause a violation, or worsen an existing violation, of the CO standards. While the CO protocol was designed to address federal standards, it is also

valid for California standards because the key criterion (8-hour concentration) is similar: 9 ppm for the federal standard and 9.0 ppm for the state standard.

The CO Protocol states that the determination of project-level CO impacts should be carried out in accordance with the Local CO Analysis flow charts shown in Figure 8 and Figure 9. These flow charts apply to the evaluation of new projects. The following is a step-by-step explanation of the flow chart.

The procedures of Figure 8 are provided for the proposed project to determine the level of analysis (if any):

> **Question 3.1.1:** Is the project exempt from all emissions analyses?
>
> **Answer:** No. The proposed project does not meet the criteria for "Projects Exempt from All Emissions Analyses," as listed in the Protocol. Go to Question 3.1.2.
>
> **Question 3.1.2:** Is the project exempt from regional emissions analyses?
>
> **Answer:** No. The proposed project does not meet the criteria for "Projects Exempt from Regional Emissions Analyses," as listed in the Protocol. Go to Question 3.1.3.
>
> **Question 3.1.3:** Is the project locally defined as "Regionally Significant"?
>
> **Answer:** Yes. The project meets the Protocol's definition of a regionally significant transportation project as defined in 40 CFR 93.101. Go to Question 3.1.4.
>
> **Question 3.1.4:** Is the project in a federal attainment area?
>
> **Answer:** No. The project is located in a federal nonattainment area for O3. Go to Question 3.1.5.
>
> **Question 3.1.5:** Is there a currently conforming RTP and RTIP?
>
> **Answer:** Yes. The project is included in SCAG's 2020-2045 RTP and 2019 FTIP; the FHWA and the FTA approved their air quality conformity analysis. Go to Question 3.1.6.
>
> **Question 3.1.6:** Is the project included in the regional emissions analysis supporting the currently conforming RTP and RTIP?
>
> **Answer:** Yes. The project is consistent with the assumptions in the SCAG's regional emissions analysis. Go to Question 3.1.7
>
> **Question 3.1.7:** Has the project design concept and/or scope changed significantly from that of the regional analysis?
>
> **Answer:** No. The design concept and scope of the proposed project are consistent with the project description in the 2020-2045 RTP/SCS, the 2019 FTIP, and the assumptions in the SCAG's regional emissions analysis. Proceed to Step 3.1.9, Examine Local Impacts; Go to Section 4 – Figure 3 of the Protocol.

The determination of project-level CO impacts should be carried out according to the Local Analysis flow chart shown in Figure 10 and Figure 11. The procedures of Section 4 in Figure 10 are provided for the proposed project to identify the level of effort required.

Figure 8 **CO Protocol Flow Chart - Part 1**

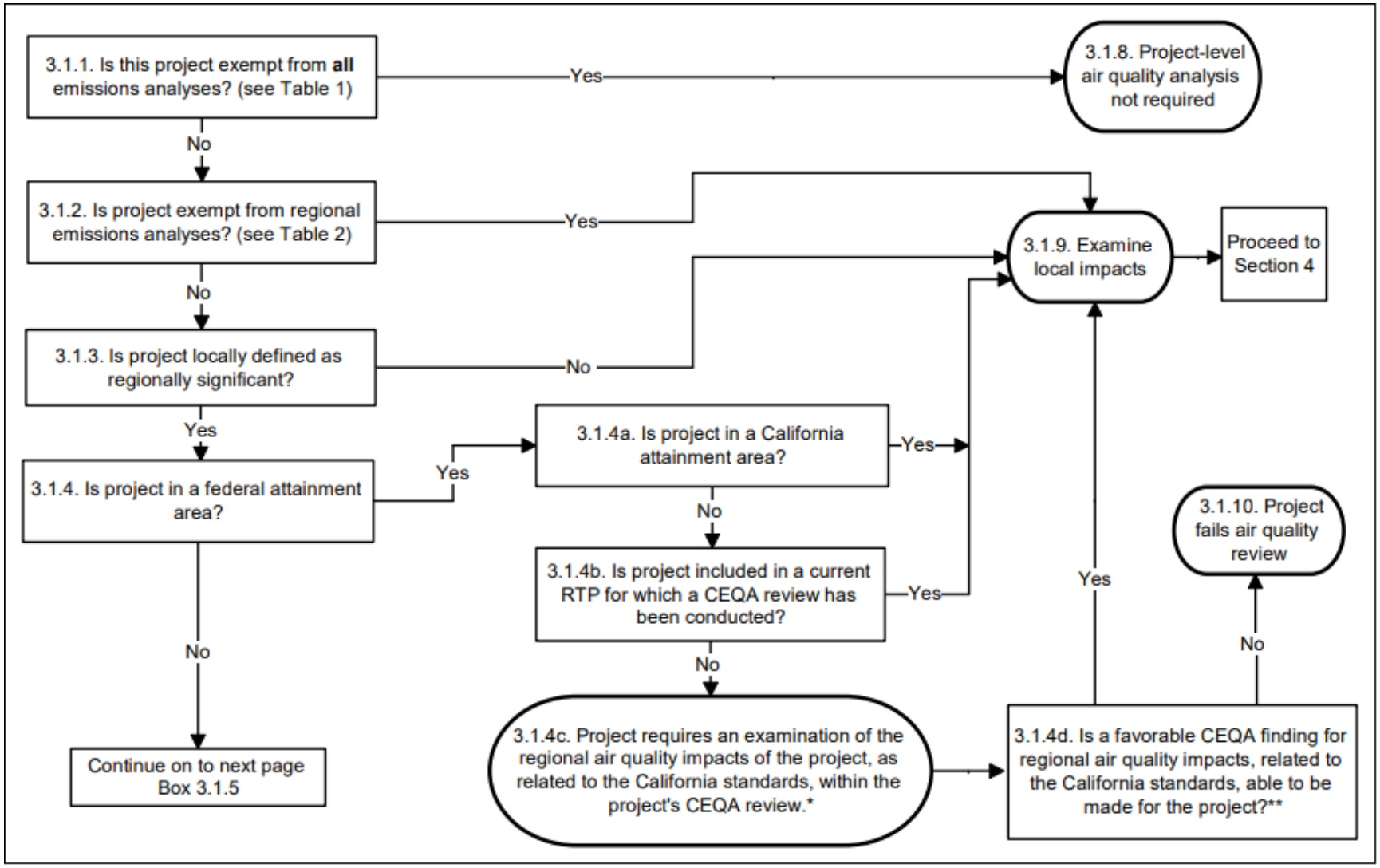


Figure 9 CO Protocol Flow Chart – Part 2

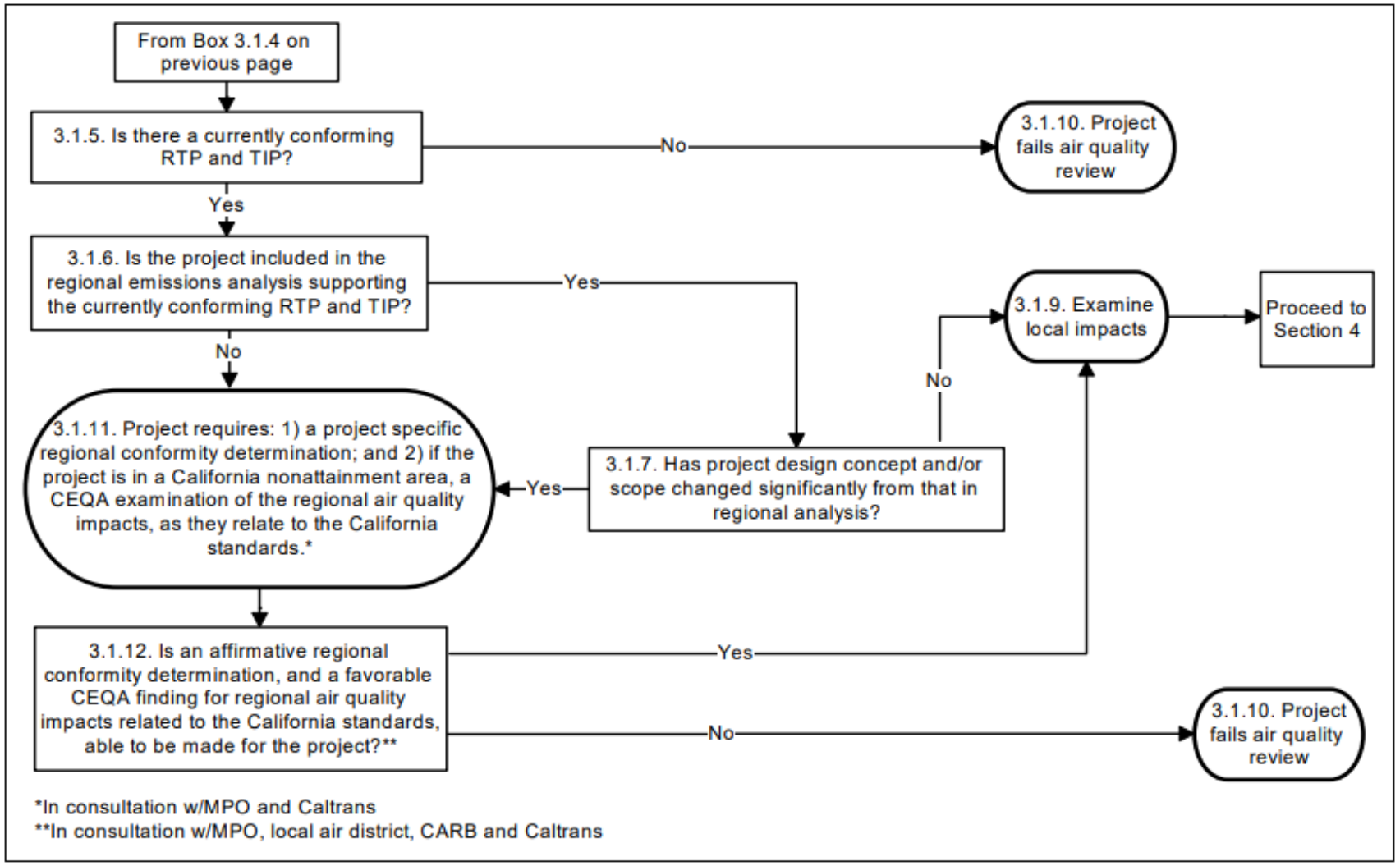


Figure 10 Local CO Analysis Chart – Part 1

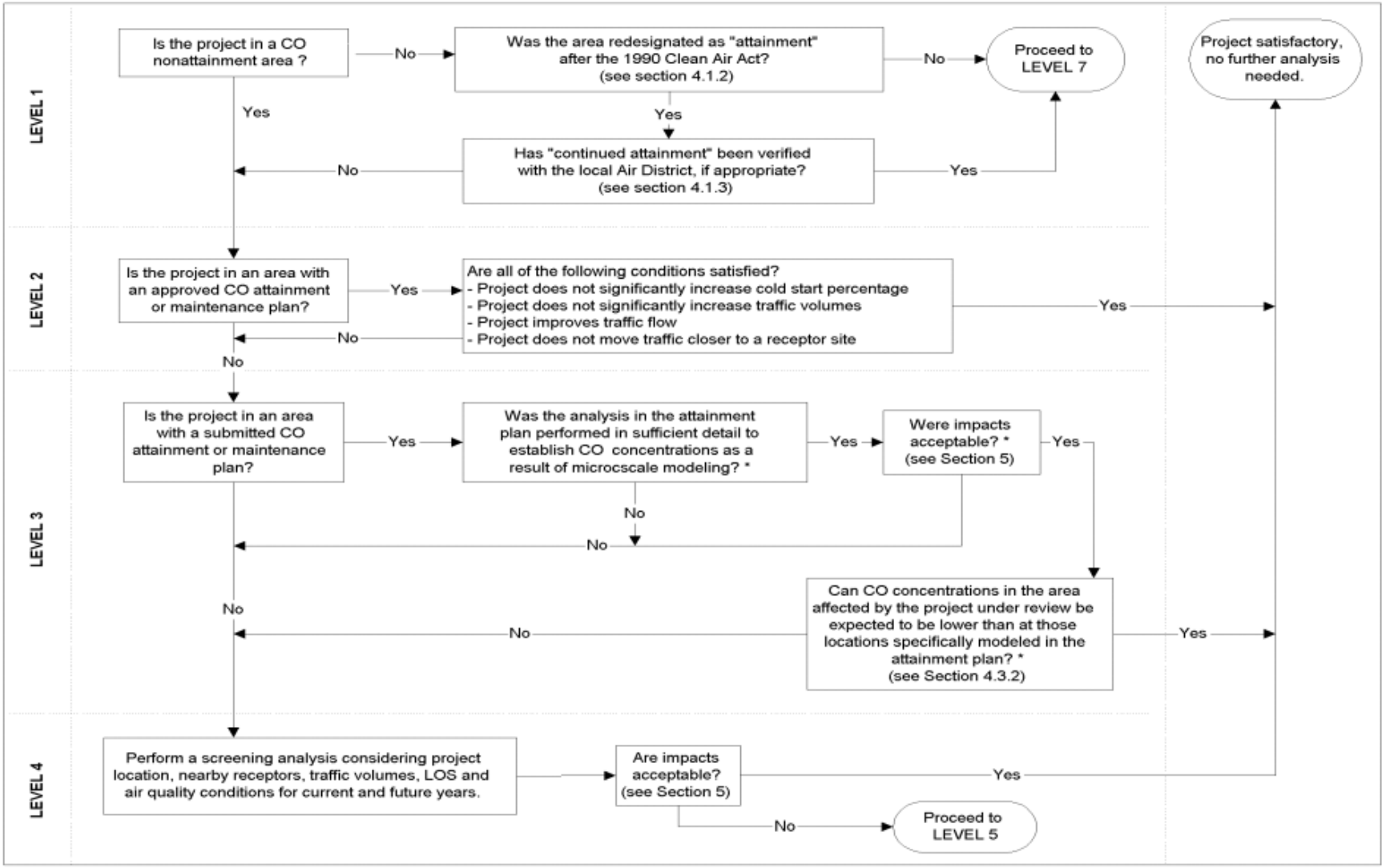
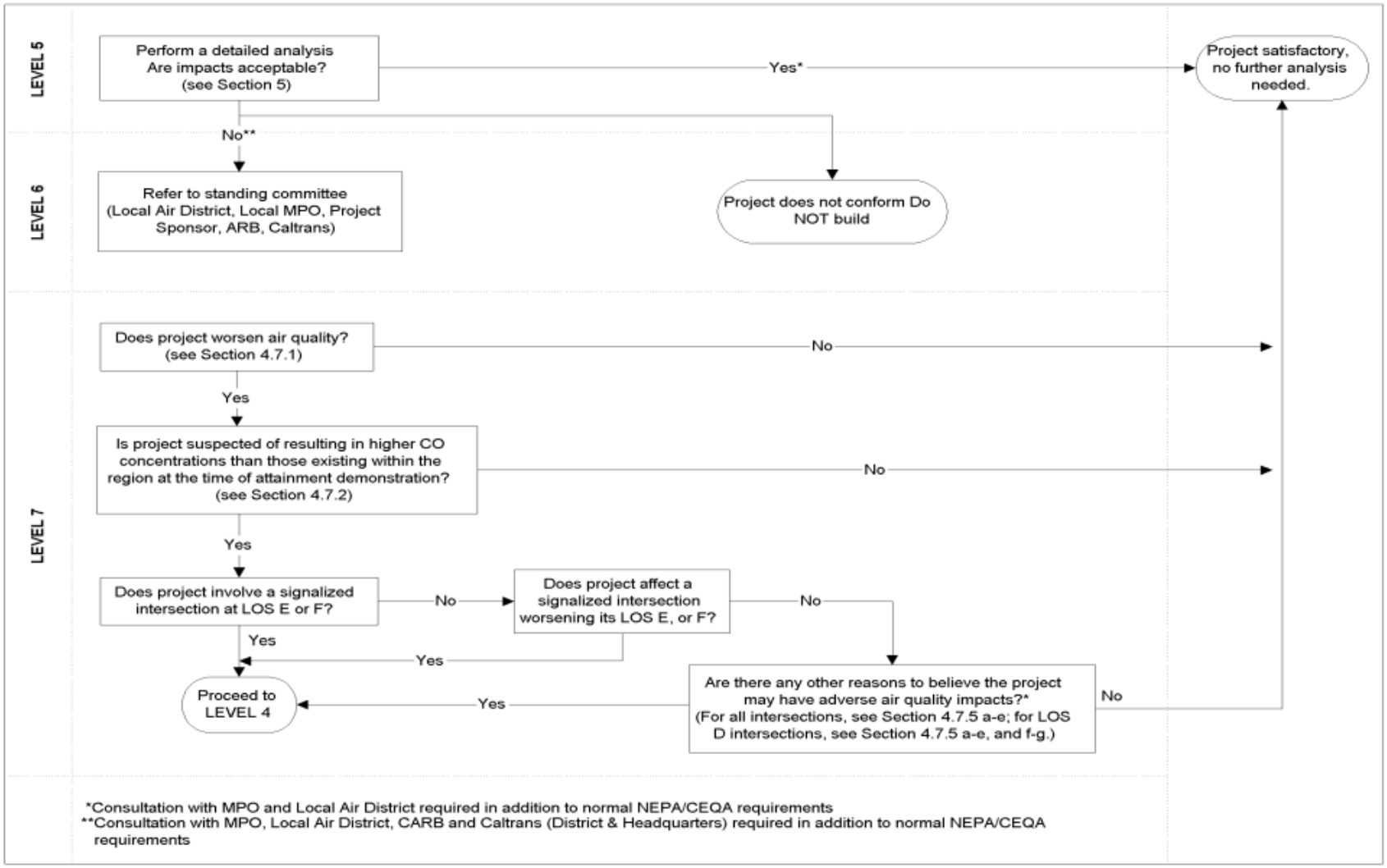


Figure 11 CO Protocol Flow Chart – Part 2



Section 4, Local CO Analysis, Level 1

Question: Is the project in a CO nonattainment area?

Answer: No. The project is in a CO attainment-maintenance area, following a redesignation from a CO nonattainment area. Go to next question.

Question: Was the area redesignated as "attainment" after the 1990 Clean Air Act?

Answer: Yes. The area was redesignated as attainment after 1990. Go to next question.

Question: Has "continued attainment" been verified with the local air district (if appropriate)?

Answer: Yes. Continued attainment has been verified with the SCAQMD. Proceed to Level 7.

Level 7

Question: Does the project worsen air quality?

The Protocol guidance for this question states: "Only those projects that are likely to worsen air quality necessitate further analysis." To determine whether a project is likely to worsen air quality for the area substantially affected by the project, the guidance provides the following questions:

Question: Would "the project significantly increase the percentage of vehicles operating in cold start mode"? An increase of as little as 2% could be significant.

Answer: No. The project would not increase the number of vehicles operating in cold start mode. The project is to complete the local transportation network and would not generate traffic.

Question: Would "the project significantly increase traffic volumes"? Traffic volume increases of 5% or more could be significant. Additionally, an increase of less than 5% may still be significant, if there is also a reduction in average speeds.

Answer: No. The project does not involve development of housing, employment centers, or other attractions, and thus, would not itself generate traffic volumes. The widening would accommodate increased traffic volumes on this segment of Magnolia by providing increased efficiency via expanded connectivity.

Question: Would "the project worsen traffic flow"? A reduction in average speeds of 3 to 50 mph or an increase in average delay (LOS) at an intersection could be regarded as worsening traffic flow.

Answer: No. Based on the project traffic report, with previously identified mitigation incorporated, all affected intersection would operate at LOS D or better (KOA 2020). Therefore, the project would not worsen traffic flow, defined for intersections as increasing average delay at signalized intersections operating at LOS E or F.

Project Satisfied – no further analysis needed.

According to the CO Protocol, the proposed project is considered satisfactory and no further CO analysis is required. Therefore, no localized CO impacts would occur.

4.3.3 PM Analysis

On March 10, 2006, the USEPA published a final rule that establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts in $PM_{2.5}$ and PM_{10} non-attainment and maintenance areas. Based on that rule, the USEPA and FHWA published *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* (FHWA 2015). As discussed, Riverside County is designated as a non-attainment area for both the PM_{10} and $PM_{2.5}$ standards.

In November 2015, the U.S. EPA released an updated version of Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas (Guidance) for quantifying the local air quality impacts of transportation projects and comparing them to the PM NAAQS (75 FR 79370). The U.S. EPA originally released the quantitative guidance in December 2010, and released a revised version in November 2013 to reflect the approval of EMFAC 2011 and U.S. EPA's 2012 PM NAAQS final rule. The November 2015 version reflects MOVES2014 and its subsequent minor revisions such as MOVES2014a, to revise design value calculations to be more consistent with other U.S. EPA programs, and to reflect guidance implementation and experience in the field. Note that EMFAC, not MOVES, should be used for project hot-spot analysis in California. The Guidance requires a hot-spot analysis to be completed for a project of air quality concern (POAQC). The final rule in 40 CFR 93.123(b)(1) defines a POAQC as:

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

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

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

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

v. Projects in or affecting locations, areas, or categories of sites which are identified in the PM2.5 and PM10 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

A significant volume for a new highway or expressway is defined as an annual average daily traffic (AADT) volume of 125,000 or more, and a significant number of diesel vehicles is defined as 8 percent or more of that total AADT or more than 10,000 truck AADT. A significant increase in diesel truck traffic is normally considered to be approximately 10 percent.

Based on the project traffic analysis, the Widening Alternative does not increase the capacity of regional arterials or increase future traffic volumes along Magnolia Avenue. This type of project improves existing traffic network deficiencies within the city. The widening would be a 6-lane bridge with a capacity of 35,900 ADT (KOA 2020), and long-term (year 2040) projected traffic volumes ranging from 24,972 to 37,850 ADT along Magnolia Avenue (KOA 2020). While the project would widen the bridge and roadway segment, the traffic volumes along Magnolia Avenue would not approach or exceed the 125,000 AADT criterion for a POAQC. In addition, the total truck volume would remain below the 10,000 AADT criterion (8 percent of 125,000 average annual daily traffic [AADT]) for POAQC. According to the traffic engineer for the project, Magnolia Avenue would carry a maximum of 6 percent trucks (See Appendix B). Based on 6 percent truck trips on Magnolia Avenue, the horizon year 2040 truck volume on Magnolia

Avenue would range from 1,401 to 2,123 AADT. Additionally, the project is not a trip generator. Implementation of the project would redress the existing traffic network deficiencies within the city and reduce congestion along this segment of Magnolia Avenue and improved direct access to I-15. Additionally, the proposed roadway improvements would improve the levels of service as compared to the No Build scenario under design and horizon years.

Table 13 Future Traffic Capacity

Roadway	ADT	No Build				With Project			
Magnolia Avenue		LOS E Capacity	Classification	V/C	LOS	LOS E Capacity	Classification	V/C	LOS
Design Year 2026	24,972	35,900	4L Arterial	0.70	C	53,900	6L Arterial	0.46	B
Horizon Year 2040	37,850	35,900	4L Arterial	1.05	F	53,900	6L Arterial	0.70	C
Source: KOA 2020									

The project would not be a project of air quality concern for PM_{10} or $PM_{2.5}$ emissions because the project would not result in increases in the number of diesel vehicles utilizing the project area; does not involve intersections that are operating at LOS D, E, or F with a significant number of diesel vehicles; does not involve a new or expanded bus or rail terminal; and would not affect a location or category of site which are identified in the PM_{10} or $PM_{2.5}$ implementation plan as sites of violation or possible violation. The project was discussed among stakeholders at a Transportation Conformity Working Group (TCWG) meeting on February 23, 2021, pursuant to the interagency consultation requirement of 40 CFR 93.105(c)(1)(i). The members of the TCWG confirmed that the project would not be considered a project of air quality concern. The TCWG determination in included as Appendix E.

4.3.4 NO_2 Analysis

The U.S. EPA modified the NO_2 NAAQS to include a 1-hr standard of 100 ppb in 2010. Currently there is no federal project-level nitrogen dioxide (NO_2) analysis requirement. However, NO_2 is among the near-road pollutants of concern but there is no available project level assessment protocol for NO_2. Additionally, the current versions of EMFAC and CT-EMFAC do not provide NO_2 emissions estimates. These models provide NO_X emissions estimates. NO_X is a combination of NO and NO_2. If ozone is present at relatively low (background) concentrations, most of the directly emitted NO will convert to NO_2 within a few seconds. Therefore, NO_X emissions serve as a useful analysis surrogate for NO2. The Caltrans Near-Road Nitrogen Dioxide Assessment report can be used as a reference (Caltrans, 2012).

Table 12, shows NO_X emissions for existing, No Build Alternative, and Widening Alternative conditions. Emissions decrease in 2026 and 2040 compared to the existing condition primarily due to fleet turnover and improvements in exhaust controls. When compared to the No Build Alternative, the Widening Alternative would result in slight reductions in daily criteria pollutant emissions due to improved traffic flow.

4.3.5 Mobile Source Air Toxics Analysisp

The following discussion is based on the FHWA Memorandum “Information: Updated Interim Guidance on Mobile Source Air Toxic Analysis (MSAT) in NEPA Documents,” dated October 18, 2016 (FHWA 2016c). The purpose of the guidance is to advise when and how to analyze MSAT in the NEPA process for highways. This guidance is provisional because MSAT science is still evolving. As the science progresses, FHWA will update the guidance.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs

Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of USEPA efforts. Most notably, the agency conducted the National Air Toxics Assessment 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the National Air Toxics Assessment database best illustrate the levels of various toxics when aggregated to a national or State level.

The USEPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The USEPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at http://www.epa.gov/iris.

The following toxicity information for the nine prioritized MSATs was taken from the IRIS database *Weight of Evidence Characterization* summaries. This information is taken verbatim from USEPA's IRIS database and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

1,3-butadiene is characterized as carcinogenic to humans by inhalation.

Acetaldehyde is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.

The potential carcinogenicity of acrolein cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.

Benzene is characterized as a known human carcinogen.

Diesel exhaust is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases. Diesel exhaust also represents chronic respiratory effects, possibly the primary non-cancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

Formaldehyde is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.

Naphthalene is a possible human carcinogen, based on the inadequate data of carcinogenicity in humans exposed to naphthalene via the oral and inhalation routes, and the limited evidence of carcinogenicity in animals via the inhalation route.

Polycyclic organic matter is a probable human carcinogen based on sufficient evidence in animals.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by USEPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics.

The following recent studies have reported that proximity to roadways is related to adverse health outcomes, particularly respiratory problems: *Multiple Air Toxic Exposure Study-II*, South Coast Air Quality Management District (2000); *Highway Health Hazards*, Sierra Club (2004), which summarizes 24 studies on the relationship between health and air quality; and NEPA's U*ncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles*, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein. Much of this research is not specific to MSATs and instead surveys the full spectrum of both criteria and other pollutants.

It is possible to qualitatively assess the levels of future MSAT emissions under the project. A qualitative analysis cannot identify and measure health impacts from MSATs, but it can give a basis for identifying and comparing the potential differences among MSAT emissions, if any, between the project and no project conditions. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*.

Evaluation of Project MSAT Potential

The FHWA has developed a tiered approach for analyzing MSATs in NEPA documents. Depending on the specific project circumstances, the FHWA has identified three levels of analysis:

i. No analysis for projects with no potential for meaningful MSAT effects, Category (1);

ii. Qualitative analysis for projects with low potential MSAT effects, Category (2); or

iii. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects, Category (3).

Category (1) is limited to projects that qualify as a categorical exclusion under 23 CFR 771.117(c); are exempt under the Clean Air Act conformity rule under 40 CFR 93.126; or have no meaningful impacts on traffic volumes or vehicle mix.

The project does not meet any of the Category (1) requirements.

For a project to be of the magnitude to have a higher potential for MSAT effects, i.e. Category (3), a project must create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location; or create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000, or greater, by the design year; and be proposed to be located in proximity to populated areas or in rural areas, in proximity to concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals). For these projects, the November 2015 PM Guidance describes how to complete a quantitative hot spot analyses using the USEPA's MOVES2014a model or, for projects in California, the California Air Resources Board's Emission Factors (EMFAC) model.

The project would widen Magnolia Avenue from El Camino Avenue to 1,000 Feet East of All American Way as a new six-lane facility with a bridge over Temescal Wash. The widening would be a 6-lane arterial with a capacity of 35.900 AADT (KOA 2020). While the project would widen an existing roadway segment, the estimated maximum AADT would not increase over the No-Build alternative and would be substantially less than the threshold value of 140,000 AADT, the minimum volume for higher potential MSAT effects (FHWA 2016c). Therefore, the project would not be included in Category (3).

Therefore, by default, the project would be included in Category (2) and would have a low potential for MSAT effects. This assessment is based on FHWA guidance that projects that do not meet the criteria for Category (1) or Category (3) should be included in Category (2).

The primary objective of the project is to resolve existing traffic network deficiencies within the city. The project would also provide a variety of alternative transportation benefits by increasing pedestrian facilities along the project alignment. The Widening Alternative would also provide congestion relief in the immediate area from projected traffic volumes.

The amount of MSATs emitted would be proportional to the vehicle miles traveled (VMT), assuming that other variables such as fleet mix are the same with or without the project. Because the Project would not increase AADT, the Project would not result in different MSAT emissions along Magnolia Avenue than would occur without the Project.

With or without the project, emissions will likely be lower than present levels in the design year as a result of USEPA's national control programs that are projected to reduce MSAT emissions. According to an FHWA analysis using USEPA's MOVES2014a model, even if vehicle activity (VMT) increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emission rate for the priority MSATs is projected for the same time period (FHWA 2016c). Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

Therefore, there would be no local or regional air quality impacts to sensitive receptors from the project.

4.3.6 Greenhouse Gas Emissions Analysis

Project-related CO_2e emissions were estimated using EMFAC2017. Annual emissions were calculated by multiplying daily emissions within the project area by 365 days in a year. Table 14 shows CO_2e emissions in the Existing Condition and 2026 and 2040 for the No Build and Widening Alternatives. The Widening Alternative would not result a change in local or regional VMT. The Widening Alternative would result in less CO_2e emissions due to improved traffic flow and reduced delay when compared to the No-Build Alternative in 2026 and 2040. The No-Build Alternative in 2026 and 2040 would also result in less CO_2e emissions than Existing Conditions, primarily due to improvements in vehicle fuel efficiencies. CH_4 and N_20 would represent a negligible amount of CO_2e emissions (less than 1%).

Table 14 Modeled Annual CO_2 Emissions and Vehicle Miles Traveled, by Alternative.

Alternative	Emissions (MT CO_2e/Year)	Annual Vehicle Miles Traveled[1]
Existing/Baseline 2019	1,599	45,654,000
Design Year 2026		
No Build	539	52,441,200
Widening Alternative	503	52,441,200
Horizon Year 2040		
No Build	363	79,485,000
Widening Alternative	375	79,485,000

CO_2e = carbon dioxide equivalent
Source: KOA 2020, EMFAC2017
[1] Annual VMT values derived from Daily VMT values multiplied by 365, per ARB methodology (ARB 2008).

While EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its emission rates are based on tailpipe emission test data and have limitations. The EMFAC based emissions estimates are used for comparison of alternatives. However, the model does not account for factors such as the vehicle operation mode (e.g., rate of acceleration) and the vehicles' aerodynamics, which would influence CO_2e emissions. ARB's GHG Inventory follows the IPCC guideline by assuming complete fuel combustion, while still using EMFAC data to calculate CH_4 and N_2O emissions.

4.4 Cumulative/Regional/Indirect Effects

The cumulative impact analysis is conducted based on a summary of projections of future development and impacts contained in an adopted general planning or related planning document, or in a prior environmental document that has been certified. The project is included in the SCAG 2020-2045 RTP/SCS, which is known as SoCal Connect. The associated Air Quality Conformity Analysis verifies that the 2020-2045 RTP/SCS and the Amended 2019 FTIP conform with the latest U.S. EPA transportation conformity regulations and the SCAQMD portion of the SIP. Therefore, there is no potential for the project to interfere with air quality plans that are designed to reduce cumulative air quality impacts in the project area.

In addition, O_3, secondary PM_{10}, and secondary $PM_{2.5}$ are normally regional issues because they are formed by photochemical and chemical reactions over time in the atmosphere. Formation of ozone and secondary PM are a function of VOC and NO_X emissions. As shown in Table 12, above, the Widening Alternative would result in less NO_X emissions than either the Existing condition or No Build Alternative.

5. Minimization Measures

The following subsections discuss short-term (construction) and long-term (operational) measures to reduce emissions.

5.1 Short-Term (Construction)

Caltrans standard measures are included in the Project Description and in Section 4.2.1 of this Air Quality Report. These measures are designed to protect sensitive receptors located near construction activity, including the residential population at Golden Gate Fields. The local community has identified the horse population at Golden Gate Fields as sensitive to air pollution. The following measures would reduce pollutant exposure to horses in addition to further reducing human exposure beyond that achieved by the Caltrans standard measures.

- A plan would be developed to efficiently use water for adequate dust control during construction.
- The contractor would use locally sourced or recycled materials for construction materials (goal of at least 20% based on costs for building materials, and based on volume for roadway, parking lot, sidewalk and curb materials). Wood products utilized should be certified through a sustainable forestry program.
- Fuel consumption would be minimized by encouraging and providing carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes. Additionally, fuel efficiency from construction equipment would be improved by minimizing idling time and maintaining construction equipment in proper working condition.
- Exposed soil would be watered as necessary to prohibit visible emissions from leaving the construction site per SCAQMD Rule 403.
- A publicly visible sign would be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person would be required to respond and take corrective action within 48 hours. The SCAQMD phone number would also be visible to ensure compliance with applicable regulations.

5.2 Long-Term (Operational)

The Widening Alternative itself increases operational efficiency as widening reduce idling (and associated fuel use) and queuing, which has been shown to reduce air quality and GHG emissions. The measures below would address water efficiency, energy efficiency, material use/choice, carbon sequestration, heat island reduction, operational efficiency, fuel consumption, and construction methods and are included to reduce the emissions and potential impacts.

- Landscaping reduces surface warming and, through photosynthesis, decreases atmospheric CO_2. The project would include plantings in the medians to the extent feasible. Low plantings would be included along the sidewalks. These plantings will help offset any potential CO_2 emissions increase through carbon sequestration and reducing the heat island effect.

- The project would incorporate the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals. he LED bulbs themselves consume 10% of the electricity of traditional lights, which will also help reduce the project's CO_2e emissions through energy efficiency.

6. Conclusions

The purpose of this AQR is to inform the NEPA and CEQA decisions with background information and project-specific analysis related to the project. The findings are as follows:

- Transportation Conformity – SCAG serves as the Metropolitan Planning Organization for the Project. The proposed Project is listed in the SCAG "Connect SoCal" (2020-2045 RTP/SCS), which was found to conform by SCAG on September 3, 2020, and the FHWA and FTA made a regional conformity determination finding on June 5, 2020. The Project is also included in the 2019 Federal Transportation Improvement Program (FTIP), page 3. The 2019 Federal Transportation Improvement Program (FTIP) was determined to conform by FHWA and FTA on December 17, 2018. The 2019 FTIP has been amended 26 times and is currently processing amendment 27. The Project has been in all amendments and has not been altered. The last FTIP amendment was approved by SCAG August 11, 2020 and the FHWA approved the regional conformity determination August 18, 2020. The design concept and scope of the proposed Project is consistent with the project description in the 2020-2045 SCAG RTP/SCS, the 2019 FTIP, and the "open to traffic" assumptions of SCAG's regional emissions analysis. Conformity status information is summarized in Table 10.

- Construction Emissions – Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Implementation of the following avoidance, minimization, and/or mitigation measures would minimize construction emissions. The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2015). - Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

    Water or a dust palliative will be applied to the site as often as necessary to control fugitive dust emissions.

    Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.

    Construction equipment and vehicles will be properly tuned and maintained. All diesel-powered construction equipment will use low sulfur fuel as required by CA Code of Regulations Title 17, Section 93114.

    A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely re-vegetation of disturbed slopes as needed to minimize construction impacts to existing communities.

    Construction areas will be kept clean and orderly.

    Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used. All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust during transportation.

    Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to reduce PM emissions.

To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

A publicly visible sign would be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person would be required to respond and take corrective action within 48 hours. The SCAQMD phone number would also be visible to ensure compliance with applicable regulations.

- Operational Emissions - The Widening Alternative would result in similar emissions in 2026 and lower emissions in 2040 compared to the No Build Alternative and existing conditions. Emissions decrease in 2026 and 2040 compared to the existing condition primarily due to fleet turnover and improvements in exhaust controls. When compared to the No Build Alternative, the Widening Alternative would result in slight reductions in daily criteria pollutant emissions due to improved traffic flow.

- PM Analysis - PM emissions were estimated for Existing Conditions along with the No Build and Widening Alternative for the opening year 2026 and horizon year 2040. Table 12 shows that the project would result in marginal reductions in PM emissions. Slight reductions would occur when comparing the Widening Alternatives to Existing conditions and the No Build Alternative.

- NO_2 Analysis - For project-level analysis, an NO_2 assessment protocol is not available and emissions are best assessed as NO_X. Emissions decrease in 2026 and 2040 compared to the existing condition primarily due to fleet turnover and improvements in exhaust controls. When compared to the No Build Alternative, the Widening Alternative would result in slight reductions in daily criteria pollutant emissions due to improved traffic flow.

- MSAT Analysis – Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents (FHWA, 2016) recommends a range of options deemed appropriate for addressing and documenting the MSAT issue in NEPA documents. The guidance states that FHWA does not recommended MSAT analyses for projects with no or negligible traffic impacts. The Traffic Operations Analysis Report (KOA 2020) determined that the Widening Alternative would not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the Widening and No Build Alternatives, based on VMT, vehicle mix, and speed.

- GHG Emissions – The Widening Alternative would result in less CO_2e emissions due to improved traffic flow when compare to the No Build Alternative and existing conditions. The No Build Alternative in 2026 and 2040 would also result in less CO_2e emissions than existing conditions, primarily due to improvements in engine fuel efficiency. The measures below would address water efficiency, energy efficiency, material use/choice, carbon sequestration, heat island reduction, operational efficiency, fuel consumption, and construction methods and are included to reduce the GHG emissions and potential climate change impacts.

  Landscaping reduces surface warming and, through photosynthesis, decreases CO2. The project would include plantings in the medians to the extent feasible. Low plantings would be included along the sides of the San Francisco Bay Trail and between the new retaining walls. These plantings will help offset any potential CO2 emissions increase through carbon sequestration and reducing the heat island effect.

  The project would incorporate the use of energy-efficient lighting, such as lightemitting diode (LED) traffic signals. The LED bulbs consume 10% of the electricity of traditional lights, which will also help reduce the project's CO2 emissions through energy efficiency.

- Cumulative/Regional/Indirect Effects - The project is included in the SCAG 2020 – 2040 RTP/SCS. The associated Air Quality Conformity Analysis verifies that the 2020 – 2040 RTP/SCS and the Amended 2019 FTIP conform with the latest U.S. EPA transportation conformity regulations and the SCAQMD portion of the SIP.

Therefore, there is no potential for the project to interfere with air quality plans that are designed to reduce cumulative air quality impacts in the project area.

7. References

Air Resources Board (2018) Air Quality Standards and Area Designations. Available at https://www.arb.ca.gov/desig/desig.htm

California Department of Transportation (2012) Near-Road Nitrogen Dioxide Assessment. Final report, CTAQ-RT-12-270.09.02, August.

California Department of Transportation (2018) Standard Specifications. Prepared by the State of California Department of Transportation. Available at http://www.dot.ca.gov/hq/esc/oe/construction_contract_standards/std_specs/2015_StdSpecs/2015_StdSpecs.pdf

Federal Highway Administration (2016) Updated Interim guidance update on mobile source air toxic analysis in NEPA documents. Available at https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/

Garza V., Graney P., Sperling D., Niemeier D., Eisinger D., Kear T., and Chang D. (1997) Transportation project-level carbon monoxide protocol revised. Prepared for Environmental Program California Department of Transportation by the Institute of Transportation Studies, University of California, Davis, UCD-ITS-RR-97-21, December. Available at http://www.dot.ca.gov/hq/env/air/pages/coprot.htm

South Coast Air Quality Management District (SCAQMD, 2014) Multiple Air Toxics Exposure Study: MATES IV draft report. Findings presented at the SCAQMD Governing Board Meeting, October 3.

U.S. Environmental Protection Agency (1995) Compilation of air pollutant emission factors, AP-42. Vol. 1: stationary point and area sources. 5th ed. (January 1995). Report prepared by the Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. Available at http://www.epa.gov/ttnchie1/ap42/

U.S. Environmental Protection Agency (2015) Transportation conformity guidance for quantitative hot-spot analyses in $PM_{2.5}$ and PM_{10} nonattainment and maintenance areas. Prepared by the U.S. EPA Office of Transportation and Air Quality, Transportation and Climate Division, EPA-420-B-15-084, November. Available at http://www3.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm

U.S. Environmental Protection Agency (2018) Nonattainment Areas for Criteria Pollutants (Green Book). Available at https://www.epa.gov/green-book

Appendices

Appendix A

RTP and TIP Listings for the Project and FHWA Conformity Determination

Table CE-1 Corona Functional Roadway Classification

Classification	General Purpose
Major Arterial	Major arterials have the highest traffic-carrying capacity, with the highest speeds and limited interference with traffic flow from driveways or abutting properties. Major arterials may be 4 or 6 lanes depending on traffic volumes, and may have center medians. Parking may or may not be allowed. Major arterials are 82 to 106 feet wide curb-to-curb within a 106- to 130-foot right of-way. Key major arterials include portions or all of Main Street, Magnolia Avenue, Ontario Avenue, Cajalco Road, River Road, McKinley Avenue, Grand Boulevard, and Green River Road.
Secondary Arterial	Secondary arterials connect traffic from collector streets to streets of higher classification with limited access to abutting properties. Secondary arterials carry some through traffic and may or may not provide on-street parking or Class 2 bike lanes. Secondary arterials are typically 4 lanes, 64 feet wide curb-to-curb, and within an 88-foot right-of-way. Secondary arterials include Foothill Parkway, Lincoln Avenue, and Hidden Valley Parkway.
Collector	Collectors are intermediate routes in a road network. Collector streets may handle some localized "through" traffic from one local street to another; but their purpose is to connect local streets to the arterial network. Collectors typically are 44 feet wide curb-to-curb (2 lanes) within a 68-foot right-of-way and are often equipped with sidewalks and bicycle routes.
Mixed Use Boulevard	Mixed use boulevards are streets that serve land use patterns in the City's mixed use land use districts. A prime example is Sixth Street, which runs through the Circle and is designed to support a mixed use district and encourage pedestrian activity by having wide sidewalks and on-street parking where people will park and walk to multiple businesses
Special Residential	Special residential arterials are a type of street intended to accommodate land use patterns in the City's Circle and surrounding environment. These streets will include improvements sensitive to adjacent residential uses. These may include parking cutouts, raised medians, roundabouts, bike lanes, special treatments at pedestrian crossings, peak period parking, etc.
Local Street	Local streets principally provide vehicular, pedestrian, and bicycle access to property that is directly abutting the public right-of-way. Movement of through traffic on local streets is discouraged. Local streets are 40 feet wide curb-to-curb within a 64-foot right-of-way and have 2 lanes (1 in each direction). Sidewalks are included.
Private Street	Streets not maintained by the City; they principally provide access to and within developments. Most of these streets are within multifamily residential developments; however, a few private streets are in single-family residential neighborhoods. Residents and/or homeowner associations manage and maintain these streets.
Rural Streets	Rural roads carry vehicles in very low volumes and can only be used in appropriate locations. The rural road carries less than 100 vehicles daily and has a 28-foot-wide travel width and 50-foot right-of-way. The high-traffic-volume rural road may carry up to 200 vehicles per day, and generally has a 36-foot travel width within a 50-foot right-of-way.

Sources: Corona Street Design Standards, 2016.

GOAL CE-1

A roadway network of complete streets that provide accessibility for all users of all ages and abilities while maintaining context sensitivity to the land uses identified in the Land Use Element.

Policies

CE-1.1 Implement complete streets by limiting capacity to only serve expected demand on City streets (e.g., do not overbuild roadways) while discouraging regional cut-through and maximizing accessibility for users to adjacent land uses in a safe and efficient way.

CE-1.2 Support roadway maintenance programs that inspect, repair, and rehabilitate pavement surfaces in order to preserve the high quality of City streets and thoroughfares.

CE-1.3 Provide for safe roadway conditions by adhering to nationally recognized improvement standards and uniform construction and maintenance practices.

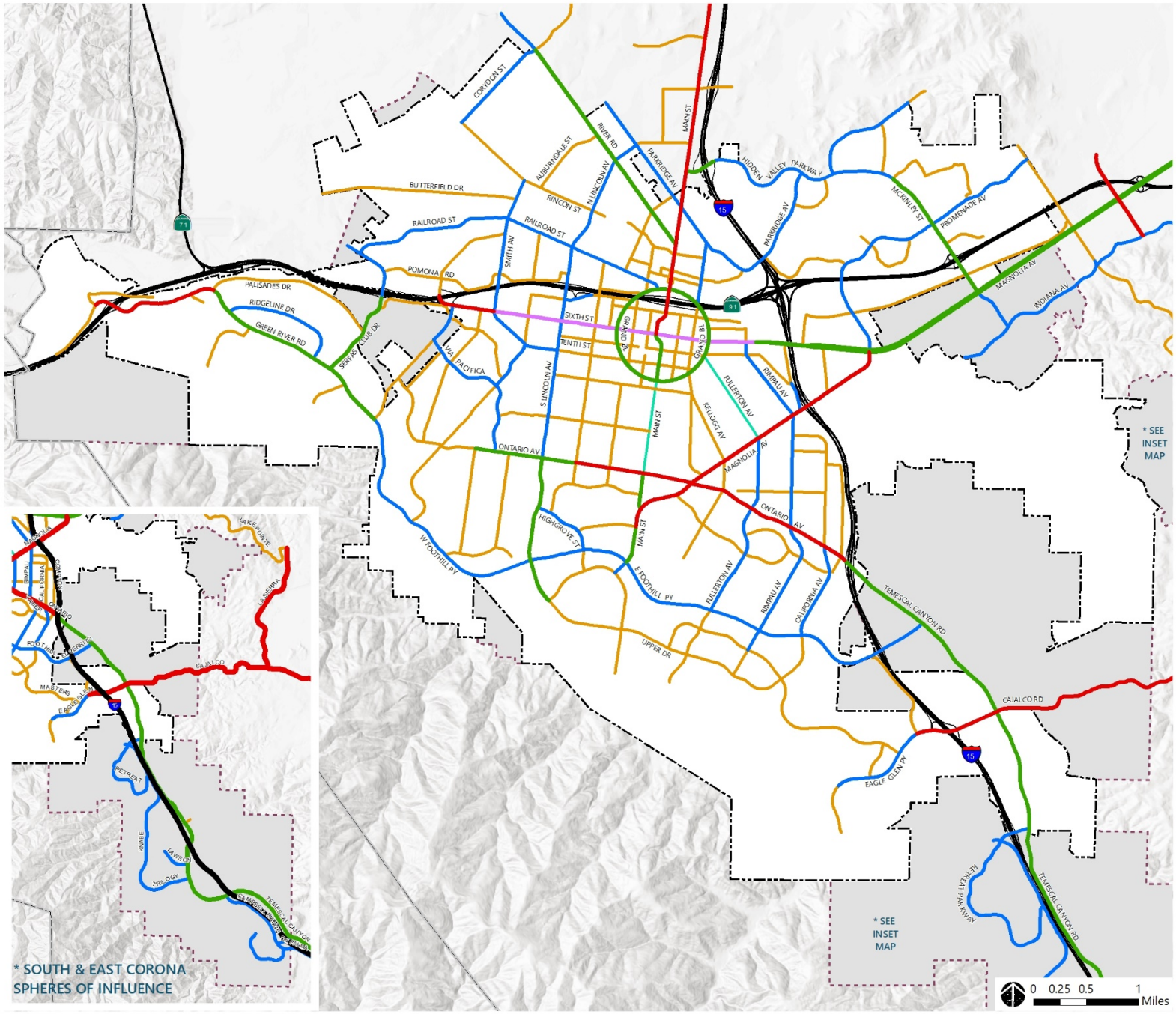
CE-1.4 Design and employ traffic control measures to ensure City streets and roads function with safety and efficiency.

CE-1.5 Maintain Level of Service D or better on arterial streets in the City. Develop and maintain a list of locations where LOS E or LOS F are considered acceptable and would be exempt from this level of service policy. Considerations for LOS exemption include lack of available right-of-way, environmental constraints, or other modes of travel (such as bicycle or pedestrians). Key locations identified for LOS exemption are:

- Green River Road at SR-91
- Lincoln Avenue at SR-91
- Main Street at SR-91
- Sixth Street, between East Grand Boulevard and West Grand Boulevard
- McKinley Avenue at SR-91
- Hidden Valley Parkway at I-15
- Magnolia Avenue at I-15
- Ontario Avenue at I-15
- El Cerrito Road at I-15
- Cajalco Road at I-15
- Weirick Road at I-15
- Other locations as approved by the City

CE-1.6 Coordinate street system improvements and signalization with regional transportation efforts, including the Regional Transportation Plan, the

Figure CE-1
Roadway Plan



Source:
City of Corona, 2019

TABLE 1 FTIP Projects – Continued

County	System	FTIP ID	Route #	Description
RIVERSIDE	LOCAL HIGHWAY	RIV160404	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF RIVERSIDE - CITYWIDE BIKE AND PEDESTRIAN IMPROVEMENTS INCLUDING: IN II BIKE LANES ON CENTRAL AVE; 2.4 MI OF CYCLE TRACKS ON WATKINS DR AND CANYON CREST; SHARROW PAVEMENT MARKIN PARK; 20 BIKE RACKS THROUGHOUT DOWNTOWN AREA; & HAWK SIGNALS AT 3 UNCONTROLLED CROSSWALKS.
RIVERSIDE	LOCAL HIGHWAY	RIV160405	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF CORONA - MAGNOLIA AVE BRIDGE WIDENING FROM 4 TO 6 LANES FROM EL C E/O ALL AMERICAN WY, INCLUDING THE WIDENING OVER THE TEMESCAL CHANNEL; PROJECT TO INCLUDE CONSTRUCTION OF I LANES, ADA COMPLIANT RAMPS, AND DECORATIVE LANDSCAPING.
RIVERSIDE	LOCAL HIGHWAY	RIV160501	0	GROUPED PROJECTS FOR BICYCLE AND PEDESTRIAN FACILITIES FUNDED WITH ATP: PROJECTS ARE CONSISTENT WITH 40 CFR PA 2 AND TABLE 3 CATEGORIES - BICYCLE AND PEDESTRIAN FACILITIES (BOTH MOTORIZED AND NON-MOTORIZED).
RIVERSIDE	LOCAL HIGHWAY	RIV160502	0	IN RIVERSIDE COUNTY IN THE PALO VERDE AREA NEAR BLYTHE - 3RD PLACE SIDEWALK AND ROADWAY SAFETY IMPROVEMENTS OF APPROX. 1,500 LF OF CONCRETE SIDEWALK, CURB & GUTTER, PAVEMENT IMPROVEMENTS, ADA COMPLIANT CURB RAMPS, D FLASHING BEACONS, SIGNS, MARKINGS & OTHER INCIDENTAL ITEMS TO IMPROVE SAFETY.
RIVERSIDE	LOCAL HIGHWAY	RIV160503	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF BANNING - CONSTRUCTION OF NEW BICYCLE AND SRTS IMPROVEMENTS TO CLASS III BIKE LANES AND PED FACILITIES ALONG HIGHLAND SPRINGS, 8TH ST, AND RAMSEY ST. TC UTILIZATION FOR FY16/17 A
RIVERSIDE	LOCAL HIGHWAY	RIV160504	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF JURUPA VALLEY - SRTS PROJECT TO PROVIDE CURB, GUTTER, SIDEWALK, AND MARTIN ST, 48TH ST, AND TROTH ST, INCLUDING LED CROSSWALK FLASHERS AT THE MARTIN/BELLEGRAVE INTERSECTION AND MARTIN ST INTERSECTIONS.
RIVERSIDE	LOCAL HIGHWAY	RIV160505	0	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF WILDOMAR - CONSTRUCTION OF 3.7 MILE MULTI-USE TRAIL ALONG GRAND A CLINTON KEITH AVE.
RIVERSIDE	LOCAL HIGHWAY	RIV160901	0	IN EASTERN RIVERSIDE COUNTY IN THE CITY OF LA QUINTA - WIDEN AVENUE 50 FROM WASHINTON ST TO PARK AVE- WB INCRE EXISTING 2 LANES. PROJECT TO INSTALL (.3 MI) SIDEWALK AND CLASS II BIKE LANES. TO INCLUDE REPLACEMENT OF AN EXISTIN WITH A BRIDGE (BRIDGE NO. 00L0091) AND NECESSARY SLOPE AND CHANNEL SCOUR PROTECTION MEASURES.
RIVERSIDE	LOCAL HIGHWAY	RIV160902	0	IN LAKE ELSINORE - CONS OF A NEW 4-LANE DIVIDED ROADWAY, REALIGNING EXISTING TEMESCAL CANYON ROAD AND REPLAC UNIMPROVED TEMESCAL CANYON ROAD FROM LAKE STREET TO 650 FT EASTERLY OF CITY'S WESTERLY BOUNDARY. SEGMENT C INCLUDES A 706' SECTION THAT HAS A 375' BRIDGE FUNDED BY HBP LISTED SEPARATELY UNDER RIV111203.
RIVERSIDE	LOCAL HIGHWAY	RIV170130	0	IN WESTERN RIVERSIDE COUNTY IN MARCH JPA AREA - CONSTRUCT NEW EXTENSION OF VAN BUREN BLVD FROM MARCH FIELD AVE WITH 4 LANE ARTERIAL WITH CENTER TURN MEDIAN.
RIVERSIDE	LOCAL HIGHWAY	RIV171202	0	IN THE CITY OF EASTVALE: BICYCLE SAFETY ENHANCEMENT ON 65TH STREET FROM HAMNER AVE AND ARCHIBALD AVE - INSTAL FROM 4 TO 2 LANES WITH PROTECTED CLASS IV BIKE LANES (10,500 LF).
RIVERSIDE	LOCAL HIGHWAY	RIV171203	0	IN THE CITY OF MORENO VALLEY: GENTIAN AVE FROM KITCHING ST TO LASSELLE STREET INSTALLATION OF APPROX. 1/2 MILE C EUCALYPTUS AVE FROM ELSWORTH ST TO FREDERICK ST INSTALLATION OF APPROX. 1/2 MILE OF CLASS II BIKE LANE.
RIVERSIDE	LOCAL HIGHWAY	RIV171204	0	IN THE CITY OF BEAUMONT: 8TH STREET BIKE LANE AND SIDEWALK IMPROVEMENTS BETWEEN PENNSYVANIA AVE AND XENIA A FEET OF SIDEWALK AND CLASS III BIKE LANES ALONG 8TH ST.
RIVERSIDE	LOCAL HIGHWAY	RIV171205	0	IN THE CITY OF LAKE ELSINORE: INSTALLATION OF MISSING LINK SIDEWALKS ON CHANEY STREET FROM W. FLINT ST TO W. SUM LF; ON W. SUMNER AVE, MOHR ST AND DAVID ST BETWEEN CHANEY ST AND W. LAKESHORE DR APPROX. 910 LF; AND ON W. LA MACHADO ST AND WISE ST APPROX. 1,350 LF.
RIVERSIDE	LOCAL HIGHWAY	RIV180103	0	IN WESTERN RIV CO IN THE CITY OF BANNING - CONSTRUCT SUN LAKES BLVD EASTERLY EXTENSION (APPROX 1.1 MILES) FROM LINCOLN ST AND SUNSET AVE, INCLUDING 4 LANES (2 LANES EACH DIRECTION), RAISED MEDIAN, AND CONSTRUCTION OF TWO
RIVERSIDE	LOCAL HIGHWAY	RIV180105	0	IN WESTERN RIV CO IN THE CITY OF BEAUMONT - GRADE SEPERATION UNDER CROSSING AT CALIFORNIA AVE UPRR, INCLUDING AVE FROM 1ST ST TO 6TH ST FROM 2 TO 4 LANES.

09

(in $000`s)

CITY FUNDS	95		1,227	1,322	1,322							1,322
RIV151217 Total	95		3,505	3,600	3,600							3,600

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
RIV160405	Riverside	SCAB		3161L005	CAXT1				L	NON-EXEMPT	0

Description:

PTC	500	Agency	CORONA

IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF CORONA - MAGNOLIA AVE BRIDGE WIDENING FROM 4 TO 6 LANES FROM EL CAMINO AVE TO 1000 FT E/O ALL AMERICAN WY, INCLUDING THE WIDENING OVER THE TEMESCAL CHANNEL; PROJECT TO INCLUDE CONSTRUCTION OF MISSING SIDEWALK, BIKE LANES, ADA COMPLIANT RAMPS, AND DECORATIVE LANDSCAPING.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
STP LOCAL	443			443	443							443
AGENCY	57			57	57							57
RIV160405 Total	500			500	500							500

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
RIV091001	Riverside	SSAB		3A07023	CAX63				L	NON-EXEMPT	0

Description:

PTC	44,000	Agency	DESERT HOT SPRINGS

IN THE COACHELLA VALLEY IN THE CITY OF DESERT HOT SPRINGS - INDIAN AVE WIDENING: WIDENING OF INDIAN AVE FROM 2 TO 6 THROUGH LANES (3 IN EA DIR), BETWEEN HWY 62 AND MISSION LAKES BLVD., INCLUDING THE CONSTRUCTION OF AN ALL WEATHER BRIDGE OVER MISSION CREEK (PA&ED).

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
CITY FUNDS	100			100	100							100
RIV091001 Total	100			100	100							100

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment
RIV140848	Riverside	SSAB		3NL04	NCN27				L	EXEMPT - 93.126	0

Description:

PTC	2,581	Agency	INDIO

IN EASTERN RIVERSIDE COUNTY IN THE CITY OF INDIO – ANDREW JACKSON ELEM PED IMPROVEMENTS: ON TEN STREETS WITHIN THE ANDREW JACKSON ELEM SCHOOL COMMUNITY, INSTALL SIDEWALKS, UPGRADE PED ACCESS RAMPS AND DRIVEWAY APPROACHES, THREE ENHANCED CROSSWALKS, AND TWO SPEED FEEDBACK SIGNS. TC USED TO MATCH ATP

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
ACTIVE TRANSPORTATION PROGRAM	207		2,374	2,581	2,581							2,581
RIV140848 Total	207		2,374	2,581	2,581							2,581

2019 Federal Transportation Improvement Program
Riverside County- 100% Prior
Local Highway, State Highway, Transit
Including Amendments 1 - 22
(In $000`s)

FTIP ID	RIV160405	*FTIP Amendment*	Riverside County Transportation Commission (RCTC) 19-00	*Conform Category*	NON-EXEMPT	*Total Project Cost*	$500
Lead Agency	CORONA			*Modeling*	YES		
County	Riverside	Primary Program Code	CAXT1 - BRIDGE RESTORATION/REPLACEMENT W/TCM: RS	Air Basin	SCAB	RTP ID	3161L005
System	Local Hwy						
Project Limits	From El Camino Ave to 1000' E/O All American Way, Begin: 0 End:						
Description	IN WESTERN RIVERSIDE COUNTY FOR THE CITY OF CORONA - MAGNOLIA AVE BRIDGE WIDENING FROM 4 TO 6 LANES FROM EL CAMINO AVE TO 1000 FT E/O ALL AMERICAN WY, INCLUDING THE WIDENING OVER THE TEMESCAL CHANNEL; PROJECT TO INCLUDE CONSTRUCTION OF MISSING SIDEWALK, BIKE LANES, ADA COMPLIANT RAMPS, AND DECORATIVE LANDSCAPING.						

Phase	Fund Source (in $000s)	Prior	18/19	19/20	20/21	21/22	22/23	23/24	Future	Total
PE	AGENCY	$57	-	-	-	-	-	-	-	$57
PE	STP LOCAL	$443	-	-	-	-	-	-	-	$443
	Total Preliminary Engineering	$500	-	-	-	-	-	-	-	$500
	Total Programmed	**$500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**$500**

Appendix B
Summary of Forecast Travel Activities

EXISTING (2019) CONDITIONS

LOS calculations were performed using the federally required Highway Capacity Manual procedures that indicates LOS based upon delay per vehicle. All calculations were made using the SYNCHRO computer program and based upon existing or probable future signal timing constraints.

Table 3.1 summarizes the LOS results for the Existing conditions. Analysis worksheets are located in Appendix B.

TABLE 3.1 – EXISTING (2019) TRAFFIC CONDITIONS

Intersection	AM Peak Hour		PM Peak hour	
	Delay	LOS	Delay	LOS
Signalized Intersections				
Magnolia Avenue at El Camino Ave	28.8	C	28.0	C
Magnolia Avenue at Sherborn Street	4.0	A	10.0	A
Magnolia Avenue at All American Way	8.0	A	8.8	A
Magnolia Avenue at 6th Street	36.7	D	82.0	D
Unsignalized Intersections				
Magnolia Avenue at Trademark Circle	0.7	A	1.2	D
Magnolia Avenue at Leeson Lane	0.4	A	0.7	D

Note: Delay based on seconds per vehicle average. LOS = Level of Service

As shown in Table 3.1, all signalized intersections currently operate at acceptable LOS during the AM and PM peak hours for Existing conditions. The unsignalized intersection of Magnolia Avenue at Trademark Circle and Magnolia Avenue at Lesson Lane operates at LOS A during the AM and PM peak hours for Existing conditions.

Table 3.2 summarizes the Existing conditions ADT volumes for the roadway segment. Analysis worksheets are located in Appendix B.

TABLE 3.2 – EXISTING (2019) VOLUMES

Segment	Existing				
	Classification	LOS E Capacity	ADT	V/C	LOS
Magnolia Avenue					
Between All America Way and Sherborn Street	4L Arterial	35,900	21,740	0.61	B

Under existing conditions of Magnolia Avenue, between All American Way and Sherborn Street, the segment operates at a LOS of B.

NO BUILD ALTERNATIVE

The No Build Alternative shall have the same lane configuration as the existing lane configuration. Table 4.3 summarizes the delay and LOS results for the study intersections for the Opening Year (2026) with the No Build Alternative.

TABLE 4.3 – OPENING YEAR (2026) TRAFFIC CONDITIONS FOR NO BUILD ALTERNATIVE

Intersection	AM Peak Hour		PM Peak hour	
	Delay	LOS	Delay	LOS
Signalized Intersections				
Magnolia Avenue at El Camino Ave	31.2	C	41.9	D
Magnolia Avenue at Sherborn Street	4.2	A	14.3	B
Magnolia Avenue at All American Way	8.2	A	9.8	A
Magnolia Avenue at 6th Street	40.5	D	159.0	F
Unsignalized Intersections				
Magnolia Avenue at Trademark Circle	1.0	A	6.6	A
Magnolia Avenue at Leeson Lane	33.6	C	155.6	F

Note: Delay based on seconds per vehicle average. LOS = Level of Service

Under the **No Build** scenario, the following signalized intersection operate at a **LOS Lower than D**:

- Magnolia Avenue at 6th Street (PM Peak Hour)

Under the **No Build** scenario, the following unsignalized intersection operate at a **LOS Lower than D**:

- Magnolia Avenue at Leeson Lane (PM Peak Hour)

WIDENED ALTERNATIVE

The Widened Alternative will have an additional lane configuration in both travel direction extending from El Camino Avenue to Trademark Circle. Figure 4.4 summarizes the geometry for the intersection on Magnolia Avenue. Table 4.4 summarizes the delay and LOS results for the study intersections for the Opening Year (2026) with the Build Alternative.

FIGURE 4.4 – WIDENED ALTERNATIVE INTERSECTION LANE GEOMETRY

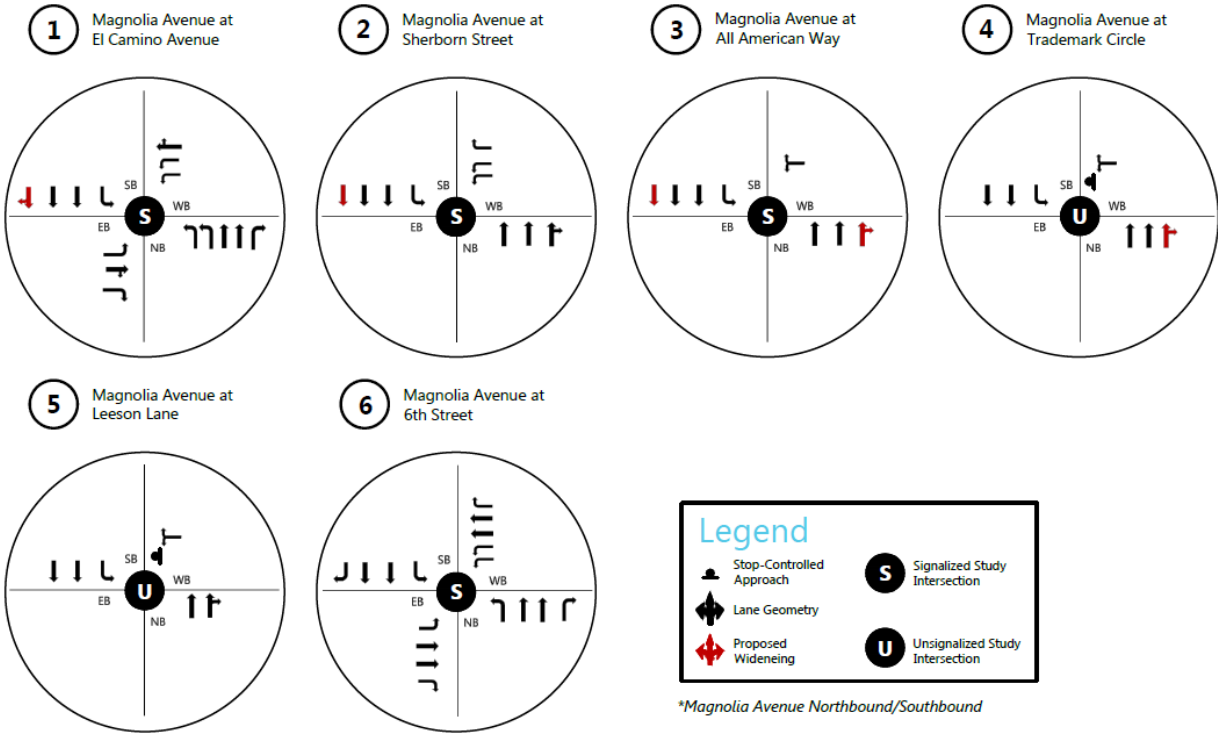


TABLE 4.4 – OPENING YEAR (2026) TRAFFIC CONDITIONS FOR WIDENED ALTERNATIVE

Intersection	AM Peak Hour		PM Peak hour	
	Delay	LOS	Delay	LOS
Signalized Intersections				
Magnolia Avenue at El Camino Ave	28.5	C	30.8	C
Magnolia Avenue at Sherborn Street	4.1	A	7.9	A
Magnolia Avenue at All American Way	7.8	A	7.6	A
Magnolia Avenue at 6th Street	34.7	C	145.3	F
Unsignalized Intersections				
Magnolia Avenue at Trademark Circle	1.0	A	13.4	B
Magnolia Avenue at Leeson Lane	38.6	D	199.2	F

Note: Delay based on seconds per vehicle average. LOS = Level of Service

Under the **Widening** scenario the following signalized intersection operate at a **LOS Lower than D**:

- Magnolia Avenue at 6th Street (PM Peak Hour)

Under the **Widening** scenario the following unsignalized intersection operate at a **LOS Lower than D**:

- Magnolia Avenue at Leeson Lane (PM Peak Hour)

Under the **Widening** scenario the following signalized intersection operate at a **LOS Lower than D**:

- Magnolia Avenue at 6th Street (PM Peak Hour)

Under the **Widening** scenario the following unsignalized intersection operate at a **LOS Lower than D**:

- Magnolia Avenue at Trademark Circle (PM Peak Hour)
- Magnolia Avenue at Leeson Lane (AM & PM Peak Hour)

ROADWAY SEGMENT CONDITIONS 2040

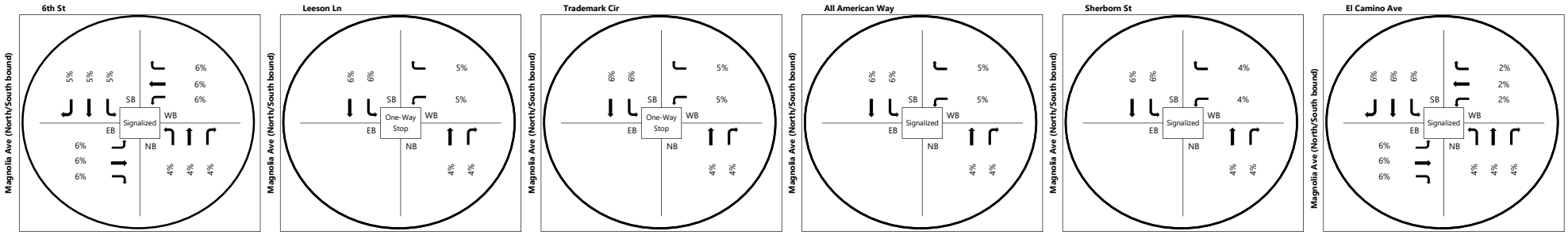
Table 5.3 summarizes the roadway segment analysis results for 2040 Conditions with cumulative projects.

TABLE 5.3 – BUILDOUT YEAR (2040) SEGMENT LOS, V/C RESULTS

Segment	2040 No Build					2040 With Project			
	ADT	LOS E Capacity	Classification	V/C	LOS	LOS E Capacity	Classification	V/C	LOS
Magnolia Avenue									
Between All America Way and Sherborn Street	37,850	35,900	4L Arterial	1.05	F	53,900	6L Arterial	0.70	C

Under the **No Build** scenario the segment Magnolia Avenue, Between All America Way and Sherborn Street, operate at LOS F.

Under the **Widening** scenario the segment Magnolia Avenue, Between All America Way and Sherborn Street, operate at LOS C.


6th St
Leeson Ln
Trademark Cir
All American Way
Sherborn St
El Camino Ave
Magnolia Ave (North/South bound)
SB
WB
EB
NB
Signalized
One-Way Stop
5%
6%
4%
2%

Appendix C
Construction Emissions Calculation

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Magnolia Avenue				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Pounds)	**ROG (lbs/day)**	**CO (lbs/day)**	**NOx (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM10 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**PM2.5 (lbs/day)**	**SOx (lbs/day)**	**CO2 (lbs/day)**	**CH4 (lbs/day)**	**N2O (lbs/day)**	**CO2e (lbs/day)**
Grubbing/Land Clearing	0.88	9.61	9.27	50.40	0.40	50.00	10.74	0.34	10.40	0.03	2,546.30	0.58	0.11	2,594.74
Grading/Excavation	4.44	43.26	43.96	51.85	1.85	50.00	12.06	1.66	10.40	0.10	9,543.34	2.86	0.12	9,649.60
Drainage/Utilities/Sub-Grade	2.43	27.40	22.51	50.92	0.92	50.00	11.23	0.83	10.40	0.06	5,570.92	1.17	0.07	5,622.42
Paving	1.11	17.05	11.23	0.53	0.53	0.00	0.45	0.45	0.00	0.03	3,058.75	0.74	0.10	3,107.91
Maximum (pounds/day)	4.44	43.26	43.96	51.85	1.85	50.00	12.06	1.66	10.40	0.10	9,543.34	2.86	0.12	9,649.60
Total (tons/construction project)	0.79	8.24	7.69	11.54	0.32	11.22	2.62	0.29	2.33	0.02	1,763.32	0.48	0.03	1,783.24

Notes:

Project Start Year ->	2024
Project Length (months) ->	24
Total Project Area (acres) ->	6
Maximum Area Disturbed/Day (acres) ->	5
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	75	0	120	0	200	40
Grading/Excavation	0	0	0	0	800	40
Drainage/Utilities/Sub-Grade	0	0	0	0	560	40
Paving	0	50	0	90	400	40

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

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

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Magnolia Avenue				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust					
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	**ROG (tons/phase)**	**CO (tons/phase)**	**NOx (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM10 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**PM2.5 (tons/phase)**	**SOx (tons/phase)**	**CO2 (tons/phase)**	**CH4 (tons/phase)**	**N2O (tons/phase)**	**CO2e (MT/phase)**
Grubbing/Land Clearing	0.02	0.25	0.24	1.33	0.01	1.32	0.28	0.01	0.27	0.00	67.22	0.02	0.00	62.14
Grading/Excavation	0.53	5.14	5.22	6.16	0.22	5.94	1.43	0.20	1.24	0.01	1,133.75	0.34	0.01	1,039.98
Drainage/Utilities/Sub-Grade	0.19	2.17	1.78	4.03	0.07	3.96	0.89	0.07	0.82	0.00	441.22	0.09	0.01	403.97
Paving	0.04	0.67	0.44	0.02	0.02	0.00	0.02	0.02	0.00	0.00	121.13	0.03	0.00	111.65
Maximum (tons/phase)	0.53	5.14	5.22	6.16	0.22	5.94	1.43	0.20	1.24	0.01	1133.75	0.34	0.01	1,039.98
Total (tons/construction project)	0.79	8.24	7.69	11.54	0.32	11.22	2.62	0.29	2.33	0.02	1763.32	0.48	0.03	1,617.75

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

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

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model **Version 9.0.0**

Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

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

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Magnolia Avenue	
Construction Start Year	2024	Enter a Year between 2014 and 2040 (inclusive)
Project Type	2	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	24.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.40	miles
Total Project Area	5.88	acres
Maximum Area Disturbed/Day	5.00	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		75.00
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00	50.00	

Mitigation Options

On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation	No Mitigation	Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

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

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		2.40		1/1/2024
Grading/Excavation		10.80		3/14/2024
Drainage/Utilities/Sub-Grade		7.20		2/6/2025
Paving		3.60		9/13/2025
Totals (Months)		24		

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		4	120.00
Miles/round trip: Grading/Excavation		30.00		0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00
Miles/round trip: Paving		30.00		0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,701.70	0.00	0.27	1,781.46
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.46	0.12	0.05	0.02	1,682.27	0.00	0.26	1,761.12
Paving (grams/mile)	0.04	0.43	3.46	0.12	0.05	0.02	1,682.27	0.00	0.26	1,761.12
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.01	0.11	0.96	0.03	0.01	0.00	450.84	0.00	0.07	471.97
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.03	0.00	0.00	0.00	11.90	0.00	0.00	12.46
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.03	0.00	0.00	0.00	11.90	0.00	0.00	12.46

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00		0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00
Miles/round trip: Paving		30.00		3	90.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,701.70	0.00	0.27	1,781.46
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.46	0.12	0.05	0.02	1,682.27	0.00	0.26	1,761.12
Paving (grams/mile)	0.04	0.43	3.46	0.12	0.05	0.02	1,682.27	0.00	0.26	1,761.12
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.01	0.08	0.72	0.02	0.01	0.00	333.79	0.00	0.05	349.43
Tons per const. Period - Paving	0.00	0.00	0.03	0.00	0.00	0.00	13.22	0.00	0.00	13.84
Total tons per construction project	0.00	0.00	0.03	0.00	0.00	0.00	13.22	0.00	0.00	13.84

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values		
User Input				
Miles/ one-way trip		20	Calculated	Calculated
One-way trips/day		2	Daily Trips	Daily VMT
No. of employees: Grubbing/Land Clearing		5	10	200.00
No. of employees: Grading/Excavation		20	40	800.00
No. of employees: Drainage/Utilities/Sub-Grade		14	28	560.00
No. of employees: Paving		10	20	400.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grading/Excavation (grams/mile)	0.01	0.83	0.06	0.05	0.02	0.00	305.49	0.00	0.01	307.32
Draining/Utilities/Sub-Grade (grams/mile)	0.01	0.78	0.06	0.05	0.02	0.00	295.84	0.00	0.01	297.52
Paving (grams/mile)	0.01	0.78	0.06	0.05	0.02	0.00	295.84	0.00	0.01	297.52
Grubbing/Land Clearing (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Grading/Excavation (grams/trip)	0.97	2.65	0.27	0.00	0.00	0.00	65.74	0.07	0.03	76.30
Draining/Utilities/Sub-Grade (grams/trip)	0.93	2.56	0.25	0.00	0.00	0.00	63.73	0.06	0.03	73.77
Paving (grams/trip)	0.93	2.56	0.25	0.00	0.00	0.00	63.73	0.06	0.03	73.77
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.03	0.43	0.03	0.02	0.01	0.00	136.69	0.00	0.00	137.73
Tons per const. Period - Grubbing/Land Clearing	0.00	0.01	0.00	0.00	0.00	0.00	3.61	0.00	0.00	3.64
Pounds per day - Grading/Excavation	0.11	1.70	0.13	0.08	0.03	0.01	544.60	0.01	0.01	548.74
Tons per const. Period - Grading/Excavation	0.01	0.20	0.02	0.01	0.00	0.00	64.70	0.00	0.00	65.19
Pounds per day - Drainage/Utilities/Sub-Grade	0.07	1.12	0.08	0.06	0.02	0.00	369.17	0.01	0.01	371.87
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.01	0.09	0.01	0.00	0.00	0.00	29.24	0.00	0.00	29.45
Pounds per day - Paving	0.05	0.80	0.06	0.04	0.02	0.00	263.69	0.01	0.01	265.62
Tons per const. Period - Paving	0.00	0.03	0.00	0.00	0.00	0.00	10.44	0.00	0.00	10.52
Total tons per construction project	0.02	0.33	0.03	0.02	0.01	0.00	107.99	0.00	0.00	108.80

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT
User Input								
Grubbing/Land Clearing - Exhaust		1		5	5		8.00	40.00
Grading/Excavation - Exhaust		1		5	5		8.00	40.00
Drainage/Utilities/Subgrade		1		5	5		8.00	40.00
Paving		1		5	5		8.00	40.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,701.70	0.00	0.27	1,781.46
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.46	0.12	0.05	0.02	1,682.27	0.00	0.26	1,761.12
Paving (grams/mile)	0.04	0.43	3.46	0.12	0.05	0.02	1,682.27	0.00	0.26	1,761.12
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.04	0.36	0.01	0.00	0.00	150.28	0.00	0.02	157.32
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.01	0.00	0.00	0.00	3.97	0.00	0.00	4.15
Pounds per day - Grading/Excavation	0.00	0.04	0.36	0.01	0.00	0.00	150.06	0.00	0.02	157.10
Tons per const. Period - Grading/Excavation	0.00	0.00	0.04	0.00	0.00	0.00	17.83	0.00	0.00	18.66
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.04	0.35	0.01	0.00	0.00	148.35	0.00	0.02	155.30
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.03	0.00	0.00	0.00	11.75	0.00	0.00	12.30
Pounds per day - Paving	0.00	0.04	0.35	0.01	0.00	0.00	148.35	0.00	0.02	155.30
Tons per const. Period - Paving	0.00	0.00	0.01	0.00	0.00	0.00	5.87	0.00	0.00	6.15
Total tons per construction project	0.00	0.01	0.09	0.00	0.00	0.00	39.42	0.00	0.01	41.27

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		5.00	50.00	1.32	10.40	0.27
Fugitive Dust - Grading/Excavation		5.00	50.00	5.94	10.40	1.24
Fugitive Dust - Drainage/Utilities/Subgrade		5.00	50.00	3.96	10.40	0.82

Off-Road Equipment Emissions

Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
Grubbing/Land Clearing														
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Crawler Tractors	0.42	2.20	4.75	0.18	0.17	0.01	758.65	0.25	0.01	766.83
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Excavators	0.36	6.53	2.81	0.14	0.13	0.01	1,000.53	0.32	0.01	1,011.32
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	0.84	9.03	7.91	0.34	0.31	0.02	1,808.50	0.57	0.02	1,827.72
Grubbing/Land Clearing	tons per phase	0.02	0.24	0.21	0.01	0.01	0.00	47.74	0.02	0.00	48.25

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0		Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Crawler Tractors	0.42	2.19	4.66	0.18	0.17	0.01	758.61	0.25	0.01	766.79
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Excavators	0.54	9.79	4.15	0.20	0.19	0.02	1,500.82	0.49	0.01	1,517.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Graders	0.70	3.30	8.16	0.26	0.24	0.01	1,280.96	0.41	0.01	1,294.76
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Rollers	0.29	3.70	3.03	0.16	0.15	0.01	508.27	0.16	0.00	513.75
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Rubber Tired Loaders	0.25	1.49	2.28	0.08	0.07	0.01	605.53	0.20	0.01	612.06
	2		Model Default Tier	Scrapers	1.50	11.80	15.10	0.60	0.55	0.03	2,937.99	0.95	0.03	2,969.65
	1		Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4		Model Default Tier	Tractors/Loaders/Backhoes	0.57	8.94	5.74	0.26	0.24	0.01	1,207.20	0.39	0.01	1,220.18
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment

If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	4.32	41.52	43.47	1.76	1.62	0.09	8,848.68	2.85	0.08	8,943.76
Grading/Excavation	tons per phase	0.51	4.93	5.16	0.21	0.19	0.01	1,051.22	0.34	0.01	1,062.52

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Air Compressors	0.23	2.41	1.53	0.07	0.07	0.00	375.26	0.02	0.00	376.62
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Generator Sets	0.27	3.66	2.40	0.10	0.10	0.01	623.04	0.02	0.00	625.01
	1		Model Default Tier	Graders	0.31	1.59	3.46	0.11	0.10	0.01	640.24	0.21	0.01	647.14
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Pumps	0.29	3.72	2.43	0.10	0.10	0.01	623.04	0.03	0.00	625.06
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Rough Terrain Forklifts	0.10	2.29	1.28	0.04	0.03	0.00	333.72	0.11	0.00	337.31
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Scrapers	0.67	5.38	6.37	0.25	0.23	0.02	1,468.15	0.47	0.01	1,483.97
	1		Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes	0.40	6.69	4.01	0.16	0.15	0.01	906.17	0.29	0.01	915.91
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	2.35	26.25	22.08	0.85	0.80	0.05	5,053.40	1.16	0.04	5,095.24
Drainage/Utilities/Sub-Grade	tons per phase	0.19	2.08	1.75	0.07	0.06	0.00	400.23	0.09	0.00	403.54

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Pavers	0.17	2.90	1.58	0.07	0.07	0.00	454.99	0.15	0.00	459.90
	1		Model Default Tier	Paving Equipment	0.15	2.55	1.26	0.06	0.06	0.00	394.32	0.13	0.00	398.57
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Rollers	0.27	3.69	2.89	0.15	0.13	0.01	508.12	0.16	0.00	513.60
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes	0.40	6.69	4.01	0.16	0.15	0.01	906.17	0.29	0.01	915.91
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment — If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Paving	pounds per day	1.05	16.13	10.10	0.46	0.42	0.02	2,312.92	0.74	0.02	2,337.55
Paving	tons per phase	0.04	0.64	0.40	0.02	0.02	0.00	91.59	0.03	0.00	92.57
Total Emissions all Phases (tons per construction period) =>		0.76	7.89	7.52	0.30	0.28	0.02	1,590.79	0.47	0.01	1,606.88

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

Appendix D

Summary Tables for Estimated Regional Emissions of GHG, PM, and Other Pollutants

Operational Emissions Estimates

Scenario	Year	Speed	AADT	VMT	Pounds per Day						Metric Tons			
					VOC	NO_X	CO	SOX	PM_{10}	$PM_{2.5}$	CO_2	CH_4	N_2O	CO_2e
Existing	2019	45	21,740	45,654,000	346.3	7573.5	3610.7	31.7	165.9	158.7	1527.3	1.3	70.6	1599.2
No-Build	2026	45	24,972	52,441,200	15.0	1729.7	146.9	10.7	13.7	13.1	514.5	0.0	23.9	538.5
Build	2026	40	24,972	52,441,200	15.0	259.1	131.4	10.0	16.8	16.1	480.4	0.0	22.3	502.7
No-Build	2040	45	37,850	79,485,000	32.4	279.7	1671.1	7.7	3.1	2.9	359.0	0.1	4.3	363.5
Build	2040	40	37,850	79,485,000	30.1	268.9	1531.9	8.0	3.8	3.6	370.3	0.1	4.8	375.2

Scenario	Year	Speed	Tons					
			VOC	NO_X	CO	SOX	PM_{10}	$PM_{2.5}$
Existing	2019	45	0.17	3.79	1.81	0.02	0.08	0.08
No-Build	2026	45	0.01	0.86	0.07	0.01	0.01	0.01
Build	2026	40	0.01	0.13	0.07	0.00	0.01	0.01
No-Build	2040	45	0.02	0.14	0.84	0.00	0.00	0.00
Build	2040	40	0.02	0.13	0.77	0.00	0.00	0.00

Appendix E

Interagency Consultation Documentation

RTIP ID# *(required)* **RIV160405**

TCWG Consideration Date

Project Description *(clearly describe project)* Corona is proposing to widen the Magnolia Avenue Bridge over Temescal Wash Channel and Magnolia Avenue from El Camino Avenue to 1,000 feet east of the All American Way. The Build Alternative (Widening Alternative) would increase the number of travel lanes and place sidewalk with curb and gutter along the travel lanes. Improvements will include restriping for three, 12-foot-wide lanes in each direction, a 12-foot-wide median, 5-foot-wide shoulders, and 6-foot-wide sidewalks/curb/gutter in locations that currently lack sidewalk/curb/gutter. The future paved roadway width would be increased to approximately 100 feet, throughout the alignment, and right-of-way would but will generally be approximately 112 feet wide throughout the alignment.

Type of Project *(use Table 1 on instruction sheet)*
Change to existing regionally significant street

County	**Narrative Location/Route & Postmiles**
Riverside	Magnolia Avenue Bridge Widening from El Camino Avenue to 1,000 Feet East of All American Avenue Caltrans Projects – Federal Aid Project Number – STPL-5104 (046)

Lead Agency: Corona

Contact Person	**Phone#**	**Fax#**	**Email**
Barry Ghaemi	951-739-4961		Barry.Ghaemi@coronaca.gov

Hot Spot Pollutant of Concern *(check one or both)* **PM2.5 X** **PM10 X**

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

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

Scheduled Date of Federal Action: TBD

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

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

Current Programming Dates *(as appropriate)*

	PE/Environmental	**ENG**	**ROW**	**CON**
Start				01/2024
End				01/2026

Project Purpose and Need (Summary): *(attach additional sheets as necessary)*
The purpose of the Project is to increase existing traffic capacity and improve pedestrian and non-motorized travel on Magnolia Avenue between El Camino Avenue to 1,000 feet east of All American Way, which is approximately the intersection with the eastbound lane of Leeson Lane. The proposed improvements will accomplish the following in the Project area:

Provide sidewalks and curbs and gutters and ADA compliant ramps

Provide an additional lane of travel in each direction

Widen the bridge over Temescal Creek Channel to accommodate the additional lanes and sidewalks and curbs and gutters

Provide for ultimate build-out of the roadway as planned by the city.

The road section between El Camino Road and All American Way begins approximately 600 feet east of I-15 and contains industrial land uses on both sides of the Project alignment. The industrial uses include a quarry south of the Project alignment with entrances off of Sherborn Street and All American Way. As such, this approximate 2,100 linear foot section of roadway experiences a high volume of heavy truck traffic. Build-out of the roadway to the design envisioned by the General Plan, which included these land uses, would improve overall circulation in the Project area.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*
Industrial land uses are located along the entire alignment

Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility
Opening Year is 2026 and the AADT and truck percentage are projected to be the same:

24,972 AADT with 1,401 Trucks

4.62% Trucks

LOS: Opening year without Project C

Opening Year with Project B

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility
Horizon Year is 2040 and the AADT and truck percentage are projected to be the same:

37,850 AADT with 2,123 Trucks

4.62% Trucks

LOS: Horizon year without Project F

Horizon Year with Project C

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

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

Describe potential traffic redistribution effects of congestion relief *(impact on other facilities)*
The project would widen a 2,100-foot-long stretch of an existing alignment. There would not be a redistribution of traffic as a result of the project.

Comments/Explanation/Details *(attach additional sheets as necessary)*
The City and consultants are available to answer questions.

TRANSPORTATION CONFORMITY WORKING GROUP
of the
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

February 23, 2021
Minutes

THE FOLLOWING MINUTES ARE A SUMMARY OF THE MEETING OF THE TRANSPORTATION CONFORMITY WORKING GROUP. A DIGITAL RECORDING OF THE ACTUAL MEETING IS AVAILABLE FOR LISTENING IN SCAG'S OFFICE.

The Meeting of the Transportation Conformity Working Group was held via teleconference.

SCAG
Asuncion, John
Luo, Rongsheng
Sangkapichai, Mana

Via Teleconference

Anderson, Kelsie	TCA
Bade, Rabindra	Caltrans, District 12
Brugger, Ron	LSA Associates
Cacatian, Ben	VCAPCD
Huddleston, Lori	LA Metro
Hosford, Steve	CNS
Lay, Keith	HDR Engineering
Lee, David	Caltrans, District 8
Lu, James	CNS Engineers
Lugaro, Julie	Caltrans, District 12
Maddux, Bill	Urban Crossroads
Marroquin, Nancy	LA Metro
Masters, Martha	RCTC
Miranda, Jude	Caltrans, District 12
O'Connor, Karina	EPA Region 9
Ospina, Natalia	NRDC
Ramos, Maria	KOA
Sun, Lijin	SCAQMD
Tavitas, Rodney	Caltrans Headquarters
Vaughn, Joseph	FHWA
Whiteaker, Warren	OCTA
Yoon, Andrew	Caltrans, District 7

TRANSPORTATION CONFORMITY WORKING GROUP
of the
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

February 23, 2021
Minutes

1.0 CALL TO ORDER AND SELF-INTRODUCTION

Martha Masters, TCWG Chair, called the meeting to order at 10:05 am.

2.0 PUBLIC COMMENT PERIOD

None.

3.0 CONSENT CALENDAR

3.1 October 27, 2020 TCWG Meeting Minutes
The meeting summary was approved.

3.2 January 26, 2021 TCWG Meeting Minutes
The meeting minutes were deferred to the next TCWG meeting.

4.0 INFORMATION ITEMS

4.1 Review of PM Hot Spot Interagency Review Forms

1) **ORA001102Exemption**
   It was determined that this project is exempt and not a POAQC.
2) **ORA001103rev**
   It was determined that this project remains not a POAQC.
3) **RIV160405**
   It was determined that this project is not a POAQC.

4.2 RTP Update

John Asuncion, SCAG, reported the following:

- 2020 RTP/SCS Amendment No. 1 submittals were due Friday, February 19, 2021.
- Modeling and analysis would be conducted as soon as possible to allow use of the EMFAC 2014 model for regional emissions analysis.
- SCAG's adoption of the RTP Amendment No. 1 was anticipated in July or August 2021.

Interagency Consultation on Start Date of Regional Emissions Analysis for 2020 RTP/SCS Amendment No. 1

Rongsheng Luo, SCAG, reported the following:

- Background: ARB develops and updates their emissions model about every three years and SCAG is required to use the model for transportation conformity analysis for the RTP and FTIP. Whenever the EMFAC model is adopted, the US

EPA grants a grace period for transition. Currently, there are two versions of EMFAC that are approved: EMFAC2014 and EMFAC2017. The grace period for EMFAC2014 ends August 2021. According to 40 CFR § 93.111 (c) (Criteria and procedures: Latest emissions model.), the older version model can continue to be used if the emissions analysis starts prior to the end of the grace period. This discussion was to determine what marks the beginning of the emissions analysis.

- SCAG staff considers that the emissions analysis starts with network coding. To begin the emissions analysis, SCAG adds two major inputs into the Regional Transportation Model: (1) the growth forecast and (2) the transportation network. The output from the Regional Transportation Model runs is fed into the EMFAC model. Technically, the emissions analysis could start as early as developing the growth forecast and as late as running the EMFAC model itself, so determining the start date of the emissions analysis with network coding is a good middle ground.

Karina O'Connor, US EPA Region 9, indicated that EPA would consider transportation modeling and emissions modeling as separate processes, as they are addressed in transportation conformity rule. EPA would not consider the network coding as the start of the regional emissions analysis; the start of the emissions analysis can be considered once the transportation modeling is complete and there are inputs for the emissions modeling. EPA has been providing this same guidance to other MPOs.

Rongsheng clarified that SCAG runs the Regional Transportation Model for a large region over multiple years, and SCAG staff typically starts inputting data into the emissions model before all transportation modeling is finished. Rongsheng asked Karina if the transportation modeling had to be completed to mark the beginning of the emissions analysis.

Karina responded that it is likely flexible enough to consider that as the start of emissions analysis but would request clarification from EPA headquarters for a firm answer.

Rodney Tavitas, Caltrans HQ, requested Caltrans be kept informed for any potential delays.

Karina agreed to check with EPA HQ and send an email to Rongsheng, who will distribute the clarification email to TCWG.

4.3 FTIP Update

John Asuncion, SCAG, reported the following:

- SCAG's Transportation Committee recommended to SCAG's Regional Council to approve the 2021 FTIP in February 2021. Regional Council is expected to adopt the 2021 FTIP at their meeting on March 4, 2021. Upon the adoption, SCAG will submit the 2021 FTIP to Caltrans and then to FHWA and FTA for their final approval. The concurrent final approval of the 2021 FTIP and 2021 FTP Amendment #21-01 is expected in mid-April 2021.

2021 FTIP Conformity Analysis Status Update

Rongsheng Luo, SCAG, reported the following:

- The 2021 FTIP Conformity Analysis was approved by SCAG's Energy and Environmental Committee (EEC) on February 4, 2021. Upon Regional Council adoption (expected March 2021), the conformity analysis will be submitted to FHWA and FTA for final approval.

4.4 EPA Update

None.

4.5 ARB Update

Nesamani Kalandiyur, ARB sent the following update, which was shared by Rongsheng Luo, SCAG:

- CARB has released both the desktop and web-based versions of the EMFAC2021 model to the public at the end of last month. This new model reflects CARB's current understanding of statewide and regional vehicle activities, emissions, and recently adopted regulations, such as Advanced Clean Car and Heavy-Duty Omnibus regulations.

4.6 Air Districts Update

Lijin Sun, SCAQMD, reported the following:

- SCAQMD staff is still in the process of working with the 2022 AQMP working groups. There are several working groups for control measure development, including for residential and commercial buildings, oceangoing vessels, aircraft, heavy duty trucks, and construction and industrial equipment. Working group meetings would be ongoing and held monthly until at least August 2021.
- The next Residential and Commercial Buildings Working Group meeting would be held this Friday.
- SCAQMD staff was working on the New Sources Review and the clean fuel for boilers certifications for 2015 8-hour Ozone Standard. This item would be presented to the SCAQMD Board for approval in June 2021.

Ben Cacatian, VCAPCD, had no updates.

5.0 INFORMATION SHARING

Rodney Tavitas, Caltrans Headquarters thanked everyone who was able to make it to the last Statewide Transportation Conformity Working Group Meeting. The notes had been finalized and were pending internal approval; once approved, they would be posted online and sent out via email. He also reminded everyone of the switch to EMFAC 2017 on August 16th, which could cause slowdowns.

Rongsheng Luo noted that this was the last meeting with Martha Masters as the TCWG chair. Rongsheng acknowledged and thanked Martha for her outstanding service and contribution as TCWG Chair over the past 12 months especially under the COVID-19 pandemic situation.

6.0 ADJOURNMENT

The meeting was adjourned at 10:41 am. The next Transportation Conformity Working Group meeting will be held on Tuesday, March 23, 2021 via teleconference and Zoom meeting only.

Appendix F
Air Quality Conformity Checklist

Transportation Air Quality Conformity Findings Checklist

PROJECT INFORMATION

Project Name: Magnolia Avenue Widening

DIST-CO-RTE-PM: 08-Riv-Magnolia

EA: **Federal Aid Number:** STPL-5104(046)

Document Type: ☐ 23 USC 326 CE ☒ 23 USC 327 CE ☐ EA ☐ EIS

CHECKLIST

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[1]
  Project type from Table 2: _____
- ☐ 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.

---

[1] Please refer to Clarifications on Exempt Project Determinations to verify exempt project type from Table 2. Road diets, auxiliary lanes less than one-mile, and ramp metering may be exempt under "projects that correct, improve, or eliminate a hazardous location or feature."

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[e]).**

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[e]).**

☐ 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[e] and 95.105).**[2] Go to Step 8.

Step 8. Is the project located in a CO nonattainment or maintenance area? (South Coast Air Basin only)

☐ 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[3]) **have been met. Project will not cause or contribute to a new localized CO violation (40 CFR 93.116 and 93.123)**[4]. 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.

[2] The analysis must support this conclusion before going to the next step.
[3] 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.
[4] 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** February 23, 2021. 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: https://www.epa.gov/state-and-local-transportation/conformity-adequacy-review-region-9#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 (40 CFR 93.125(a)).** Go to Step 14.

☒ If no, go to Step 14.

Step 14. Does the project qualify for a Categorical Exclusion pursuant to 23 USC 326?

☐ If yes, go to step 15.

☒ If no, go to Step 16.

Step 15. Is any analysis required by steps 1-13 of this form?[5]

☐ If yes, then Caltrans prepares the appropriate analysis and documentation for the project file and makes the conformity determination through its signature on the CE form. No FHWA involvement is required. See the AQCA Annotated Outline. Go to Step 17.

☐ If no, then Caltrans makes the conformity determination through its signature on the CE form. No FHWA involvement is required. Go to Step 17.

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

☒ If yes, is the project located in a non-attainment/maintenance area for **ozone only** and considered not regionally significant/non-exempt?

☐ If yes, go to Step 17.[6]

☒ If no, then Caltrans submits a conformity determination request to FHWA for FHWA's conformity determination letter.

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

SIGNATURE

Barry Ghaemi
Senior Engineer

Barry Ghaemi 11/15/21
Signature Date

[5] Please note that not all projects that qualify for a categorical exclusion will be exempt from air quality conformity requirements. Many types of projects that may qualify for a CE (such as the addition of auxiliary lanes less than one-mile, weaving lanes less than one-mile, turning lanes less than one-mile, climbing lanes less than one-mile, parking, road diets, ramp metering, and even many bridge projects) MAY require some level of project level conformity analysis and may even require interagency consultation. Additionally, please note that for ALL projects the project file must include evidence that one of the three following situations apply: 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.

[6] Project-level conformity analysis shows that the project will conform to the State Implementation Plan. Because the project area is Attainment/Unclassified for carbon monoxide (CO) and particulate matter (PM10 and PM2.5), no hot spot analysis is required for the project-level conformity determination by 40 CFR 93.116 and 93.123. The project comes from a conforming Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP). Include documentation of interagency consultation review in the final CE/EA/EIS, if applicable.