

Appendix B:
Air Quality Study

AIR QUALITY REPORT

Baker Boulevard over Mojave River Bridge Replacement Project



San Bernardino County, California
District 8-SBD R136.426
STPL-5954 (193)

Prepared by
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January 2025

AIR QUALITY REPORT

SAN BERNARDINO COUNTY, CALIFORNIA

CALIFORNIA DEPARTMENT OF TRANSPORTATION DISTRICT 8

EA#: STPL-5954 (193)

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Acronyms and Abbreviations

Term	Definition
°F	Degrees Fahrenheit
AADT	Average annual daily traffic
AB	Assembly bill
ADT	Average daily traffic
AQMP	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	Merced County
EO	Executive Order
FCAA	Federal Clean Air Act
FHWA	Federal Highway Administration
ft	Feet
FTA	Federal Transit Administration

Term	Definition
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
MDAQMD	Mojave Desert Air Quality Management District
MOVES	Motor Vehicle Emission Simulator
mph	Miles per hour
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
MSAT	Mobile Source Air Toxics
N ₂ O	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

Term	Definition
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

Proposed Project Description

1.1 Introduction

The San Bernardino County, Department of Public Works (County) in cooperation with the California Department of Transportation (Caltrans), proposes to implement the PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement Project (Project) in the community of Baker, California. The Project will replace the existing two lane, timber bridge on Baker Boulevard, with a new four lane structure.

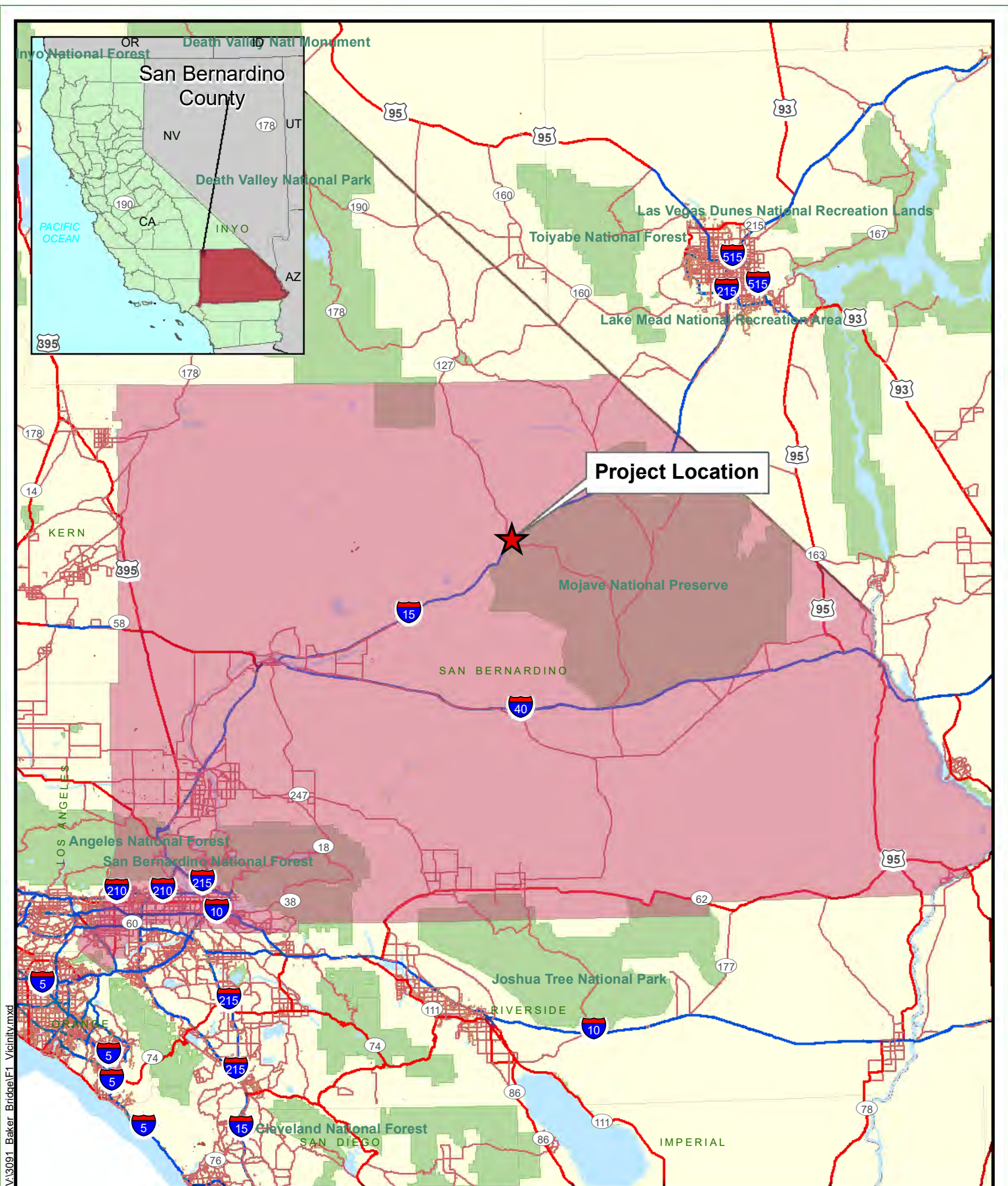
1.2 Location and Background

The Project is located in the census-designated community of Baker, California, directly off Interstate 15 in San Bernardino, California (Figure 1. Project Vicinity, Figure 2. Project Location, and Figure 3. Project Feature), along Baker Boulevard as it crosses the Mojave River Channel.

The Project is located within the Mojave Desert Air Quality Management District's (MDAQMD) jurisdiction; therefore, the project must comply with MDAQMD Rules and Regulations. The proposed project is listed in the South Coast Association of Governments financially constrained 2023 Federal Transportation Improvement Plan (2023 FTIP, SCAG 2022) and Southern California Association of Governments (SCAG) Connect Social 2024 Regional Transportation Plan (2024 RTP, SCAG 2024).

1.3 Purpose and Need

The purpose of the Project is to improve structure safety and operations through replacement of the existing bridge and roadway approach. The project is needed to meet current bridge structural design and safety standards along with projected future traffic capacity needs albeit the project in and of itself will not generate increased traffic volume and/or demand.



VA:3091_Baker_Bridge(E).Vicinity.mxd

Source: ESRI 2008; Dokken Engineering 10/24/2024; Created By: amyd

FIGURE 1
Project Vicinity

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement
STPL-5954(193)
Baker, San Bernardino County, California

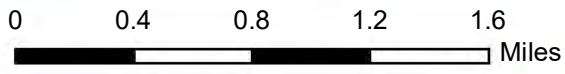


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Source: ESRI World Street Maps Online; Dokken Engineering 10/24/2024; Created By: amyd

FIGURE 2
Project Location

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement
STPL-5954(193)
Baker, San Bernardino County, California



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

The proposed alternatives include the No-Build Alternative and the Build Alternative. These alternatives are each discussed below. The modeling years selected were existing conditions (2024) and design year conditions (2050).

1.4.1 Existing Roadways and Traffic Conditions

Table 1 shows the Existing (2024) traffic conditions on the existing roadway segments in the project area.

Table 1. Summary of Existing Traffic Conditions

Scenario/Analysis Year	Location	AADT		% Truck	VMT (mi)	Average Speed During Peak Travel	Average Speed During Off-Peak Travel
		Total	Truck				
Existing/Baseline Year 2024	Baker Boulevard between Miller Road and Death Valley Road	5,400	300	9.1	1,512 miles	35 mph	35 mph

Source: Fehr&Peers, November 2024

1.4.2 No-Build Alternative

Under the no-build alternative, the existing bridge would not be repaired. The worn and deteriorating bridge would not be improved.

Table 2. Summary of Future No-Build Traffic Conditions

Scenario/Analysis Year	Location	AADT		% Truck	VMT (mi)	Average Speed During Peak Travel	Average Speed During Off-Peak Travel
		Total	Truck				
Design Year 2050	Baker Boulevard between Miller Road and Death Valley Road	9,700	600	9.1	2,716 miles	35 mph	35 mph

Source: Fehr&Peers, November 2024

1.4.3 Build Alternative

The existing bridge was originally built in 1931 as a 93-foot (plus or minus) 5 span simple-supported stringer timber bridge crossing the Mojave River Channel on Baker Boulevard (formerly US 91 and State Route 31). It was repaired and lengthened in 1938. Repairs conducted in 1938 included replacement of all untreated Douglas Fir timber within the existing bridge with Redwood; the addition of 9 new spans to the west and 8 new spans to the east increasing bridge overall length to 408-feet (plus or minus), and channel excavation for the length of the structure to maintain a minimum clearance of 6-feet below the bottom stringer (soffit) of the bridge. The bridge currently exists as a 22-span simple-supported stringer timber bridge with a 5- to 6-inch-thick continuous cast in place reinforced concrete deck overlain with asphalt concrete and closed end reinforced concrete strutted abutments supported on Coastal Douglas Fir (CDF) timber piles. The bents and abutments are set at a 45-degree skew to accommodate flows within the Mojave River (Channel) below. Timber railing and plywood planking accommodating an elevated 2-foot-wide walk on both sides of the bridge is worn and deteriorating. Current sufficiency rating per Caltrans biannual bridge inspection reports (BRIS) for the structure is roughly 76.

The Project includes the demolition of the existing two-lane 22 span simple-supported stringer timber bridge and its replacement with a four-lane, 10-span cast-in-place reinforced concrete slab structure founded on cast-in-drilled hole piles (CIDH) or driven concrete pile extensions (Figure 3. Project Features). This proposed structure will meet and address County and American Association of State Highway and Transportation Officials (AASHTO) standards and criteria, or equivalent. Approximately 1,200 feet of approach roadway work would be required to widen Baker Boulevard to its ultimate width. The design would construct and/or tie into existing, planned and projected ultimate roadway improvements from 0.14 miles west of the existing structure to Death Valley Road (State Highway 127). Additionally, the new bridge will include sidewalks, streetlights, and bridge barrier railing meeting current MASH safety and testing requirements. Existing driveways located within the Project area may require improvements to ensure conformity with the widened bridge and roadway approaches.

It is anticipated that excavators, dozers, dump trucks, concrete trucks, drill rigs, pile driving rigs and concrete pumps will be required to rehabilitate and widen the existing road surface and replace the bridge. Temporary and permanent right of way acquisition may be required for construction. The existing structure is well suited for either staged construction, with part of the new structure built adjacent to the existing bridge prior to removal of the existing bridge or a full detour (1.25-mile detour length) using

adjacent SR-127/I-15 and the local road network to provide a complete closure for construction. Both options will keep the new bridge and approach road widenings within existing ROW. The Project will require relocation of overhead utilities, utilities attached to the bridge, and may require relocation of underground utilities along the roadway approaches. Construction may start as early as 2026 and may last 24 months.

The proposed Project may construct a permanent ramp providing access into the San Bernardino County (SBC) Flood Control District (FCD) owned floodway channel north of the bridge along the eastern levee to better facilitate channel maintenance and future bridge inspections.

This project is included in the Southern California Association of Governments (SCAG) 2024 Connect SoCal plan, the current Regional Transportation Plan/Sustainable Communities Strategy, and the 2023 Federal Transportation Improvement Program (2023 FTIP). Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and County is lead agency under the California Environmental Quality Act (CEQA).

Table 3 shows the future traffic conditions with the proposed widened facility.

Table 3. Summary of Future Build Traffic Conditions

Scenario/Analysis Year	Location	AADT		% Truck	VMT (mi)	Average Speed During Peak Travel	Average Speed During Off-Peak Travel
		Total	Truck				
Design Year 2050	Baker Boulevard between Miller Road and Death Valley Road	9,700	600	9.1	2,716 miles	35 mph	35 mph

Source: Fehr&Peers, November 2024

1.4.4 Comparison of Existing/Baseline and Build Alternatives

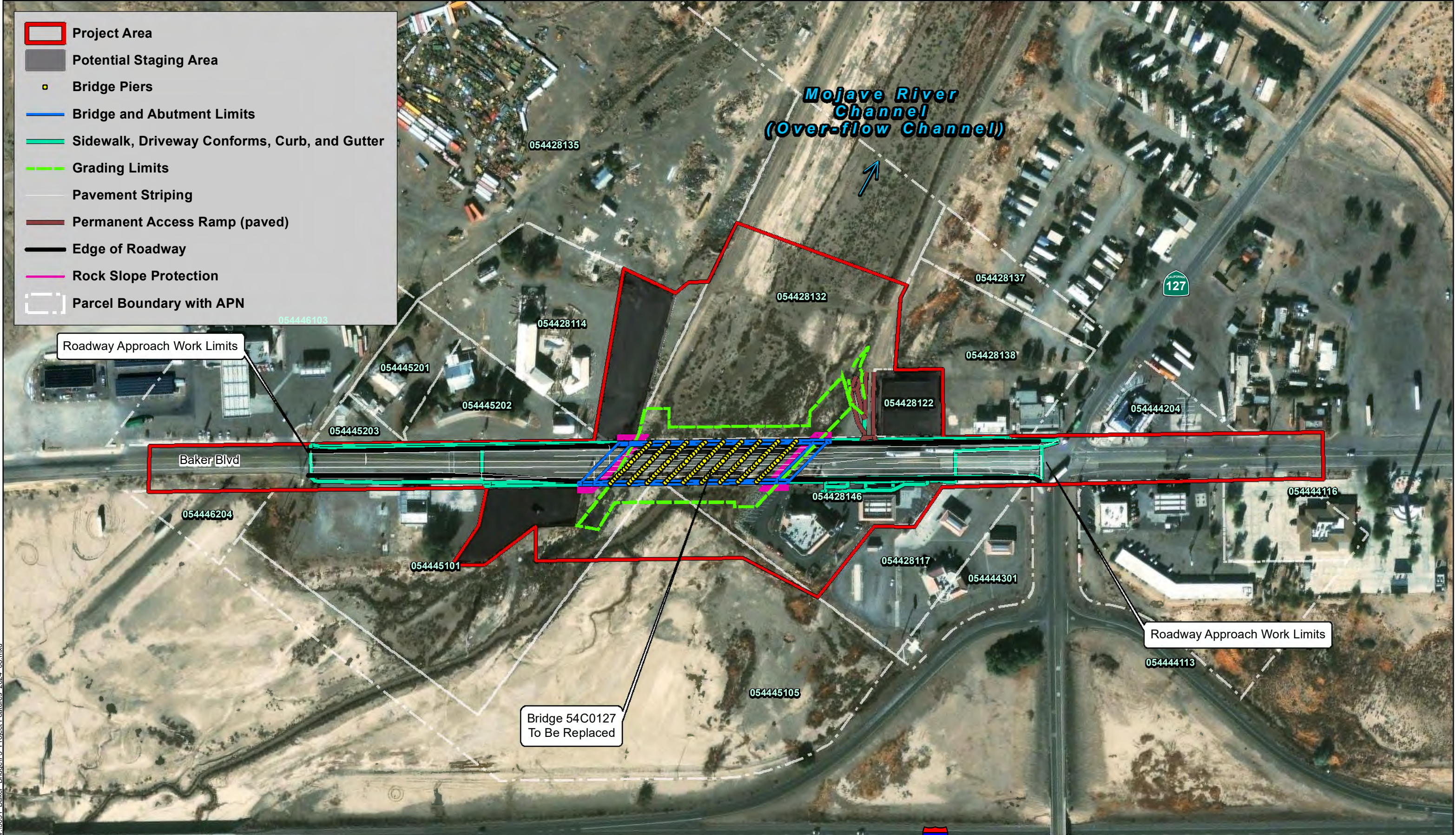
Table 4 compares the design features, traffic operations and traffic conditions of the existing, No Build 2050, and Build Alternative 2050 scenarios. As shown in Table 4, under the Build Alternative, the traffic volumes will stay the same with the project in the year 2050 when compared to No-Build Conditions. Air quality emissions will be greater under Build and No-Build 2050 conditions than the existing condition due to increased traffic volumes. However, this does not take into account the benefits provided by congestion relief as a result of the 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	AADT	% Trucks	VMT (mi)	Average Speed During Peak Travel	Average Speed During Off-Peak Travel
Existing/Baseline Year 2024	Baker Boulevard between Miller Road and Death Valley Road	5,400	300	9.1	1,512 miles	35 mph	35 mph
Design Year 2050	Baker Boulevard between Miller Road and Death Valley Road	9,700	600	9.1	2,716 miles	35 mph	35 mph
Design Year 2050	Baker Boulevard between Miller Road and Death Valley Road	9,700	600	9.1	2,716 miles	35 mph	35 mph

Source: Fehr&Peers, November 2024

- Project Area
- Potential Staging Area
- Bridge Piers
- Bridge and Abutment Limits
- Sidewalk, Driveway Conformances, Curb, and Gutter
- Grading Limits
- Pavement Striping
- Permanent Access Ramp (paved)
- Edge of Roadway
- Rock Slope Protection
- Parcel Boundary with APN



V:\3091 Baker_Bidder\F3 Project Features_2024_08.mxd

Source: ESRI Maps Online; Dokken Engineering 10/1/2024; Created By: amyd



Figure 3
Project Features

1.5 Construction Activities and Schedule

Construction is planned to last approximately 24 months. 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). Temporary, short-term construction emissions are discussed and quantified in Section 4.2.1 below.

The length of the project construction period is approximately 2 years.

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, NO₂, O₃, PM (PM_{2.5} and PM₁₀), and SO₂. 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 (https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/). 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 5 documents the current air quality standards while Table 6 summarizes the sources and health effects of the six criteria pollutants and pollutants regulated in the state of California.

Table 5. Table of State and Federal Ambient Air Quality Standards**Table of 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 ^{3,5}	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 (PM ₁₀) 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 (PM _{2.5}) 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	9.0 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)		53 ppb (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 Fluorescence; 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 ...

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 $\mu\text{g}/\text{m}^3$ 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 February 7, 2024, the national annual PM2.5 primary standard was lowered from 12.0 $\mu\text{g}/\text{m}^3$ to 9.0 $\mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu\text{g}/\text{m}^3$, as was the annual secondary standard of 15.0 $\mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu\text{g}/\text{m}^3$ 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 SO₂ 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 SO₂ 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 $\mu\text{g}/\text{m}^3$ 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 (7/16/24)

Accessed [11/5/2024], https://ww2.arb.ca.gov/sites/default/files/2024-08/AAQS%20Table_ADA_FINAL_07222024.pdf

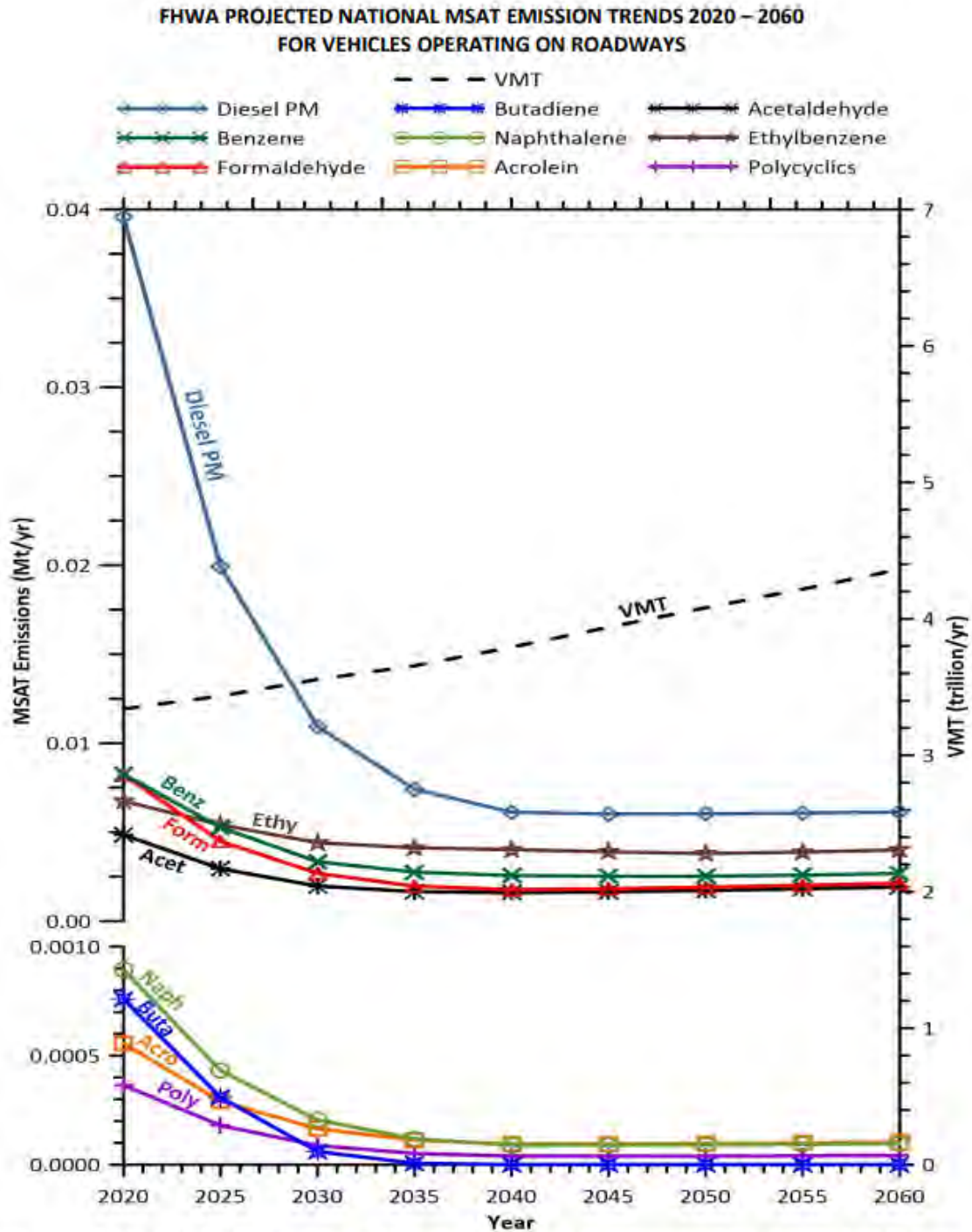
Table 6. State and Federal Criteria Air Pollutant Effects and Sources.

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 (NO _x) 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 NO _x , sulfur oxides (SO _x), 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 “NO _x ” 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 ₂ S)	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.

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.



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.
 Source: EPA MOVES3 model runs conducted by FHWA, March 2021.

(Source:

https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/fhwa_nepa_msat_memorandum_2023.pdf).

Figure 4. Projected National MSAT Trends, 2020-2060

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 (CO₂), methane (CH₄), nitrous oxide (N₂O), 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 CO₂, CH₄, N₂O, and fluorinated gases.

GHGs differ in how much heat each traps in the atmosphere (global warming potential, or GWP). CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called "carbon dioxide equivalent" (CO₂e). The global warming potential of CO₂ is assigned a value of 1, and the warming potential of other gases is assessed as multiples of CO₂. For example, the 2007 International Panel on Climate Change *Fourth Assessment Report* calculates the GWP of CH₄ as 25 and the GWP of N₂O 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 (MTCO₂e), or million metric tons (MMTCO₂e).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

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>.

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. 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.

At the local level, San Bernardino County's 2020 Countywide Plan and 2021 Greenhouse Gas Reduction Plan outline strategies that the County will implement to continue achieving its GHG emissions reductions into the year 2030 and beyond, thereby ensuring sustainable and healthy growth. As the proposed project in and of itself will not generate increased traffic volume and/or demand, the project will also not generate new GHG emissions that would impede the County's efforts to achieve GHG conformity.

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 (https://ww2.arb.ca.gov/sites/default/files/classic/toxics/asbestos/ofr_2000-019.pdf).

³ <https://www.arb.ca.gov/cc/sb375/sb375.htm>

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 (NO₂), ozone (O₃), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM₁₀) and particles of 2.5 micrometers and smaller (PM_{2.5}), and sulfur dioxide (SO₂). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H₂S), 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.

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 non-attainment and “maintenance” (former non-attainment) 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 (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), and in some areas (although not in California), sulfur dioxide (SO₂). California has attainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO₂, and also has a non-attainment 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 scope⁴ 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 non-attainment 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).

2.2.4 California Environmental Quality Act (CEQA)

CEQA⁵ 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 air districts to establish local rules to protect air quality. 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.

Mojave Desert Air Quality Management District

The MDAQMD is the agency responsible for preparing the Air Quality Management Plan (AQMP) for the San Bernardino and Riverside County portions of the Mojave Desert Air Basin (MDAB). MDAQMD has

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.

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

adopted the following attainment plans for nonattainment pollutants that are applicable in the Project area (MDAQMD 2016):

Ozone Attainment Plans

- 2008 Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)
- 2004 Ozone Attainment Plan (State and Federal)
- 1996 Triennial Revision to the 1991 Air Quality Attainment Plan
- 1994 Reasonable Further Progress Rate-of-Progress Plan
- Post-1996 Attainment Demonstration and Reasonable Further Progress Plan
- 1991 Air Quality Attainment Plan

Particulate Matter Attainment Plans

- 1995 Mojave Desert Planning Area Federal Particulate Matter Attainment Plan
- 1995 Searles Valley PM₁₀ Plan, San Bernardino County Portion of Searles Valley Planning Area

MDAQMD Rules and Regulations

All projects in the MDAB are subject to MDAQMD rules and regulations in effect at the time of activity, including:

- **Rule 201, Permit to Construct, and Rule 204, Permit to Operate.** This requires that new or replacement equipment (stationary sources) that generate air pollutant emissions obtain a permit from the MDAQMD prior to their installation (Rule 201) and operation (Rule 203).
- **Rule 401, Visible Emissions.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in viable emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is dark or darker than designated No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.
- **Rule 402, Nuisance.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury, or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **Rule 403, Fugitive Dust, Rule 403.1, Fugitive Dust Control for the Searles Valley Planning Area, and Rule 403.2, Fugitive Dust Control for the Mojave Desert Area Planning Area.** This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust, and requires best available control measures to be applied to earth moving and grading activities. Rule 403.1 and 403.2 require implementation of additional control measures outlined in the Searles Valley PM₁₀ State Implementation Plan and the Mojave Desert Planning Area Federal PM₁₀ Attainment Plan, respectively, to ensure that construction

contractors implement additional soil stabilization techniques to minimize impacts from windblown dust (blowsand) during construction. These rules apply to construction/demolition activity, heavily traveled publicly maintained unpaved roads, weed suppression activity, limestone processing in the Lucerne Valley Area, and activities on Bureau of Land Management Land.

- **Regulation XIII, New Source Review (NSR).** This rule sets forth the requirements for the preconstruction review of all new or modified facilities (stationary and area sources) to ensure that (1) new sources do not interfere with the attainment and maintenance of the AAQS, (2) that is no net increase in the emissions of any nonattainment air pollutant from new or modified major facilities which emit or have the potential to emit any nonattainment air pollutant in an amount greater than or equal to the in MDAQMD Rule 1303(B)(1), (3) the construction or modification of facilities subject to NSR comply with the preconstruction review requirements for TACs set forth in MDAQMD Rule 1320; and (4) the construction or modification of facilities subject to this Regulation or District Regulation XVI: Prevention of Significant Deterioration comply with the preconstruction review requirements set forth in MDAQMD Rule 1600.

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 Project is located in the census-designated community of Baker in San Bernardino County, which falls within the Mojave Desert Air Basin (MDAB). Air quality regulation in MDAB is administered by the Mojave Desert Air Quality Management District (MDAQMD).

Current and forecasted population for the entire County of San Bernardino is 2.2 million in 2020 and 3.6 million in 2050 and the County's economy is largely driven by the government, healthcare/medical, education, and logistics sectors.

3.1 Climate, Meteorology, and Topography

Meteorology (weather) and terrain can 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 Barstow – Dagget Airport weather station is located near the Project site and is representative of meteorological conditions near the Project. Figure 5 shows a wind rose illustrating the predominant wind patterns near the project. The wind rose shows wind patterns collected by the Merced Muni AP weather station from November 5th, 2023 to November 5th, 2024, and the data is provided by the Midwestern Regional Climate Center in Champaign, Illinois.

Mojave Desert Air Basin

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada to the north, air masses pushed onshore in southern California by differential heating are channeled through the MDAB.

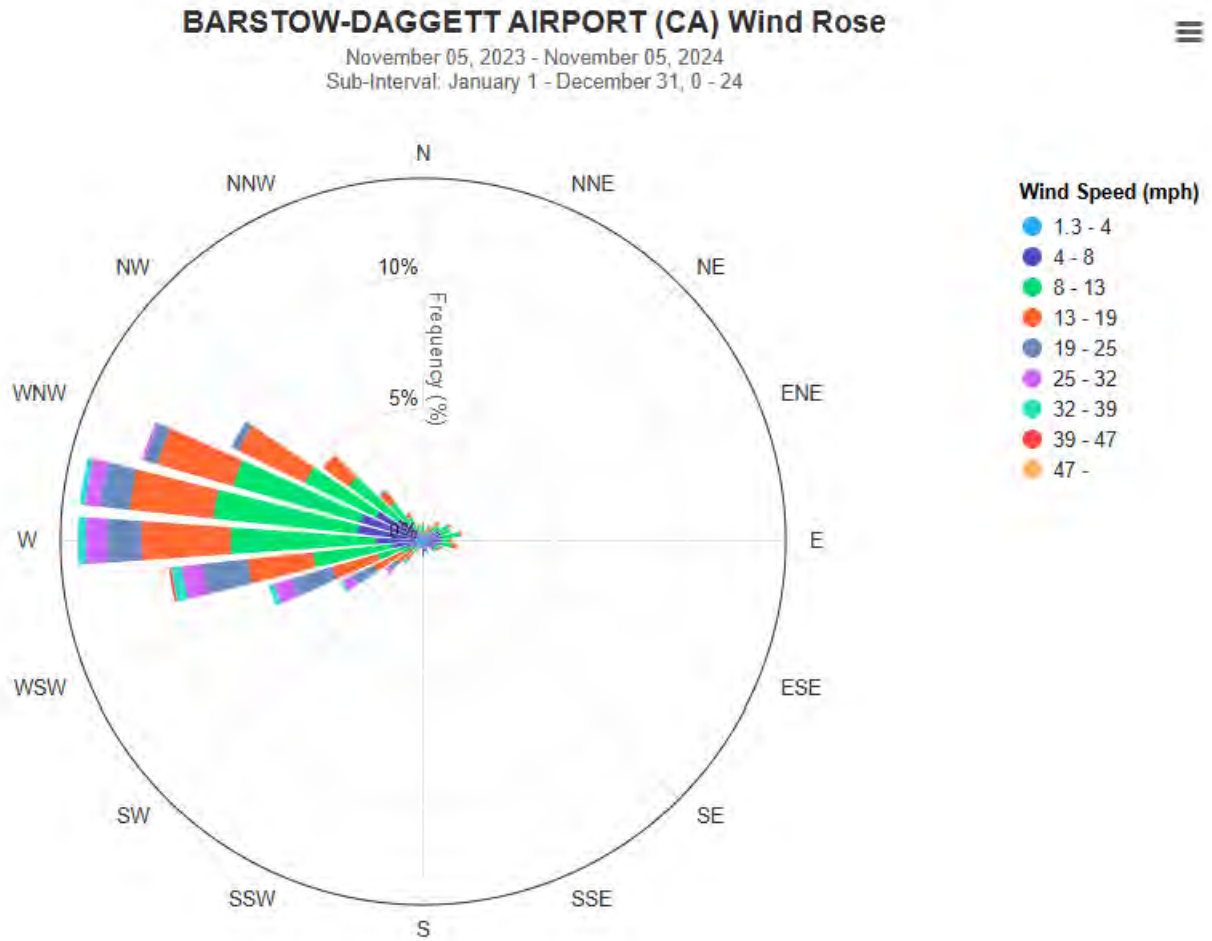
This MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes from the main channels for these air masses. Antelope Valley is bordered by the northwest by the Tehachapi Mountains, separated from the Sierra Nevada in the north by the Tehachapi Pass (3,800 ft elevation). Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 ft). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the

Cajon Pass (4,200 ft). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (Morongo Valley).

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley, whose primary channel is the San Gorgio Pass (2,300 ft) between the San Bernardino and San Jacinto Mountains. During the summer the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, because these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south.

The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months have maximum average temperatures over 100.4F (MDAQMD 2016).

Figure 5. Predominant Wind Patterns Near the Project.



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 5 years, and discusses MSAT and GHG emissions. The closest monitor to the Project site that measures all criteria pollutants is the Barstow monitoring station, which is located approximately 65 miles southwest of the Project location (See Figure 6).

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



3.2.1 Criteria Pollutants and Attainment Status

Tables 7 lists the state and federal attainment status for all regulated pollutants. The project area is in a State and Federal non-attainment designation for 8-hour Ozone and PM₁₀. The project area is within attainment or is unclassified for all other pollutants.

Table 7. State and Federal Attainment Status (MDAB)

Pollutant	State Attainment Status	Federal Attainment Status
Ozone	Nonattainment	Nonattainment
PM ₁₀	Nonattainment	Nonattainment
PM _{2.5}	Attainment	Unclassifiable/Attainment

Pollutant	State Attainment Status	Federal Attainment Status
Carbon Monoxide	Attainment	Attainment/Unclassified
Nitrogen Dioxide	Attainment	Attainment/Unclassified
Sulfur Dioxide	Attainment	Attainment/Unclassified
Lead	Attainment	Attainment/Unclassified
Visibility Reducing Particles	Unclassified	No Federal Standard
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Vinyl Chloride	Unclassified	No Federal Standard
Sources: CARB 2023		

Table 8 lists air quality trends in data collected at the nearest monitoring stations for the past 5 years. The closest monitor to the Project site that measures all criteria pollutants is the Barstow monitoring station at 225 East Mountain View Street, which is located approximately 65 miles southwest of the Project location. Ozone (O₃), respirable particulate matter (PM₁₀), and nitrogen dioxide (NO₂) data were obtained from this station.

Fine particulate matter (PM_{2.5}) Victorville at 14306 Park Ave

Carbon Monoxide (CO), San Bernardino 24302 4th St., San Bernardino, Ca.

The data in Table 8 was compiled from the California Air Resources Board's iADAM: Air Quality Data Statistics (CARB 2024) and the Environmental Protection Agency's Monitor Values Report (EPA 2024).

Table 8. Ambient Air Quality Data

Pollutant	Standard	2019	2020	2021	2022	2023
Ozone²						
Max 1-hr concentration		0.090 ppm	0.117 ppm	0.099 ppm	0.095 ppm	0.085 ppm
No. days exceeded: State	0.09 ppm	0	3	2	1	0
Max 8-hr concentration		0.082 ppm	0.098 ppm	0.087 ppm	0.084 ppm	0.077 ppm
No. days exceeded: State	0.070 ppm	10	26	21	14	22
Federal	0.070 ppm	9	25	20	13	16
Carbon Monoxide						
Max 1-hr concentration		1.3	1.9	2.0	1.7	1.6
No. days exceeded: State	35 ppm	0	0	0	0	0
Federal						
Max 8-hr concentration		1.1	1.4	1.6	1.4	1.2
No. days exceeded: State	9 ppm	0	0	0	0	0
Federal						
PM₁₀						
Max 24-hr concentration		209.5 µ/m ³	213.5 µ/m ³	372.7 µ/m ³	225.1 µ/m ³	318.7 µ/m ³
No. days exceeded: State	50 µg/m ³	*	*	*	*	*
Federal	150 µg/m ³	1.2	1.0	1.0	6.3	3.1
Max annual concentration	20 µg/m ³	24.8	33.3	29.9	30.9	28.3
No. days exceeded: State		-	-	-	-	-
PM_{2.5}						
Max 24-hr concentration		17.8 µ/m ³	48.4 µ/m ³	87.1 µ/m ³	24.6 µ/m ³	25.6 µ/m ³
No. days exceeded: Federal	35 µg/m ³	0	4.0	1.0	0	0
Max annual concentration		7.0 µ/m ³	9.7 µ/m ³	10.2 µ/m ³	8.9 µ/m ³	7.9 µ/m ³
No. days exceeded: State	12 µg/m ³	-	-	-	-	-
Federal	12.0 µg/m ³	-	-	-	-	-
Nitrogen Dioxide						
Max 1-hr concentration		59 ppb	54 ppb	56 ppb	53 ppb	60 ppb
No. days exceeded: State	0.18 ppm	0	0	0	0	0
Federal	100 ppb	0	0	0	0	0
Max annual concentration		14.32 ppb	14.87 ppb	15.14 ppb	15.65 ppb	13.32 ppb
No. days exceeded: State	0.030 ppm	0	0	0	0	0
Federal	53 ppb	0	0	0	0	0
* CARB had insufficient (or no) data available to determine the value Sources: California Air Resources Board, http://www.arb.ca.gov/adam (Accessed 11/6/2024) and U.S. EPA, https://www.epa.gov/outdoor-air-quality-data/monitor-values-report (Accessed 11/6/2024)						

Table 9 shows the status of U.S. EPA-approved SIPs that are relevant to the proposed project and includes the SIP objective and the status of budget adequacy findings by the U.S. EPA on submitted implementation plans.

Table 9. Status of SIPs Relevant to the Project Area.

Name/Description	Status
San Bernardino County 1987 PM10 Nonattainment New Source Review	Approved (12/13/1996)

3.2.2 Mobile Source Air Toxics

The primary MSAT pollutant sources near the project area is Baker Boulevard, Interstate 15, and California State Route 127, and adjoining roadways. There are no other nearby facilities serving on- or off-road motor vehicles.


3.2.3 Greenhouse Gas and Climate Change

CO₂, as part of the carbon cycle, is an important compound for plant and animal life, but also accounted for 84% of California's total GHG emissions in 2015. Transportation, primarily on-road travel, is the single largest source of CO₂ emissions in the state.





The proposed project is included in the SCAG 2023 Federal Transportation Improvement Program (FTIP) and the SCAG 2024 Connect SoCal (RTP/SCS). Additionally, the County of San Bernardino adopted the 2021 Regional Greenhouse Gas Reduction Plan in March 2021. The Plan included GHG reduction targets, strategies, and specific actions. It also identified strategies and specific actions which the County can take to adapt to the effects of climate change.

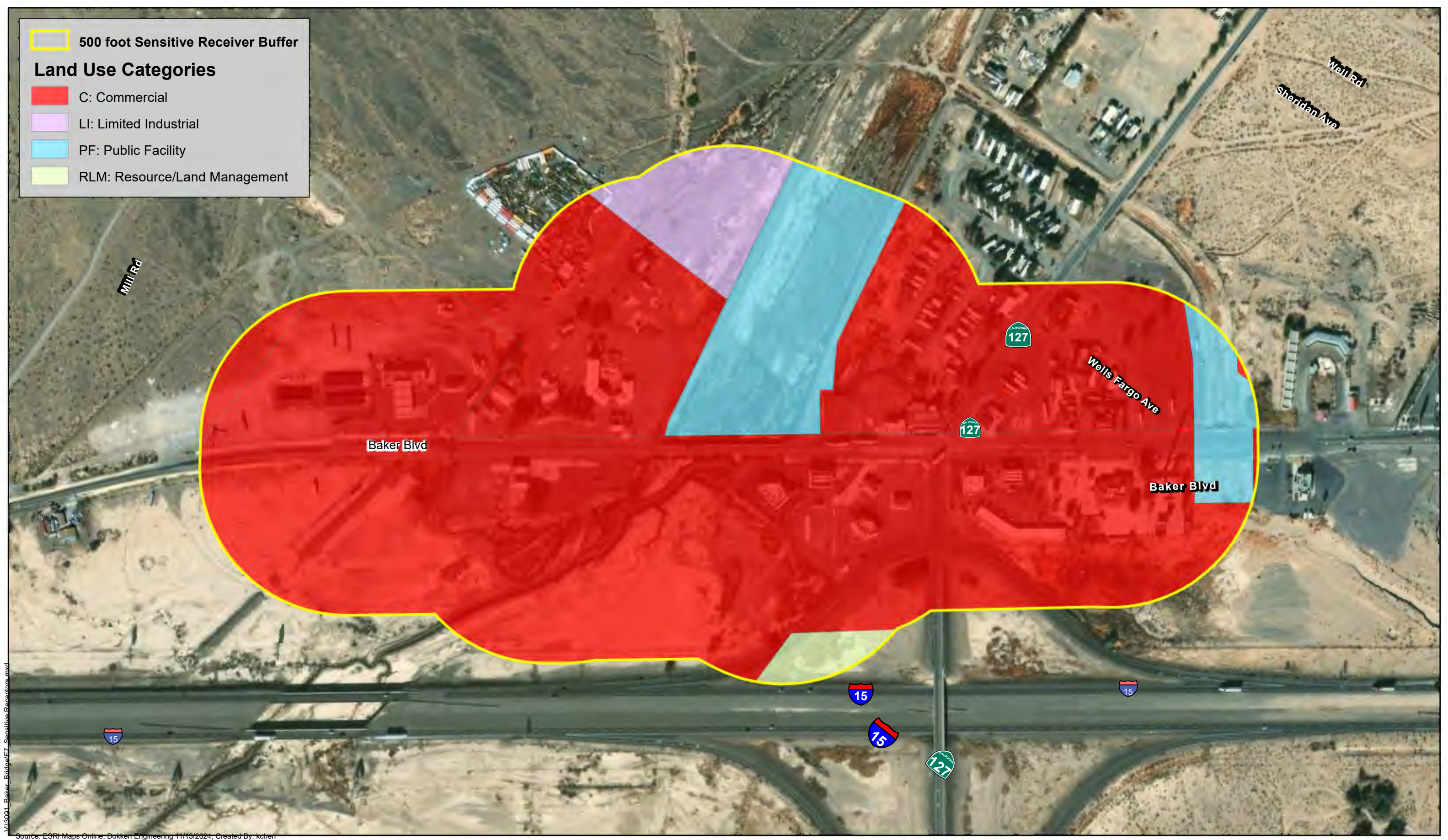
3.3 Sensitive Receptors

Sensitive receptors include residential areas, schools, hospitals, other health care facilities, child/day care facilities, parks, and playgrounds. On the basis of research showing that the zone of greatest concern near roadways is within 500 feet (or 150 meters), land uses in the project vicinity were identified as shown in Figure 7. Land uses within the zone of greatest concern include areas designated for Commercial, Low Density Residential, and Public Facility. Sensitive receptors include residential development along Baker Boulevard. No other sensitive receptors, such as hospitals, daycare facilities, or schools occur within the 500 foot buffer of the Project area.

 500 foot Sensitive Receiver Buffer

Land Use Categories

-  C: Commercial
-  LI: Limited Industrial
-  PF: Public Facility
-  RLM: Resource/Land Management



V:\3001_Baker_Budget\E7_Sensitive_Receiver.mxd

Source: ESRI Maps Online, Dokken Engineering 11/13/2024, Created By: kchen



Figure 7
Sensitive Receivers within 500 feet of Project Area

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement
STPL-5954(193)
Baker, San Bernardino County, California

3.4 Conformity Status

3.4.1 Regional Conformity

The proposed project is located in the Mojave Desert Air Basin (MDAB). The State of California has designated the MDAB as being a nonattainment area for ozone (O₃), particulate matter (PM₁₀), particulate matter (PM_{2.5}), and hydrogen sulfide; and is designated attainment or unclassified for all other pollutants. At the federal level, EPA has also designated this area as being a nonattainment area for O₃ and PM₁₀. Criteria pollutant PM_{2.5}, CO, NO₂ and SO₂ are designated as unclassified/attainment. The proposed project involves adding additional lanes, which results in the project not being one of the project types listed in Table 2 of 40 Code of Federal Regulations (CFR) 93.126 (Exempt Projects) and is therefore not exempt from the requirement to determine conformity, nor is it exempt from regional conformity.

This project is included in the 2023 Federal Transportation Improvement Program (FTIP) and the 2024 Connect SoCal (RTP/SCS). On May 10, 2024, the FHWA and FTA issued a finding that the SCAG fiscally-constrained 2024 Connect SoCal 2024-2050 RTP/SCS was in conformance with federal air quality and planning regulations. On December 16, 2022 FHWA and FTA approved the 2023 FTIP. The design concept and scope of the proposed Project has not changed from how it appears in the 2023 FTIP, therefore it conforms with the regional emissions analysis conducted for the FTIP. Conformity status information is summarized in Table 10. The relevant pages from the FTIP are included in Appendix A.

Table 10. Status of Plans Related to Regional Conformity

	Plan/TIP	Date of adoption by MPO	Date of Approval by FHWA	Last Amendment	Date of Approval by FHWA of Last Amendment
SCAG	2023 FTIP	October 6, 2022	December 16, 2022	23-29	May 31, 2024
SCAG	2024 RTP/SCS	April 4, 2024	May 10, 2024	Amendment #1	TBD

3.4.2 Project-Level Conformity

The project area is in a Federal non-attainment designation for 8-hour Ozone and PM₁₀. The project does not cause or contribute to any new localized CO, PM_{2.5}, and/or PM₁₀ 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 area is located in MDAB, which is in federal non-attainment designation for 8-hour Ozone and PM₁₀. SCAG completed an Interagency Consultation to determine if it is a Project of Air Quality Concern (POAQC) as defined in 40 CFR 93.116 and 93.123 and U.S.EPA's Hot-Spot Guidance. The project obtained

concurrence from both EPA and FHWA that the Project is not a POAQC on December 3, 2024. The concurrence is included in Appendix E of this Air Quality Report and a summary of the interagency consultation process for this project can be found in Table 11 below.

Table 11. Summary of Interagency Consultation Process.

Date	Format	Participants	Discussion Summary	Outcomes
11/19/24	Email	SCAG	SCAG initiated interagency consultation and requested concurrence	Interagency consultation initiated
12/3/24	TCWG Meeting	EPA	EPA submitted concurrence that project is not a project of air quality concern	EPA concur not a POAQC
12/3/24	TCWG Meeting	FHWA	Project Level Conformity Group has determined that the Project is Not a Project of Air Quality Concern (POAQC)	FHWA concur not a POAQC

3.5 NEPA Analysis/Requirement

NEPA applies to all projects that receive federal funding or involve a federal action. Due to the minor nature of the proposed project, documentation that the project is listed in a conforming RTP and TIP is sufficient to fulfill the requirements of NEPA. Additional data comparing emissions from the future year Build scenario to those from the future year No-Build scenario is included for the sake of disclosure.

3.6 CEQA Analysis/Requirement

CEQA applies to most California transportation projects (certain projects are statutorily exempt). This air quality study will address pollutants for which California has established air quality standards (ozone, PM₁₀, PM_{2.5}, carbon monoxide, NO₂, SO₂, lead, visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride), as well as GHGs, MSATs, and asbestos. Analysis/documentation requirements for CEQA will largely be fulfilled using a narrative describing the pollutant and potential impacts as a result of this project; however, emissions comparisons from the future year Build scenarios to emissions from the Baseline (existing conditions) will be included for the sake of disclosure. Table 12 below contains a summary of all long-term operational emissions associated with the proposed project for pollutants of concern from transportation sources and compare them to the South Coast Air Quality Management District's Regional Daily Operational Emissions Thresholds.

Table 12. Summary of Comparative Emissions Analysis during Peak Hour

Scenario/ Analysis Year	CO (lbs)	PM ₁₀ (lbs)	PM _{2.5} (lbs)	NO _x (surrogate for NO ₂) (lbs)	CO ₂ (lbs)
Baseline (Existing Conditions) 2024	0.270	0.195	0.035	0.200	169.134
No Build Future (2050)	0.199	0.342	0.058	0.085	183.741
Future + Project (2050)	0.199	0.342	0.058	0.085	183.741
Source: CT-EMFAC2021					
SCAQMD Regional Daily Emissions Thresholds are not established for CO ₂					

CO emissions during peak hour would decrease in the design year when compared to existing peak hour CO emissions. CO emissions would decrease by 26% by the design year under both No Build and Build conditions. CO emissions in the design year with the project would be comparable to emissions under No Build conditions.

PM₁₀ emissions during peak hour would increase in the design year when compared to existing peak hour PM₁₀ emissions. PM₁₀ emissions would increase by 75% by the design year under both No Build conditions and Build conditions. PM₁₀ emissions in the design year with the project would be comparable to emissions under No Build conditions.

PM_{2.5} emissions during peak hour would increase in the design year when compared to existing peak hour PM_{2.5} emissions. PM_{2.5} emissions would increase by 66% by the design year under both No Build conditions and Build conditions. PM_{2.5} emissions in the design year with the project would be comparable to emissions under No Build conditions.

NO_x emissions during peak hour would decrease in the design year when compared to existing peak hour NO_x emissions. NO_x emissions would decrease by 58% by the design year under both No Build conditions and Build conditions. NO_x emissions in the design year with the project would be comparable to emissions under No Build conditions.

In the existing year, CO₂ emissions were modeled to be 172 pounds during peak hour. CO₂ emissions in the design year under No Build conditions were modeled to be 188 pounds during peak hour. CO₂ emissions in the design year are expected to increase 16 pounds during peak hour under no-build conditions. CO₂ emissions in the design year under Build Conditions were modeled to be 188 pounds during peak hour. CO₂ emissions in the design year are expected to increase by 16 pounds, or approximately 9%, over existing conditions if the Project is implemented.

The South Coast Air Quality Management District's CEQA Air Quality Significance Thresholds were also used to evaluate the air quality impacts of the Project under CEQA. Sections 4.2, Short-Term Effects (Construction Emissions) and 4.3, Long-Term Effects (Operational Emissions) below discuss the modelled emissions generated as a result of construction and operation of the proposed project respectively and compares them with the applicable thresholds established by SCAQMD.

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 PM₁₀ and PM_{2.5} Non-attainment 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 (identified in Table 5) or contribute to an existing air quality violation.

Table 13 summarizes project-level air quality analyses under transportation conformity, NEPA, and CEQA, and the impact criteria that determine whether a project meets air quality requirements or may have an adverse impact on air quality.

Table 13. Summary of Project-Level (Operational) Air Quality Analyses

Pollutant	Conformity	NEPA	CEQA
Ozone (O ₃)	This report will document that the project is listed in the conforming FTIP as the project is within a non-attainment designation. No quantitative analysis is needed as this is not identified as a regionally significant project.	O ₃ is a regional pollutant with indirect impacts and it is infeasible to model project-level impacts on O ₃ due to its photochemical nature. A precursor emissions burden analysis with CT-EMFAC will include quantitative estimates for NO _x and VOC.	O ₃ is a regional pollutant with indirect impacts and it is infeasible to model project-level impacts on O ₃ due to its photochemical nature. A precursor emissions burden analysis with CT-EMFAC will include quantitative estimates for NO _x and VOC.
PM ₁₀	The project is subject to conformity requirements as it is within a non-attainment area. The U.S. EPA guidance for PM hot-spot analysis and interagency consultation were used to determine whether the project is a POAQC. The project obtained concurrence from both EPA and FHWA that the Project is not a POAQC on December 3, 2024. As the project is not a POAQC, no further PM hot-spot analysis is necessary.	A comparative emissions analysis will be included to document the results of modeling exhaust emissions from CT-EMFAC.	A comparative emissions analysis will be included to document the results of modeling exhaust emissions from CT-EMFAC.
PM _{2.5}	The project is in federal attainment/unclassified for PM _{2.5} . No analysis regarding conformity is necessary.	A comparative emissions analysis will be included to document the results of modeling exhaust emissions from CT-EMFAC.	A comparative emissions analysis will be included to document the results of modeling exhaust emissions from CT-EMFAC.
CO	The project is in attainment for Carbon Monoxide. No analysis regarding conformity is necessary.	The project will follow the Caltrans/UC Davis 1997 CO Protocol (http://www.dot.ca.gov/hq/env/air/pages/coprot.htm) for CO analyses. If the qualitative screening procedure indicates that a quantitative analysis is required, the project will model CO emissions using CALINE4 with CT-EMFAC emissions factors.	The project will follow the Caltrans/UC Davis 1997 CO Protocol (http://www.dot.ca.gov/hq/env/air/pages/coprot.htm) for CO analyses. If the qualitative screening procedure indicates that a quantitative analysis is required, the project will model CO emissions using CALINE4 with CT-EMFAC emissions factors.
NO ₂	The project is in attainment for NO ₂ . No analysis regarding conformity is necessary.	A comparative emissions analysis will be included to document the results of modeling NO _x (combination of NO and NO ₂) emissions from CT-EMFAC.	A comparative emissions analysis will be included to document the results of modeling NO _x (combination of NO and NO ₂) emissions from CT-EMFAC.

Pollutant	Conformity	NEPA	CEQA
SO ₂	Not required. All of California is in attainment or unclassified. SO ₂ impacts are <i>de minimis</i> for on- and off-road vehicles because gasoline and diesel fuel is low-sulfur by ARB requirement. FHWA conformity guidance states that only 4/6 criteria pollutants (not SO ₂) are of concern for transportation sources: http://www.fhwa.dot.gov/environment/air_quality/conformity/guide/guide04.cfm .	SO ₂ impacts are <i>de minimis</i> for on- and off-road vehicles because gasoline and diesel fuel is low-sulfur by ARB requirement. SO ₂ is not of concern for transportation sources.	SO ₂ impacts are <i>de minimis</i> for on- and off-road vehicles because gasoline and diesel fuel is low-sulfur by ARB requirement. SO ₂ is not of concern for transportation sources.
Lead (Pb)	Not required.	No analysis necessary as lead is typically not an air quality issue. Any potential ADL (Aerially Deposited Lead) issues will be addressed within the Initial Site Assessment drafted for the project in 2014 and revised and approved by Caltrans in 2015.	No analysis necessary as lead is typically not an air quality issue. Any potential ADL (Aerially Deposited Lead) issues will be addressed within the Initial Site Assessment drafted for the project in June 2024.
GHG	Not required.	Not required.	The proposed project will analyze and document quantitative GHG emissions associated with the operation of the project using CT-EMFAC. Additionally, EO B-30-15 requires all projects to calculate construction GHG emissions. The Caltrans 2021 Construction Emissions Tool (CAL-CET) will be used to quantify the expected construction-related GHG emissions related to the proposed project.
MSATs	Not required.	The project will follow FHWA's "Updated Interim Guidance on Mobile Source Air Toxics Analysis in NEPA Documents" (FHWA, 2016). The analysis will identify which of the three MSAT categories the project belongs in based on screening criteria in the guidance.	CT-EMFAC will be utilized to provide emission estimates for the nine priority MSAT pollutants.

Pollutant	Conformity	NEPA	CEQA
Asbestos	Not required.	Not a mobile source issue. Refer to Section 4.2.2	Not a mobile source issue. Refer to Section 4.2.2
Visibility- Reducing Particles	Not required.	Not required.	Typically not a transportation issue and no analysis is required. Controls under current regulations only apply to stationary sources.
Sulfates	Not required.	Not required.	Sulfate is typically not a mobile source issue.
Hydrogen Sulfide	Not required.	Not required.	H ₂ S is typically not a mobile source issue.
Vinyl Chloride	Not required.	Not required.	Typically not a transportation issue and no analysis is required.

4.2 Short-Term Effects (Construction Emissions)

4.2.1 Construction Equipment, Traffic Congestion, and Fugitive Dust

Site preparation and construction activity will involve demolition of the existing bridge, excavation, cut-and-fill activities, pile driving, 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. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include CO, NO_x, VOCs, directly emitted PM₁₀ and PM_{2.5}, and toxic air contaminants (TACs) such as diesel exhaust particulate matter. Construction activities are expected to slightly increase traffic congestion in the area, resulting in increases in emissions from traffic during the delays. These emissions 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 in a hot-spot analysis. 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. Regulation VIII to minimize fugitive dust also applies to all road construction projects within the SJVAPCD jurisdiction.

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. PM₁₀ emissions may vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ 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.

Construction emissions were estimated using the Caltrans 2021 Construction Emissions Tool (CAL-CET). Construction-related emissions for the proposed project are presented in Table 14. The results of the construction emission calculations are included in Appendix B. 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 by construction of the proposed project.

Table 14. Construction Emissions for Roadways.

	PM₁₀ (lbs/day)	PM_{2.5} (lbs/day)	CO (lbs/day)	NO_x (lbs/day)	CO₂ (tons/phase)
Land Clearing/Grubbing	1.019	0.359	3.816	4.071	0.519
Roadway Excavation	0.969	0.769	9.671	9.974	1.128
Structural Excavation	1.493	0.333	1.917	3.332	0.488
Base/Subbase/ Imported Borrow	1.593	1.260	16.734	15.902	1.717
Structural Concrete	0.217	0.212	2.250	3.514	0.399
Paving	0.912	0.896	5.254	12.423	1.219
Drainage/ Environment/ Landscaping	0.325	0.318	1.970	4.226	0.419
Traffic Signalization/ Signage/Striping/ Painting	0.275	0.270	2.936	4.603	0.953
Other Operations	0.000	0.000	0.000	0.000	0.000
Maximum daily (lbs/day)	1.593	1.260	16.734	15.902	1.717
SCAQMD Daily Emissions Thresholds	150	55	550	100	-
Project Total (tons/construction project)	0.187	0.145	1.546	0.024	462

As shown in Table 14, emissions of criteria pollutants from project construction would be below the applicable SCAQMD significance thresholds.

4.2.2 Asbestos

Based on a review of the California Department of Conservation, Division of Mines and Geology map of ultramafic rock in the state, asbestos occurrence is not within the vicinity of the project area. Therefore, the potential for impact from NOA during project construction is low.

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. Any potential ADL (Aerially Deposited Lead) issues will be addressed withing the Initial Site Assessment.

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, No-Build, and all Build alternatives. Table 15 below contains a summary of all long-term operational emissions associated with the proposed project. Additional information regarding each criterion pollutant can be found in the following subsections of this chapter and emission calculations can be found in Appendix C.

Table 15. Summary of Comparative Emissions Analysis during Peak Hour

Scenario/ Analysis Year	CO (lbs)	PM ₁₀ (lbs)	PM _{2.5} (lbs)	NOx (surrogate for NO ₂) (lbs)	CO ₂ (lbs)
Baseline (Existing Conditions) 2024	0.270	0.195	0.035	0.200	169.134
No Build Future (2050)	0.199	0.342	0.058	0.085	183.741
Future + Project (2050)	0.199	0.342	0.058	0.085	183.741
SCAQMD Daily Operational Emissions Thresholds	550	150	55	55	-

Source: CT-EMFAC2021

As shown in Table 15, emissions of criteria pollutants from operation of Baker Bridge would be below the applicable SCAQMD significance thresholds.

For NEPA, future Build scenario emissions are compared with future No-Build scenario emissions; for CEQA, future scenario emissions (Build and No-Build) are compared with Baseline (Existing Conditions) emissions in the following sections.

4.3.1 CO Analysis

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. Although the protocol was designed to address federal standards, it has been recommended for use by several air pollution control districts in their CEQA analysis guidance documents and should also be 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.

Transportation conformity requirements for CO cease to apply after June 1, 2018 (20 years after the effective date of the EPA approval of the first 10-year maintenance plan and redesignation of the areas to

attainment for the CO NAAQS. As a result, SCAG may reference the attached letter in Appendix D to show that conformity for CO no longer applies in this region; therefore, discussion of CO conformity does not apply to the region as of June 1, 2018.

4.3.2 PM Analysis

Emissions Analysis

PM emissions were estimated for Baseline (2024), No-Build, and Build alternative for the existing and horizon year (2050). The results can be seen in Table 16 below.

Table 16. PM Emissions during Peak Hour

Scenario/ Analysis Year	PM ₁₀ Emissions (lbs)	% change from Existing	% increase from No Build to Build	PM _{2.5} Emissions (lbs)	% change from Existing	% increase from No Build to Build
Baseline (Existing Conditions) 2024	0.195			0.035		
No Build Future (2050)	0.342	+75%		0.058	+66%	
Future + Project (2050)	0.342	+75%	0%	0.058	+66%	0%

Source: CT-EMFAC2021

As shown in Table 16, PM₁₀ emissions during peak hour would increase in the design year when compared to existing peak hour PM₁₀ emissions. PM₁₀ emissions would increase by 75% by the design year under both No Build conditions and Build conditions. PM₁₀ emissions in the design year with the project would be comparable to emissions under No Build conditions.

PM_{2.5} emissions during peak hour would increase in the design year when compared to existing peak hour PM_{2.5} emissions. PM_{2.5} emissions would increase by 66% by the design year under both No Build conditions and Build conditions. PM_{2.5} emissions in the design year with the project would be comparable to emissions under No Build conditions.

Hot-Spot Analysis

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 PM₁₀ Non-attainment 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 PM_{2.5} and PM₁₀ applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Table 17 details why the project does not meet the definition of a Project of Air Quality Concern.

Table 17. Projects of Air Quality Concern

EPA Definition of POAQC	Proposed Project
(i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;	The Baker Boulevard Over Mojave River Bridge Replacement Project is not a new or expanded highway project with a significant number of or significant increase in diesel vehicles. Diesel/heavy truck traffic is expected to be 9.1% within the Project Area. The greatest number of trucks on a segment is estimated to be 1,338, which is well below the general recommended threshold of 10,000 diesel trucks (i.e. 125,000 volume of which 8% is diesel). The truck percentage is projected to remain the same for both the opening year and the horizon year at approximately 9.1%.
(ii) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;	The anticipated number of diesel vehicles is not significant (see above).
(iii) New bus and rail terminals and transfer points than have a significant number of	Bus and rail terminals and transfer points are not part of this project.

EPA Definition of POAQC	Proposed Project
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	Expanded bus and rail terminals and transfer points are not part of this project.
(v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM ₁₀ or PM _{2.5} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.	The project is not in, nor will it affect, a location of violation or possible violation

4.3.3 NO₂ Analysis

The U.S. EPA modified the NO₂ NAAQS to include a 1-hr standard of 100 ppb in 2010. Currently there is no federal project-level nitrogen dioxide (NO₂) analysis requirement; however, NO₂ is among the near-road pollutants of concern. For project-level analysis, a NO₂ assessment protocol is not available; however, CT-EMFAC provides a NO_x (combination of NO and NO₂) emissions estimate. Near-road NO₂ concentrations will likely be dominated by overall NO_x emissions. As long as ozone is present at relatively low (background) concentrations, most of the directly emitted NO will convert to NO₂ within a few seconds. Therefore, NO_x emissions overall can serve as a useful analysis surrogate for NO₂ (see the Caltrans Near-Road Nitrogen Dioxide Assessment (Caltrans, 2012)).

NO_x emissions were estimated for Baseline, No-Build, and Build alternative for the existing year 2024 and horizon year 2050. The results can be seen in Table 18 below.

Table 18. NO_x Emissions during Peak Hour

Scenario/ Analysis Year	NO _x Emissions (lbs)	% change from Existing	% increase from No Build to Build
Baseline (Existing Conditions) 2021	0.200		
No Build Future (2045)	0.085	-58%	
Future + Project (2045)	0.085	-58%	+0%
Source: CT-EMFAC2021			

As shown in Table 18, NO_x emissions during peak hour would decrease in the design year when compared to existing peak hour NO_x emissions. NO_x emissions would decrease by 58% by the design year under both No Build conditions and Build conditions. NO_x emissions in the design year with the project would be comparable to emissions under No Build conditions.

4.3.4 Mobile Source Air Toxics Analysis

FHWA released updated guidance in January 2023 (FHWA, 2023) for determining when and how to address MSAT impacts in the NEPA process for transportation projects. FHWA identified three levels of analysis:

- No analysis for exempt projects or projects with no potential for meaningful MSAT effects;
- Qualitative analysis for projects with low potential MSAT effects; and
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Projects with no impacts generally include those that a) qualify as a categorical exclusion under 23 CFR 771.117, b) qualify as exempt under the FCAA conformity rule under 40 CFR 93.126, and c) are not exempt, but have no meaningful impacts on traffic volumes or vehicle mix.

Projects that have low potential MSAT effects are those that serve to improve highway, transit, or freight operations or movement without adding substantial new capacity or creating a facility that is likely to substantially increase emissions. The large majority of projects fall into this category.

Projects with high potential MSAT effects include those that:

- 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
- Are 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).

Given that design-year traffic volume for the modeled area is predicted to be approximately 9,700 AADT for the Build Alternative, the proposed Project falls within Category 2, a project with low potential MSAT effects. As such, a qualitative MSAT analysis is appropriate.

For each alternative, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. As the Project is shown to have a marginal increase in overall VMT compared to no-build conditions in the design year (See Table 4), it is expected there is a marginal increase in overall MSAT emissions as a result of implementation of the Build Alternative. In addition, emissions are virtually certain to be lower than present levels in the design year as a result of the EPA's national control programs that are projected to reduce annual MSAT emissions by 91 percent from 2010 to 2050 (FHWA 2016). 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 EPA-projected reductions is so great (even after accounting for regional VMT growth) that MSAT emissions in the study area are likely to be lower in the future than they are today.

4.3.5 Greenhouse Gas Emissions Analysis

Table 19 gives projected CO₂ emissions for existing, design year No-Build, and design year Build Alternative conditions using peak hour traffic volumes along Alvarado Canyon Road and adjacent roadways where the

realignment would occur. In the existing year, CO₂ emissions were modeled to be 172 pounds during peak hour. CO₂ emissions in the design year under No Build conditions were modeled to be 188 pounds during peak hour. CO₂ emissions in the design year are expected to increase 16 pounds during peak hour under no-build conditions. CO₂ emissions in the design year under Build Conditions were modeled to be 188 pounds during peak hour. CO₂ emissions in the design year are expected to increase by 16 pounds, or approximately 9%, over existing conditions if the Project is implemented. The CT-EMFAC model does not account for the project's benefits related to congestion or vehicle delay; however, if modeled, these would yield a reduction in the greenhouse gas emissions estimates for the build alternative. The emission estimate below is the most conservative estimate as it does not take any of these other factors into consideration, which would likely reduce the greenhouse gas emissions estimate for the build alternative.

Table 19. CO₂ Emissions during Peak Hour

Scenario/ Analysis Year	CO ₂ Emissions (lbs)	% change from Existing	% increase from No Build to Build
Baseline (Existing Conditions) 2024	169.134		
No Build Future (2050)	183.741	+9%	
Future + Project (2050)	183.741	+9%	+0%
Source: CT-EMFAC2021			

It should be noted that while these emission numbers are useful for comparing alternatives, they do not necessarily accurately reflect what the true CO₂ emissions will be because CO₂ emissions are dependent on other factors that are not part of the model, such as the fuel mix (CT-EMFAC model emission rates are only for direct engine-out CO₂ emissions, not full fuel cycle; fuel cycle emission rates can vary dramatically depending on the amount of additives like ethanol and the source of the fuel components), rate of acceleration, and the aerodynamics and efficiency of the vehicles. The relative magnitudes however, as used for the comparison above, can be assumed to be reasonably accurate.

4.4 Cumulative/Regional/Indirect Effects

The SCAG Regional Council certified the Final Program Environmental Impact Report (PEIR) for the Connect SoCal 2024 Regional Transportation Plan on April 4, 2024. The Final PEIR determined that criteria pollutant emissions from individual projects could result in localized air quality impacts, and that some counties would be exposed to increased emissions as a result of increased VMT. Therefore, the Plan could contribute to cumulative impacts from adjacent MPO's, and the impact is considered significant and unavoidable.

As the proposed Project would be implemented as part of the 2023 Federal FTIP and 2024 Connect SoCal RTP, the project would potentially contribute to cumulative/regional/indirect effects as identified in the PEIR.

5. Minimization Measures

The following measures would be implemented to minimize effects on air quality.

5.1 Short-Term (Construction)

Adherence to applicable MDAQMD rules and regulations and standard Caltrans Best Management Practices would be sufficient. No additional minimization measures are necessary.

5.2 Long-Term (Operational)

While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project.

6. Conclusions

The Baker Boulevard Over Mojave River Bridge Replacement Project is located in the Mojave Desert Air Basin (MDAB). At the federal level, EPA has designated this area as being a nonattainment area for O₃ and PM₁₀. The project does not cause or contribute to any new localized CO, PM_{2.5}, and/or PM₁₀ 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). The U.S. EPA guidance for PM hot-spot analysis and interagency consultation were used to determine whether the project is a POAQC. The project obtained concurrence from both EPA and FHWA that the Project is not a POAQC on December 3, 2024. While the project would contribute to short-term temporary construction emissions and operational emissions, the project is intended to provide and meet existing and future traffic demand.

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Appendix A SCAG 2023 FTIP Project Listing
and 2024 Connect Social RTP Listing

2023 Federal Transportation Improvement Program
San Bernardino County
Local Highway - Project Listing
(In \$000's)

PHASE	FUND SOURCE	PRIOR	22/23	23/24	24/25	25/26	26/27	27/28	FUTURE	TOTAL
PE	BRIDGE - LOCAL	\$2,080	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,080
PE	COUNTY	\$270	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$270
ROW	BRIDGE - LOCAL	\$1,195	\$0	\$266	\$0	\$0	\$0	\$0	\$0	\$1,461
ROW	COUNTY	\$155	\$0	\$34	\$0	\$0	\$0	\$0	\$0	\$189
CON	BRIDGE - LOCAL	\$0	\$0	\$0	\$0	\$25,381	\$0	\$0	\$0	\$25,381
CON	COUNTY	\$0	\$0	\$0	\$0	\$3,288	\$0	\$0	\$0	\$3,288
TOTAL	TOTAL	\$3,700	\$0	\$300	\$0	\$28,669	\$0	\$0	\$0	\$32,669

FTIP ID	LEAD AGENCY	COUNTY	CONFORM CATEGORY	AIR BASIN	PROJECT COST	RTP ID	SYSTEM
200810	SAN BERNARDINO COUNTY	San Bernardino	NON-EXEMPT	MDAB	\$16,938	200810	Local

PRIMARY PROGRAM CODE	PROJECT LIMITS	MODELING	FTIP AMENDMENT
CAY60 - BRIDGE RESTORATION & REPLACEMENT- LN ADDITIONS: GM	From 150' E/O MOJAVE FLOOD CHANNEL to BRIDGE SPAN	YES	23-00

DESCRIPTION
BAKER BLVD. BRIDGE - OVER MOJAVE RIVER, 0.2 MI SW OF DEATH VALLEY RD REPLACE 2 LANE BRIDGE W 4 LANE BRIDGE (BRIDGE NO 54C0127)

PHASE	FUND SOURCE	PRIOR	22/23	23/24	24/25	25/26	26/27	27/28	FUTURE	TOTAL
PE	SBD CO MEASURE I	\$1,865	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,865
CON	SBD CO MEASURE I	\$0	\$0	\$5,512	\$0	\$0	\$0	\$0	\$0	\$5,512
CON	STP LOCAL	\$0	\$0	\$9,561	\$0	\$0	\$0	\$0	\$0	\$9,561
TOTAL	TOTAL	\$1,865	\$0	\$15,073	\$0	\$0	\$0	\$0	\$0	\$16,938

FTIP ID	LEAD AGENCY	COUNTY	CONFORM CATEGORY	AIR BASIN	PROJECT COST	RTP ID	SYSTEM
200843	SAN BERNARDINO COUNTY	San Bernardino	NON-EXEMPT	SCAB	\$5,650	200843	Local

PRIMARY PROGRAM CODE	PROJECT LIMITS	MODELING	FTIP AMENDMENT
CAX63 - HIGHWAY/ROAD IMP - LANE ADD'S (NO HOV LANES): RS	From 1.20 MILES OF S. BARTON ROAD to 0.42 MILES SOUTH OF BARTON RD	YES	23-00

DESCRIPTION
RECHE CANYON RD. FROM 1.20 MILES OF S. BARTON ROAD TO 0.42 MILES SOUTH OF BARTON RD (0.78 MILES)-WIDEN FROM 2-4 LANES

PHASE	FUND SOURCE	PRIOR	22/23	23/24	24/25	25/26	26/27	27/28	FUTURE	TOTAL
PE	DEVELOPER FEES	\$250	\$800	\$0	\$0	\$0	\$0	\$0	\$0	\$1,050
ROW	DEVELOPER FEES	\$0	\$1,500	\$0	\$0	\$0	\$0	\$0	\$0	\$1,500
CON	DEVELOPER FEES	\$0	\$0	\$3,100	\$0	\$0	\$0	\$0	\$0	\$3,100
TOTAL	TOTAL	\$250	\$2,300	\$3,100	\$0	\$0	\$0	\$0	\$0	\$5,650

FTIP ID	LEAD AGENCY	COUNTY	CONFORM CATEGORY	AIR BASIN	PROJECT COST	RTP ID	SYSTEM
20150009	SAN BERNARDINO COUNTY	San Bernardino	NON-EXEMPT	MDAB	\$4,790	4G0167	Local

PRIMARY PROGRAM CODE	PROJECT LIMITS	MODELING	FTIP AMENDMENT
CAX76 - ADDING A LANE THROUGH A BOTTLENECK: RS	From HELENDALE RD to NTH ST	YES	23-00

DESCRIPTION
SHADOW MT RD FROM HELENDALE RD EAST TO NTH; CONSTRUCT AND EXTEND FROM 2-4 LNS - INCLUDING 4 LANE BRIDGE OVER MOJAVE RIVER & GRADE SEP OVER RAIL TRACKS WITH ADDITIONAL CONNECT TO VISTA RD ON W SIDE OF TRACKS (PA&ED ONLY)

PHASE	FUND SOURCE	PRIOR	22/23	23/24	24/25	25/26	26/27	27/28	FUTURE	TOTAL
PE	DEVELOPER FEES	\$1,160	\$0	\$600	\$0	\$0	\$0	\$0	\$0	\$1,760
PE	SBD CO MEASURE I	\$2,260	\$0	\$760	\$0	\$0	\$0	\$0	\$0	\$3,020
PE	STP LOCAL	\$0	\$0	\$10	\$0	\$0	\$0	\$0	\$0	\$10
TOTAL	TOTAL	\$3,420	\$0	\$1,370	\$0	\$0	\$0	\$0	\$0	\$4,790

FTIP ID	LEAD AGENCY	COUNTY	CONFORM CATEGORY	AIR BASIN	PROJECT COST	RTP ID	SYSTEM
20151302	SAN BERNARDINO COUNTY	San Bernardino	EXEMPT - 93.126	MDAB	\$66,796	4AL04	Local

PRIMARY PROGRAM CODE	PROJECT LIMITS	MODELING	FTIP AMENDMENT
NCR36 - BRIDGE RESTORATION & REPLC (NO LN ADD)		NO	23-00

DESCRIPTION
REPLACE OR REHABILITATE MULTIPLE BRIDGES ALONG NATIONAL TRAILS HIGHWAY BETWEEN DAGGETT TO THE WEST AND INTERSTATE 40 TO THE EAST.

Table 1. FTIP Projects

COUNTY	SYSTEM	FTIP ID	ROUTE	LEAD AGENCY	PROJECT DESCRIPTION	PROJECT COST (\$1,000's)
SAN BERNARDINO	LOCAL	SBD212501		SAN BERNARDINO COUNTY	IN THE UNINCORPORATED AREA OF FONTANA ON RANDALL AVENUE FROM BEECH AVENUE EAST TO POPLAR AVENUE, CONSTRUCT SIDEWALK ON THE NORTH SIDE, LADDER-STYLE CROSSWALKS, AND ADA CURB RAMPS.	\$1,694
SAN BERNARDINO	LOCAL	200619		SAN BERNARDINO COUNTY	GLEN HELEN PARKWAY - FROM 0.2 MILES WEST OF CAJON CREEK TO 0.2 MILES EAST OF CAJON CREEK-REPLACE 36 FT WIDE 48 FT LONG 2 LN BRIDGE OVER CAJON CREEK W/ 102 FT, 526 FT LONG 4 LN BRIDGE (54C0025) CONSISTENT WITH HBP LISTING AS OF MARCH 22, 2023.	\$32,369
SAN BERNARDINO	LOCAL	SBD990213		SAN BERNARDINO COUNTY	RECONSTRUCT NEEDLES HIGHWAY, SEGMENT 1C, APPROXIMATELY 2.15 MILES IN LENGTH FROM DAVID DRIVE TO 0.1 MILE NORTH OF NOTCHO ROAD (PARENT PROJECT SBD031426)	\$9,400
SAN BERNARDINO	LOCAL	200810		SAN BERNARDINO COUNTY	BAKER BLVD. BRIDGE - OVER MOJAVE RIVER, 0.2 MI SW OF DEATH VALLEY RD REPLACE 2 LANE BRIDGE W 4 LANE BRIDGE (BRIDGE NO 54C0127)	\$16,938
SAN BERNARDINO	LOCAL	SBD990202		SAN BERNARDINO COUNTY	CONSTRUCT ROUNDABOUT AT THE INTERSECTION OF SR 38 AND STANFIELD CUTOFF IN THE BIG BEAR AREA.	\$2,400
SAN BERNARDINO	LOCAL	20151302		SAN BERNARDINO COUNTY	GROUPED PROJECT TO REPLACE OR REHABILITATE MULTIPLE BRIDGES ALONG NATIONAL TRAILS HIGHWAY BETWEEN DAGGETT TO THE WEST AND INTERSTATE 40 TO THE EAST. PROJECTS ARE CONSISTENT WITH 40 CFR PART 93.126 EXEMPT TABLES 2 AND TABLE 3 CATEGORIES - NON CAPACITY WIDENING NARROW PAVEMENTS OR RECONSTRUCTING BRIDGES (NO ADDITIONAL TRAVEL LANES)	\$67,295
SAN BERNARDINO	LOCAL	200835		SAN BERNARDINO COUNTY	SAN BERNARDINO AVE. FROM CHERRY AVE. TO FONTANA CITY LIMITS (ELM AVE.) (1.27 MILES)-WIDEN 2-4 LANES (NORTH SIDE ONLY)	\$4,873
SAN BERNARDINO	LOCAL	20190702		SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	SBCTA METROLINK STATION ACCESSIBILITY IMPROVEMENT PROJECT - PHASE II: BICYCLE AND PEDESTRIAN ACCESSIBILITY IMPROVEMENTS NEAR FIVE METROLINK TRANSIT STATIONS (MONTCLAIR, UPLAND, RANCHO CUCAMONGA, FONTANA, AND SAN BERNARDINO). TOLL CREDIT TO MATCH ATP	\$6,983
SAN BERNARDINO	LOCAL	2011151		SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	MOJAVE DESERT AIR BASIN RIDESHARE PROGRAM (TOLL CREDITS TO MATCH CMAQ)(ONGOING)	\$7,296
SAN BERNARDINO	LOCAL	2011150		SAN BERNARDINO COUNTY TRANSPORTATION AUTHORITY	SOUTH COAST AIR BASIN RIDESHARE PROGRAM (ONGOING)(TOLL CREDITS USED AS MATCH FOR CMAQ)	\$17,171
SAN BERNARDINO	LOCAL	SBD231701		SAN BERNARDINO, CITY OF	WATERMAN AVE BETWEEN I -210 FWY EB RAMPS TO ORANGE SHOW RD: INSTALLATION OF CLASS II BIKE LANE, SIDEWALKS , HIGH VISIBILITY CROSSWALK, SPEED FEEDBACK SIGNS PEDESTRIAN HYBRID BEACON LEADING PEDESTRIAN CROSSWALK, TRANSIT STOP IMPROVEMENTS, STREET TREES, CURB RAMPS. HIGH VISIBILITY CROSSWALKS. (PAED ONLY)	\$860
SAN BERNARDINO	LOCAL	201181		SAN BERNARDINO, CITY OF	3RD STREET FROM TIPPECANOE AVENUE TO LELAND/NORTON WAY AND FROM LELAND/NORTON WAY TO VICTORIA AVENUE SHOULDER WIDENING AND MEDIANS- 1.25 MILES)(NO THROUGH LANE WIDENING)TOTAL LENGTH 1.95 MILESFORMERLY PART OF PROJECT ID 200852	\$3,200

Appendix B Construction Emissions Calculation

PROJECT: Baker Boulevard Bridge over Mojave River Bridge Replacement Project

DATE: 11/11/24

Summary of Project Emissions and Consumption															
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO2e	Diesel Fuel	Gasoline Fuel	Electricity
Daily Average (baseline; metric tons CO2/day; gal fuel/day; kWh electricity/day)	1.195	1.120	5.856	7.397	0.708	0.550	1796	0.043	0.091	0.078	0.046	0.07	63	18	6,580
Maximum Daily Average (baseline; metric tons CO2/day; gal fuel/day; kWh electricity/day)	2.499	2.337	16.734	15.902	1.993	1.260	3090	0.098	0.160	0.152	0.079	1.72	136	36	15,737
Annual Average (tons/year; metric tons CO2/year; gal fuel/year; kWh electricity/year)	0.105	0.099	0.515	0.651	0.062	0.048	158	0.004	0.008	0.007	0.004	154	11,166	3,246	1,158,028

Project Total Emissions and Consumption (tons; metric tons CO2; gal fuel; kWh electricity)															
Source	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO2e	Diesel Fuel	Gasoline Fuel	Electricity
Dirt-Road	0.017	0.014	0.199	0.227	0.003	0.003	234	0.001	0.002	0.001	0.013	0.20	11,566	3,738	3,474,079
Off-Road	0.298	0.281	1.347	1.726	0.141	0.138	290	0.010	0.002	0.020	-	236	21,914	-	-
Area-Wide Fugitive Dust	-	-	-	-	0.044	0.004	-	-	-	-	-	-	-	-	-
Painting and Asphalt Application	0.000	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Project Total	0.315	0.296	1.546	1.953	0.187	0.145	474	0.011	0.024	0.021	0.013	462	33,499	9,738	3,474,079

Total Emissions and Consumption by Operation (tons; metric tons CO2; gal fuel; kWh electricity)															
Project Phases	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4	N2O	BC	HFC	CO2e	Diesel Fuel	Gasoline Fuel	Electricity
Land Clearing/Grubbing	0.011	0.010	0.067	0.081	0.015	0.009	16	0.000	0.001	0.001	0.000	16	1,207	263	73,904
Roadway Excavation & Removal	0.083	0.078	0.508	0.524	0.051	0.040	122	0.003	0.006	0.006	0.003	118	9,277	1,747	510,512
Structural Excavation & Removal	0.006	0.005	0.016	0.028	0.013	0.003	9	0.000	0.001	0.000	0.000	8	587	197	54,883
Base/Sub-base/Imported Borrow	0.079	0.074	0.327	0.301	0.050	0.040	113	0.003	0.000	0.003	0.002	108	8,547	1,839	458,845
Structure Concrete	0.033	0.031	0.097	0.151	0.009	0.009	35	0.001	0.002	0.002	0.001	34	2,432	798	250,756
Paving	0.043	0.040	0.123	0.292	0.021	0.021	58	0.001	0.003	0.004	0.002	57	4,038	1,259	502,120
Drainage/Environment/Landscaping	0.035	0.032	0.096	0.205	0.016	0.015	41	0.001	0.002	0.003	0.001	41	2,868	861	315,129
Traffic Signalization/Signage/Striping/Painting	0.028	0.026	0.122	0.191	0.011	0.011	80	0.001	0.006	0.002	0.003	79	4,523	2,984	1,306,136
Other Operation	0.036	0.030	0.030	0.030	0.003	0.003	8	0.000	0.000	0.000	0.000	8	-	-	0.000
Total	0.315	0.296	1.546	1.953	0.187	0.145	474	0.011	0.024	0.021	0.013	462	33,499	9,738	3,474,079

Project Average Daily Emissions and Consumption (baseline)								
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
Baseline	1.195	1.120	5.856	7.397	0.708	0.550	1796	0.043
Project Maximum*	2.499	2.337	16.734	15.902	1.993	1.260	3090	0.098

* The overall project maximum average daily value is the largest of either a single operation's average daily value or, when operations are concurrent, the sum of the average daily values of the operations. Contributions to the project maximum average daily value by operation are indicated by color.

Average Daily Emissions and Consumption by Operation (lb/day)								
	TOG	ROG	CO	NOx	PM10	PM2.5	CO2	CH4
Baseline	0.708	0.686	3.816	4.671	1.019	0.359	1070	0.027
Project Maximum*	1.581	1.480	9.671	9.974	0.969	0.769	2330	0.062
Project Maximum*	0.660	0.623	1.917	3.332	1.493	0.333	1001	0.020
Project Maximum*	2.499	2.337	16.734	15.902	1.993	1.260	3090	0.098
Project Maximum*	0.760	0.719	2.250	3.514	0.217	0.212	818	0.020
Project Maximum*	1.812	1.705	5.254	12.423	0.912	0.896	2468	0.055
Project Maximum*	0.714	0.670	1.970	4.226	0.325	0.318	847	0.020
Project Maximum*	0.664	0.616	2.006	4.603	0.275	0.270	1027	0.028
Project Maximum*	0.000	0.000	0.000	0.000	0.000	0.000	0	0.000
Highest across Operation	2.499	2.337	16.734	15.902	1.993	1.260	3090	0.098

Appendix C Operational Emissions Calculation

File Name: San Bernardino (MD) - 2024 - Annual.EM
 CT-EMFAC2021 Version: 1.0.2.0
 Run Date: 11/12/2024 6:10:03 PM
 Area: San Bernardino (MD)
 Analysis Year: 2024
 Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.377	0.519	0.478
Truck 2	0.091	0.975	0.022
Non-Truck	0.532	0.006	0.954

Road Type: Major/Collector
 Silt Loading Factor: CARB 0.08 g/m2
 Precipitation Correction: None P = NA N = NA

Road Length: 0.28 miles
 Volume: 540 vehicles per hour
 Number of Hours: 1 hours
 VMT: 151.2 miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.00%
10 mph	0.00%
15 mph	0.00%
20 mph	0.00%
25 mph	0.00%
30 mph	0.00%
35 mph	100.00%
40 mph	0.00%
45 mph	0.00%
50 mph	0.00%
55 mph	0.00%
60 mph	0.00%
65 mph	0.00%
70 mph	0.00%
75 mph	0.00%

Summary of Emissions

Pollutant Name	Running Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Road Dust (grams)	Total (grams)	Total (pounds)	Total (US tons)
PM2.5	1.2	-	0.4	2.5	11.7	15.9	0.035	< 0.001
PM10	1.3	-	1.7	7.1	78.2	88.3	0.195	< 0.001
NOx	90.7	-	-	-	-	90.7	0.200	< 0.001
CO	122.6	-	-	-	-	122.6	0.270	< 0.001
HC	7.1	5.6	-	-	-	12.7	0.028	< 0.001
TOG	9.1	6.0	-	-	-	15.1	0.033	< 0.001
ROG	7.3	6.0	-	-	-	13.3	0.029	< 0.001
1,3-Butadiene	< 0.1	0.0	-	-	-	< 0.1	< 0.001	< 0.001
Acetaldehyde	0.4	-	-	-	-	0.4	< 0.001	< 0.001
Acrolein	< 0.1	-	-	-	-	< 0.1	< 0.001	< 0.001
Benzene	0.2	< 0.1	-	-	-	0.3	< 0.001	< 0.001
Diesel PM	1.2	-	-	-	-	1.2	0.003	< 0.001
Ethylbenzene	< 0.1	< 0.1	-	-	-	0.1	< 0.001	< 0.001
Formaldehyde	0.9	-	-	-	-	0.9	0.002	< 0.001
Naphthalene	< 0.1	0.0	-	-	-	< 0.1	< 0.001	< 0.001
POM	< 0.1	-	-	-	-	< 0.1	< 0.001	< 0.001
DEOG	5.6	-	-	-	-	5.6	0.012	< 0.001
CO2	76,717.9	-	-	-	-	76,717.9	169.134	0.085
N2O	6.6	-	-	-	-	6.6	0.014	< 0.001
CH4	0.9	-	-	-	-	0.9	0.002	< 0.001
BC	0.3	-	-	-	-	0.3	< 0.001	< 0.001
HFC	-	0.2	-	-	-	0.2	< 0.001	< 0.001

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	0.077	0.077
N2O	< 0.001	0.002
CH4	< 0.001	< 0.001
BC	< 0.001	< 0.001
HFC	< 0.001	< 0.001
Total CO2e	-	0.079

Summary of Consumptions

Gasoline	4.901	gallons
Diesel	3.561	gallons
Natural Gas	0.007	diesel-equivalent gallons
Electricity	1.307	kilowatt-hours

=====
 END
 =====

File Name: San Bernardino (MD) - 2050 - Annual_Build.EM
 CT-EMFAC2021 Version: 1.0.2.0
 Run Date: 11/12/2024 6:11:10 PM
 Area: San Bernardino (MD)
 Analysis Year: 2050
 Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.377	0.245	0.267
Truck 2	0.091	0.876	0.005
Non-Truck	0.532	0.003	0.898

Road Type: Major/Collector
 Silt Loading Factor: CARB 0.08 g/m2
 Precipitation Correction: None P = NA N = NA

Road Length: 0.28 miles
 Volume: 970 vehicles per hour
 Number of Hours: 1 hours
 VMT: 271.6 miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.00%
10 mph	0.00%
15 mph	0.00%
20 mph	0.00%
25 mph	0.00%
30 mph	0.00%
35 mph	100.00%
40 mph	0.00%
45 mph	0.00%
50 mph	0.00%
55 mph	0.00%
60 mph	0.00%
65 mph	0.00%
70 mph	0.00%
75 mph	0.00%

Summary of Emissions

Pollutant Name	Running Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Road Dust (grams)	Total (grams)	Total (pounds)	Total (US tons)
PM2.5	0.6	-	0.7	3.8	21.1	26.2	0.058	< 0.001
PM10	0.6	-	2.9	10.8	140.8	155.1	0.342	< 0.001
NOx	38.5	-	-	-	-	38.5	0.085	< 0.001
CO	90.1	-	-	-	-	90.1	0.199	< 0.001
HC	2.8	5.9	-	-	-	8.8	0.019	< 0.001
TOG	3.6	6.4	-	-	-	10.0	0.022	< 0.001
ROG	3.0	6.4	-	-	-	9.4	0.021	< 0.001
1,3-Butadiene	< 0.1	0.0	-	-	-	< 0.1	< 0.001	< 0.001
Acetaldehyde	0.2	-	-	-	-	0.2	< 0.001	< 0.001
Acrolein	< 0.1	-	-	-	-	< 0.1	< 0.001	< 0.001
Benzene	< 0.1	< 0.1	-	-	-	0.2	< 0.001	< 0.001
Diesel PM	0.5	-	-	-	-	0.5	0.001	< 0.001
Ethylbenzene	< 0.1	< 0.1	-	-	-	< 0.1	< 0.001	< 0.001
Formaldehyde	0.4	-	-	-	-	0.4	< 0.001	< 0.001
Naphthalene	< 0.1	0.0	-	-	-	< 0.1	< 0.001	< 0.001
POM	< 0.1	-	-	-	-	< 0.1	< 0.001	< 0.001
DEOG	2.5	-	-	-	-	2.5	0.005	< 0.001
CO2	83,343.5	-	-	-	-	83,343.5	183.741	0.092
N2O	6.6	-	-	-	-	6.6	0.015	< 0.001
CH4	0.4	-	-	-	-	0.4	< 0.001	< 0.001
BC	0.1	-	-	-	-	0.1	< 0.001	< 0.001
HFC	-	< 0.1	-	-	-	< 0.1	< 0.001	< 0.001

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	0.083	0.083
N2O	< 0.001	0.002
CH4	< 0.001	< 0.001
BC	< 0.001	< 0.001
HFC	< 0.001	< 0.001
Total CO2e	-	0.085

Summary of Consumptions

Gasoline	5.371	gallons
Diesel	3.820	gallons
Natural Gas	0.004	diesel-equivalent gallons
Electricity	34.276	kilowatt-hours

=====
 END
 =====

File Name: San Bernardino (MD) - 2050 - Annual_NoBuild.EM
 CT-EMFAC2021 Version: 1.0.2.0
 Run Date: 11/12/2024 6:11:38 PM
 Area: San Bernardino (MD)
 Analysis Year: 2050
 Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.377	0.245	0.267
Truck 2	0.091	0.876	0.005
Non-Truck	0.532	0.003	0.898

Road Type: Major/Collector
 Silt Loading Factor: CARB 0.08 g/m2
 Precipitation Correction: None P = NA N = NA

Road Length: 0.28 miles
 Volume: 970 vehicles per hour
 Number of Hours: 1 hours
 VMT: 271.6 miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.00%
10 mph	0.00%
15 mph	0.00%
20 mph	0.00%
25 mph	0.00%
30 mph	0.00%
35 mph	100.00%
40 mph	0.00%
45 mph	0.00%
50 mph	0.00%
55 mph	0.00%
60 mph	0.00%
65 mph	0.00%
70 mph	0.00%
75 mph	0.00%

Summary of Emissions

Pollutant Name	Running Exhaust (grams)	Running Loss (grams)	Tire Wear (grams)	Brake Wear (grams)	Road Dust (grams)	Total (grams)	Total (pounds)	Total (US tons)
PM2.5	0.6	-	0.7	3.8	21.1	26.2	0.058	< 0.001
PM10	0.6	-	2.9	10.8	140.8	155.1	0.342	< 0.001
NOx	38.5	-	-	-	-	38.5	0.085	< 0.001
CO	90.1	-	-	-	-	90.1	0.199	< 0.001
HC	2.8	5.9	-	-	-	8.8	0.019	< 0.001
TOG	3.6	6.4	-	-	-	10.0	0.022	< 0.001
ROG	3.0	6.4	-	-	-	9.4	0.021	< 0.001
1,3-Butadiene	< 0.1	0.0	-	-	-	< 0.1	< 0.001	< 0.001
Acetaldehyde	0.2	-	-	-	-	0.2	< 0.001	< 0.001
Acrolein	< 0.1	-	-	-	-	< 0.1	< 0.001	< 0.001
Benzene	< 0.1	< 0.1	-	-	-	0.2	< 0.001	< 0.001
Diesel PM	0.5	-	-	-	-	0.5	0.001	< 0.001
Ethylbenzene	< 0.1	< 0.1	-	-	-	< 0.1	< 0.001	< 0.001
Formaldehyde	0.4	-	-	-	-	0.4	< 0.001	< 0.001
Naphthalene	< 0.1	0.0	-	-	-	< 0.1	< 0.001	< 0.001
POM	< 0.1	-	-	-	-	< 0.1	< 0.001	< 0.001
DEOG	2.5	-	-	-	-	2.5	0.005	< 0.001
CO2	83,343.5	-	-	-	-	83,343.5	183.741	0.092
N2O	6.6	-	-	-	-	6.6	0.015	< 0.001
CH4	0.4	-	-	-	-	0.4	< 0.001	< 0.001
BC	0.1	-	-	-	-	0.1	< 0.001	< 0.001
HFC	-	< 0.1	-	-	-	< 0.1	< 0.001	< 0.001

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	0.083	0.083
N2O	< 0.001	0.002
CH4	< 0.001	< 0.001
BC	< 0.001	< 0.001
HFC	< 0.001	< 0.001
Total CO2e	-	0.085

Summary of Consumptions

Gasoline	5.371	gallons
Diesel	3.820	gallons
Natural Gas	0.004	diesel-equivalent gallons
Electricity	34.276	kilowatt-hours

=====
 END
 =====

Appendix D March 2018 Letter addressing
Transportation Conformity
Requirements for CO in California
Carbon Monoxide Maintenance Areas



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

MAR 21 2018

Muhaned Aljabiry, Chief
Office of Federal Transportation Management Program
California Department of Transportation
1120 N Street, Rm 4400, MS-82
Sacramento, CA 95814

Dear Mr. Aljabiry:

The U.S. Environmental Protection Agency (EPA) is providing this letter to document that the transportation conformity requirements under Clean Air Act (CAA) section 176(c) for the Carbon Monoxide (CO) maintenance areas included in the table below will end on June 1, 2018. This date marks 20 years from the redesignation of the areas to attainment for the CO National Ambient Air Quality Standard (NAAQS)¹.

California Carbon Monoxide Maintenance Areas

Table with 2 columns and 5 rows listing maintenance areas: Bakersfield, Chico, Fresno, Modesto, Lake Tahoe North Shore, Lake Tahoe South Shore, Sacramento, San Diego, San Francisco-Oakland-San Jose, Stockton.

Under 40 CFR 93.102(b)(4) of the EPA's regulations, transportation conformity applies to maintenance areas through the 20-year maintenance planning period, unless the maintenance plan specifies that the transportation conformity requirements apply for a longer time period. Pursuant to CAA's section 176(c)(5) and as explained in the preamble of the 1993 final rule, conformity applies to areas that are designated nonattainment or are subject to a maintenance plan approved under CAA section 175A. The section 175A maintenance planning period is 20 years, unless the applicable implementation plan specifies a longer maintenance period.² The EPA further clarified this conformity provision in its January 24, 2008 final rule³.

The approved maintenance plan for these areas did not extend the maintenance plan period beyond 20 years from redesignation. Consequently, transportation conformity requirements for CO will cease to apply after June 1, 2018 (i.e., 20 years after the effective date of the EPA's approval of the first 10-year maintenance plan and redesignation of the areas to attainment for the CO NAAQS). As a result, these areas' Metropolitan Planning Organizations may reference this letter to indicate that as of June 1, 2018,

¹ See 63 FR 15305 (March 31, 1998) (approval of redesignation request and first 10-year maintenance plan) and 70 FR 71776 (November 30, 2005) (approval of second 10-year maintenance plan)

² See 58 FR 62188, 62206 (November 24, 1993)

³ See 73 FR 4420, at 4434-5 (January 24, 2008)

Appendix E Air Quality Conformity Findings Checklist

File Description:

SB200810 – Not a POAQC – Hot Spot Analysis Not Required

Completion Date:

12/03/2024

Category:

PM Hot Spot

Downloads:

 SB200810

File Description:

ORA131105 – Not a POAQC – Hot Spot Analysis Not Required

Completion Date:

12/03/2024

Category:

PM Hot Spot

Downloads:

 ORA131105

File Description:

RIV211201 – Not a POAQC – Hot Spot Analysis Not Required

Completion Date:

10/22/2024

Category:

PM Hot Spot

Downloads:

 RIV211201 Clean

 RIV211201 Tracked

File Description:

20199902 – Not a POAQC – Hot Spot Analysis Not Required



Transportation Air Quality Conformity Findings Checklist

PROJECT INFORMATION

Project Name: Baker Boulevard Bridge Over Mojave River Bridge Replacement Project

DIST-CO-RTE-PM: 08-SBC

EA: Federal Aid Number: STPL-5954(193)

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), PM_{2.5}, or PM₁₀ per [EPA's Green Book](#) listing of non-attainment areas?

- If no, go to Step 18. **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 18. **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 93.126¹
- 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, **the 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 factors³) 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 December 3, 2024.** 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, the project requires preparation of a Categorical Exclusion, EA, or EIS pursuant to 23 USC 327. 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 18.
- If no, then Caltrans makes the conformity determination through its signature on the CE form. No FHWA involvement is required. Go to Step 18.

Step 16. 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 18.⁶
- If no, then **an AQCA is needed**. See the AQCA Annotated Outline. Caltrans submits a conformity determination request to FHWA for FHWA's conformity determination. Go to Step 17.

Step 17. Send FHWA Request for Conformity Determination package and [FHWA Submittal Package Checklist](#) to DOTP- Air Quality (rodney.tavitas@dot.ca.gov) and DEA-Air Quality (daisy.laurino@dot.ca.gov) for completeness review. Please direct technical questions to DOTP-Air Quality office. Headquarters staff will coordinate with FHWA on behalf of the district.

Date of FHWA air quality conformity determination: _____

Step 18. STOP as all air quality conformity requirements have been met.

SIGNATURE

Aaron Burton

Senior Environmental Planner

Signature

Date

Local Assistance – Environmental Support
Department of Transportation, District 8

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.

Appendix F Traffic Data

Memorandum

Date: Updated January 9, 2025
To: Robert Burns, Dokken Engineering
From: Jason Pack, P.E.
Andre Pham
Subject: Baker Bridge Replacement and Travel Demand Forecasting Memo

OC24-1082

Fehr & Peers completed travel demand forecasting for the Baker Bridge Replacement project initially in October 2024 using count data provided by San Bernardino County. A memorandum summarizing those forecasts was submitted to County Staff for review.

Since that time, we have collected updated count data on the study roadway segments which was utilized to update the project forecasts. Those were documented and reviewed by County Staff in November 2024. That memorandum was ultimately sent to Caltrans for review as well.

The purpose of this memorandum is to update the travel demand forecasting memo based on comments received from Caltrans and the County. This memorandum includes data documentation, forecasting methodology, forecast documentation, and associated roadway segment levels of service associated with the project.

Introduction

The project consists of a bridge replacement on Baker Boulevard in Baker, California. The bridge crosses a wash area that is located between Miller Road and Death Valley Road and has a posted speed limit of 35 miles per hour (MPH).

The current bridge is a two-lane facility. The proposed project will replace the existing structure with a bridge accommodating up-to four travel lanes with a center median.

Existing Traffic Volume Information

Existing traffic volumes provided by San Bernardino County for use in this study has been updated with more recent traffic counts. The updated counts include traffic volumes by vehicle



classification and were collected on September 25, 2024, through October 1, 2024. The existing traffic data is presented in **Table 1**.

Table 1 also provides an estimate of Passenger Car Equivalencies (PCEs). PCE is a factor that converts heavy vehicles to the equivalent capacity they occupy in terms of passenger cars. To estimate PCEs, medium duty vehicles were assumed to have a 2.0 PCE while heavy duty vehicles were assumed to have a 3.0 PCE.

Please note that the updated traffic count volumes are generally 1,000 PCEs higher than the previous counts provided by the County. The biggest change is in medium duty vehicles.

Table 1: Average Daily Traffic (ADT) by Vehicle Classification

Vehicle Classification	Weekday ADT (Tu-Th)	Peak ADT (Fri)	Percent of Total
Passenger Car	1,900	2,900	53.2%
Medium Duty	1,300	2,000	37.7%
Heavy Duty	300	500	9.1%
<i>Total PCE¹</i>	<i>5,400</i>	<i>8,400</i>	

Notes:

1. PCE conversions are 2.0 for Medium Duty and 3.0 for Heavy Duty vehicles.

Traffic Forecasting Methodology

The San Bernardino Traffic Analysis Model Plus (SBTAM+) was used to generate the traffic forecasts for this assessment. SBTAM+ is a specialized subregional travel demand model created in 2023 to do forecasting for projects in San Bernadino County. It should be noted that the SBTAM+ model has limited detail in this area as Baker is represented by only one traffic analysis zone. The centroid loading to/from this TAZ is not detailed enough to get adequate forecasts in the study area. As such, Fehr & Peers utilized SBTAM+ to develop a growth estimate by looking at TAZ growth and growth on the I-15 freeway in the study area with the assumption that growth on Baker Boulevard would be similar to growth on I-15.



Additionally, SBTAM+ only forecasts average weekday traffic. As such, Fehr & Peers focused on developing a growth rate from the model assuming general growth during the weekday (as a percentage of existing travel) would be representative of growth on the weekend (as a percentage of existing travel). Using this technique, the growth percentage is applied to the weekend counts to forecast growth during the weekend when there is more traffic congestion.

The utilized growth rate was 1.86% per year to estimate future conditions. Compounding the annual growth rate over 31 years (corresponding to a design year of 2050¹) yielded a growth “factor” applied to the existing vehicle fleet mix of 1.53.

Finally, as it relates to future vehicle composition mix, Fehr & Peers utilized the existing vehicle fleet mix for that estimation and applied the same PCE conversions to estimate traffic on the study roadways.

The resulting forecast are summarized in **Table 2**.

Table 2: Future (2050) Average Daily Traffic (ADT) by Vehicle Classification

Vehicle Classification	Weekday ADT (Tu-Th)	Peak ADT (Fri)	Percent of Total
Passenger Car	3,300	5,000	53.2%
Medium Duty	2,300	3,500	37.7%
Heavy Duty	600	900	9.1%
<i>Total PCE ADT¹</i>	<i>9,700</i>	<i>14,700</i>	

Note:

1. PCE conversions are 2.0 for Medium Duty and 3.0 for Heavy Duty vehicles.

Level of Service (LOS) Analysis

Fehr & Peers compared the resulting forecasts to capacities identified in **Table 3** from the San Bernardino County Policy Plan. The plan utilizes volume-to-capacity ratios that correspond to resulting congestion on the roadway by giving it a letter grade of LOS C through LOS E. LOS E represents at-capacity operations.

¹ Dokken identified that the design year for the project is 2050. As such, all forecasts relate to that horizon.



The assumed capacities are noted below and utilize capacities for a Major Arterial/Major Highway (either two-lanes or four-lanes) and a posted speed of 35 MPH:

- Two-lane road = 19,000
- Four-lane road = 37,900

Table 4 presents the roadway segment PCE average daily traffic volumes (ADT) analysis based on the appropriate capacities noted above.

Table 3: Maximum Daily Motor Vehicle Volumes Level of Service

No. Lanes	Freeway			Divided Highway			Major Arterial / Major Highway			Major Arterial / Major Highway			Mountain Major Highway			Mountain Major Highway			Mountain Secondary Highway	
	8	6	4	6	4	2	6	4	4	4	2	2	6	4	4	2	4	2	4	2
Speed (mph)	65	65	65	55	55	55	45	45	40	35	45	40	45	45	35	45	35	35	35	35
LOS C	123,200	92,400	61,600	72,000	57,600	28,800	31,900	26,700	18,000	14,700	10,700	9,000	20,300	17,100	14,000	9,800	6,800	3,400	6,000	3,000
LOS D	148,800	111,600	74,400	81,000	64,800	34,200	54,000	51,500	35,300	33,300	18,600	17,700	35,300	33,500	31,600	17,700	14,100	7,000	10,500	6,000
LOS E	160,000	120,000	80,000	90,000	72,000	36,000	60,000	54,300	37,900	37,900	19,000	19,000	36,000	36,000	36,000	18,900	34,800	17,400	23,300	11,700

Source: *Transportation Impact Analysis – San Bernardino County Policy Plan* (Fehr & Peers, 2019).

Table 4: Baker Bridge Roadway Level of Service Assessment

Weekend/Weekday	PCE ADT	Capacity	V/C	LOS
Existing Year Conditions (2024) (2-Lane Major Arterial/Major Highway)				
Typical Weekday	5,400	19,000	0.28	LOS C or Better
Typical Weekend	8,400	19,000	0.44	LOS C or Better
Future Year Conditions (2050) with Two Travel Lanes (2-Lane Major Arterial/Major Highway)				
Typical Weekday	9,700	19,000	0.51	LOS C or Better
Typical Weekend	14,700	19,000	0.77	LOS D
Future Year Conditions (2050) with Four Travel Lanes (4-Lane Major Arterial/Major Highway)				
Typical Weekday	9,700	37,900	0.26	LOS C or Better
Typical Weekend	14,700	37,900	0.39	LOS C or Better



Conclusion

The County's traffic impact study guidelines identify that segments in the Desert Region should operate at LOS C or better. As such, the peak weekend condition would require a four-lane roadway by year 2050 and the County should construct the structure to accommodate the four lanes.

Given that the capacity is not needed for some time (and, even then, the capacity is only needed on Fridays), the County could consider other options for this segment if desired.

We hope this information is helpful. Please contact us with any questions.

Attachments – Traffic Counts

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, September 25, 2024
JOB #: SC4923

CITY: Baker
LOCATION: CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.

Main data table with columns for AM TIME, EASTBOUND (1-13), TOTAL, PM Time, EASTBOUND (1-13), and TOTAL. Includes AM PEAK HOUR (11:00 AM) and PM PEAK HOUR (12:45 PM) volume information.

CLASS 1 Class 1 — Motorcycles
CLASS 2 Passenger Cars
CLASS 3 2 Axles, 4-Tire Single Units
CLASS 4 Buses
CLASS 5 2 Axles, 6-Tire Single Units
CLASS 6 3 Axles, Single Unit
CLASS 7 4 or More Axles, Single Unit
CLASS 8 3 to 4 Axles, Single Trailer
CLASS 9 5 Axles, Single Trailer
CLASS 10 6 or More Axles, Single Trailer
CLASS 11 5 or Less Axles, Multi-Trailers
CLASS 12 6 Axles, Multi-Trailers
CLASS 13 7 or More Axles, Multi-Trailers

TOTAL: AM+PM 63 943 512 39 265 62 3 34 122 2 2 4 0 2,051
% OF TOTAL 3.1% 46.0% 25.0% 1.9% 12.9% 3.0% 0.1% 1.7% 5.9% 0.1% 0.1% 0.2% 0.0% 100.0%
TOTAL: ALL 91 1,688 914 62 411 92 5 57 313 5 5 6 3 3,652
% OF TOTAL 2.5% 46.2% 25.0% 1.7% 11.3% 2.5% 0.1% 1.6% 8.6% 0.1% 0.1% 0.2% 0.1% 100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Sunday, September 29, 2024
JOB #: SC4923

CITY: Baker
LOCATION: CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.

Table with 24 rows and multiple columns showing AM and PM traffic counts for various time intervals and vehicle classes. Includes sub-tables for AM and PM Peak Hours.

CLASS 1 Class 1 — Motorcycles
CLASS 2 Passenger Cars
CLASS 3 2 Axles, 4-Tire Single Units
CLASS 4 Buses
CLASS 5 2 Axles, 6-Tire Single Units
CLASS 6 3 Axles, Single Unit
CLASS 7 4 or More Axles, Single Unit
CLASS 8 3 to 4 Axles, Single Trailer
CLASS 9 5 Axles, Single Trailer
CLASS 10 6 or More Axles, Single Trailer
CLASS 11 5 or Less Axles, Multi-Trailers
CLASS 12 6 Axles, Multi-Trailers
CLASS 13 7 or More Axles, Multi-Trailers

TOTAL: AM+PM 14 1,195 729 14 269 12 2 14 69 0 0 3 0 2,321
% OF TOTAL 0.6% 51.5% 31.4% 0.6% 11.6% 0.5% 0.1% 0.6% 3.0% 0.0% 0.0% 0.1% 0.0% 100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Monday, September 30, 2024
JOB #: SC4923

CITY: Baker
LOCATION: CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.

AM TIME	EASTBOUND													TOTAL	PM Time	EASTBOUND													TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13		
0:00	0	9	6	0	1	0	0	0	0	1	0	0	0	0	17	12:00	0	26	12	0	5	0	0	3	2	0	0	0	0	48
0:15	0	7	1	0	2	0	0	0	0	0	0	0	0	10	12:15	1	22	15	0	6	0	0	0	0	1	0	0	0	45	
0:30	0	11	5	0	2	0	0	0	0	2	0	0	0	20	12:30	1	15	12	1	6	1	0	1	0	0	0	0	0	37	
0:45	0	5	3	0	1	0	0	0	0	2	0	0	0	11	12:45	1	20	6	0	5	0	0	1	0	0	0	0	0	33	
1:00	0	4	4	1	3	0	0	0	0	0	0	0	0	12	13:00	0	19	9	0	4	2	0	0	1	0	0	0	0	35	
1:15	0	4	1	1	0	0	0	0	0	0	0	0	0	6	13:15	1	25	10	1	10	1	0	0	3	0	0	0	0	51	
1:30	0	3	3	0	1	0	0	0	0	0	0	0	0	7	13:30	0	24	19	0	2	0	0	0	1	0	0	0	0	46	
1:45	0	4	0	0	0	0	0	0	0	1	0	0	0	5	13:45	1	24	11	2	9	0	0	1	2	0	0	0	0	50	
2:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	14:00	0	32	7	0	4	0	0	0	5	0	0	0	0	48	
2:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5	14:15	0	23	21	1	12	0	0	0	1	0	0	0	0	58	
2:30	0	2	0	0	0	0	0	0	0	1	0	0	0	3	14:30	0	25	15	0	4	0	0	1	3	0	0	0	0	48	
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:45	0	33	2	0	1	0	0	0	4	0	0	0	0	40	
3:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	15:00	1	29	1	0	0	0	0	0	4	0	0	0	0	35	
3:15	1	2	0	0	1	1	0	0	0	0	0	0	0	5	15:15	0	29	3	0	1	0	0	0	4	0	0	0	1	38	
3:30	0	2	2	0	1	0	0	0	0	0	0	0	0	5	15:30	1	30	0	0	0	0	0	0	6	0	1	0	0	38	
3:45	0	3	1	0	0	0	0	0	0	1	0	0	0	5	15:45	0	22	1	0	1	0	0	0	10	0	0	0	0	34	
4:00	0	0	4	0	0	0	0	0	0	0	0	0	0	4	16:00	0	18	2	0	0	0	0	0	0	0	0	0	0	20	
4:15	2	7	7	0	0	2	0	1	4	0	0	0	0	23	16:15	0	27	2	0	2	0	0	0	3	0	0	0	0	34	
4:30	0	9	5	0	2	0	0	0	0	3	0	0	0	19	16:30	0	19	2	0	2	0	0	0	3	0	0	0	0	26	
4:45	0	5	3	0	1	0	0	0	0	3	0	0	0	12	16:45	0	16	4	0	2	0	0	0	3	0	0	0	0	25	
5:00	0	2	6	0	1	0	0	0	0	1	0	0	0	10	17:00	0	14	4	0	0	0	0	0	4	0	0	0	0	22	
5:15	0	2	1	0	1	0	0	0	0	0	0	0	0	4	17:15	0	11	1	0	2	0	0	0	3	0	0	0	0	17	
5:30	0	4	2	0	0	0	0	1	1	0	0	0	0	8	17:30	0	16	2	0	0	1	0	0	3	0	0	0	0	22	
5:45	0	4	1	0	3	1	0	0	1	0	0	0	0	10	17:45	0	12	4	0	0	0	0	0	3	0	0	0	0	19	
6:00	0	6	1	0	4	0	0	1	1	0	0	0	0	13	18:00	0	17	2	0	0	0	0	0	2	0	0	0	0	21	
6:15	1	6	1	0	1	1	0	1	1	0	0	0	0	12	18:15	0	8	1	0	0	0	0	0	1	0	0	0	0	10	
6:30	0	6	6	0	2	0	0	0	2	0	0	0	0	16	18:30	0	15	2	0	0	0	0	0	1	0	0	0	0	18	
6:45	1	8	8	0	2	2	0	1	4	0	0	0	0	26	18:45	0	9	0	0	2	0	0	0	1	0	0	0	0	12	
7:00	0	5	4	0	4	0	0	0	1	0	1	0	0	15	19:00	0	16	1	0	0	0	0	0	2	0	0	0	0	19	
7:15	0	9	3	0	4	0	1	0	1	0	0	0	0	18	19:15	0	14	0	0	0	0	0	0	1	0	0	0	0	15	
7:30	1	3	1	0	4	0	0	0	0	0	0	0	0	9	19:30	0	16	0	0	0	0	0	0	1	0	0	0	0	17	
7:45	0	8	3	0	3	0	0	0	2	0	0	0	0	16	19:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8	
8:00	1	8	3	0	7	1	0	0	2	0	0	0	0	22	20:00	0	6	1	0	0	0	0	0	2	0	0	0	0	9	
8:15	1	4	4	0	1	1	0	0	0	0	0	0	0	11	20:15	0	11	1	0	2	0	0	0	0	0	0	0	0	14	
8:30	0	10	6	0	3	0	0	1	0	0	0	0	0	20	20:30	0	16	2	0	0	1	0	0	1	0	0	0	0	20	
8:45	1	12	5	1	5	1	0	0	1	0	0	0	0	26	20:45	0	14	1	0	1	0	0	0	1	0	0	0	0	17	
9:00	0	13	6	0	8	1	0	0	1	0	0	0	0	29	21:00	0	7	0	0	1	0	0	0	1	0	0	0	0	9	
9:15	0	11	2	1	6	1	0	0	1	1	0	0	0	23	21:15	0	12	0	0	0	0	0	0	0	0	0	0	0	12	
9:30	0	11	1	0	5	0	0	1	1	0	0	0	0	19	21:30	0	15	3	0	0	0	0	0	1	0	0	0	0	19	
9:45	0	14	6	0	3	1	0	0	1	0	0	0	0	25	21:45	0	12	1	0	0	0	0	0	1	0	0	0	0	14	
10:00	2	10	4	0	5	1	0	0	0	0	0	0	0	22	22:00	0	10	1	0	0	0	0	0	2	0	0	0	0	13	
10:15	0	18	8	0	2	0	0	1	2	0	0	0	0	31	22:15	0	13	1	0	0	1	0	0	1	0	0	0	0	16	
10:30	2	16	8	1	5	1	0	0	1	0	0	0	0	34	22:30	0	11	1	0	0	0	0	0	1	0	0	0	0	13	
10:45	1	11	15	1	10	0	0	1	0	0	0	0	0	39	22:45	0	8	0	0	2	0	0	0	1	0	0	0	0	11	
11:00	0	15	12	0	8	0	0	1	0	0	0	0	0	36	23:00	0	7	1	0	0	0	0	0	2	0	0	0	0	10	
11:15	1	11	20	0	3	1	0	1	1	0	0	0	0	38	23:15	0	10	0	0	0	0	0	0	0	0	0	0	0	10	
11:30	1	14	19	1	7	1	0	0	1	0	0	0	0	44	23:30	0	8	1	0	0	0	0	0	0	0	0	0	0	9	
11:45	2	23	7	0	6	0	0	1	5	0	0	0	0	44	23:45	0	7	1	0	0	0	0	0	1	0	0	0	1	10	
TOTAL	18	349	211	7	128	17	1	13	49	1	1	0	0	795	TOTAL	7	801	186	5	86	7	0	7	93	0	1	0	2	1,195	

AM PEAK HOUR 11:00 AM
AM PEAK VOLUME 162

PM PEAK HOUR 1:45 PM
PM PEAK VOLUME 204

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	25	1,150	397	12	214	24	1	20	142	1	2	0	2	1,990
% OF TOTAL	1.3%	57.8%	19.9%	0.6%	10.8%	1.2%	0.1%	1.0%	7.1%	0.1%	0.1%	0.0%	0.1%	100.0%

TOTAL: ALL	44	2,087	814	20	376	40	4	33	317	7	7	4	2	3,755
% OF TOTAL	1.2%	55.6%	21.7%	0.5%	10.0%	1.1%	0.1%	0.9%	8.4%	0.2%	0.2%	0.1%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Monday, September 30, 2024
JOB #: SC4923

CITY: Baker
LOCATION: CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.

AM TIME	WESTBOUND													TOTAL	PM Time	WESTBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	12:00	1	31	21	0	11	0	0	0	2	0	0	0	0	66
0:15	0	4	1	0	0	0	0	0	0	0	0	0	0	5	12:15	0	18	20	1	5	0	0	0	3	0	0	0	0	47
0:30	0	4	2	0	0	0	0	0	0	0	0	0	0	6	12:30	1	18	19	0	12	1	0	1	4	0	0	0	56	
0:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3	12:45	0	19	7	1	4	0	0	1	4	0	0	0	36	
1:00	0	3	2	0	2	0	0	0	0	0	0	0	0	7	13:00	1	20	13	0	3	2	0	0	2	0	0	0	41	
1:15	0	4	1	0	2	0	0	0	0	1	0	0	0	8	13:15	0	17	13	0	5	0	0	2	0	0	0	2	39	
1:30	1	4	0	0	2	0	0	0	0	1	0	0	0	8	13:30	0	21	11	0	11	0	1	0	1	0	0	0	45	
1:45	0	6	4	0	0	0	0	0	0	2	0	0	0	12	13:45	0	21	6	0	4	0	0	0	5	0	0	0	36	
2:00	0	4	0	0	0	0	0	0	0	2	0	0	0	6	14:00	0	13	11	0	5	0	0	0	0	0	0	0	29	
2:15	0	3	3	0	1	0	0	0	0	1	0	0	0	8	14:15	0	21	14	0	2	0	0	0	2	0	0	0	39	
2:30	0	0	1	0	0	0	0	0	0	0	0	0	0	1	14:30	1	17	9	2	4	0	0	0	2	0	0	0	35	
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:45	0	33	6	0	0	0	0	0	1	0	0	0	40	
3:00	0	1	2	0	1	0	0	0	0	0	0	0	0	4	15:00	0	16	6	0	1	0	0	0	3	1	0	0	27	
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:15	0	22	1	0	1	1	0	0	2	0	0	0	27	
3:30	0	1	0	0	1	0	0	0	0	0	0	0	0	2	15:30	0	9	1	0	1	0	0	0	1	1	1	0	14	
3:45	0	1	2	0	0	0	0	0	0	0	0	0	0	3	15:45	0	11	3	0	0	0	0	0	2	0	0	0	16	
4:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2	16:00	0	13	2	0	0	0	0	0	3	0	0	0	18	
4:15	0	3	3	1	1	0	0	0	0	1	0	0	0	9	16:15	0	21	5	0	2	0	0	0	3	0	0	0	31	
4:30	1	2	0	0	0	1	0	0	0	0	0	0	0	4	16:30	0	12	0	0	1	0	0	0	4	0	0	0	17	
4:45	1	4	1	0	0	1	0	0	0	1	0	0	0	8	16:45	0	8	0	0	1	0	0	0	3	0	0	0	12	
5:00	0	2	2	0	1	0	0	0	0	1	0	0	0	6	17:00	0	14	0	0	0	0	0	0	3	0	1	0	18	
5:15	0	3	1	0	0	0	0	0	0	2	0	0	0	6	17:15	0	7	1	0	0	0	0	0	6	1	0	0	15	
5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17:30	0	10	3	0	0	0	0	5	0	0	0	18		
5:45	0	4	5	0	0	0	0	0	0	0	0	0	0	9	17:45	0	12	3	0	0	0	0	0	3	0	0	0	18	
6:00	0	5	3	0	2	0	0	0	1	1	0	0	0	12	18:00	0	13	3	0	0	0	0	0	4	0	0	0	20	
6:15	0	6	3	0	0	0	0	0	0	3	0	0	1	13	18:15	0	11	2	0	0	0	0	0	2	0	0	0	15	
6:30	0	6	2	0	0	0	0	0	0	1	0	0	0	9	18:30	0	11	1	0	0	0	0	0	3	1	0	0	16	
6:45	0	5	2	0	1	0	0	0	0	1	0	0	0	9	18:45	0	9	0	0	1	0	0	0	4	0	0	0	14	
7:00	0	4	9	0	2	0	0	0	0	2	0	0	0	17	19:00	0	9	1	0	0	0	0	0	4	0	0	0	14	
7:15	0	8	9	0	3	2	0	0	0	0	0	1	0	23	19:15	1	10	3	0	0	0	0	0	4	0	0	0	18	
7:30	0	14	6	0	2	0	0	0	0	3	0	0	0	25	19:30	0	9	2	0	0	0	0	0	1	0	0	0	12	
7:45	0	12	4	0	1	0	0	0	0	0	0	0	0	17	19:45	0	7	0	0	1	0	0	0	2	0	1	0	11	
8:00	1	13	4	1	1	1	0	0	1	2	0	0	0	24	20:00	0	11	0	0	1	0	0	0	1	0	0	0	13	
8:15	1	9	1	0	1	1	0	0	0	0	0	0	0	13	20:15	0	7	2	0	0	0	0	1	5	0	0	0	15	
8:30	0	9	4	0	0	0	0	0	0	0	0	0	0	13	20:30	0	8	0	0	0	0	0	0	2	1	0	0	11	
8:45	0	6	4	0	2	0	0	0	0	2	0	0	0	14	20:45	0	5	0	0	0	0	0	0	2	0	0	0	7	
9:00	0	15	8	0	2	0	0	2	2	0	1	0	0	30	21:00	0	4	0	0	0	0	0	0	4	0	0	0	8	
9:15	0	16	5	0	5	0	0	0	3	0	0	1	0	30	21:15	0	12	0	0	0	0	0	0	0	0	0	0	12	
9:30	0	15	10	0	4	1	0	0	0	1	0	0	0	31	21:30	0	4	0	0	0	0	0	0	2	0	0	0	6	
9:45	0	5	19	0	2	0	0	0	0	0	0	0	0	26	21:45	0	9	1	0	0	0	0	0	1	0	0	0	11	
10:00	3	10	6	0	5	1	0	0	1	0	0	0	0	26	22:00	0	7	0	0	0	0	0	0	3	0	0	0	10	
10:15	1	16	11	0	8	1	0	0	4	0	0	0	0	41	22:15	0	6	0	0	0	0	0	0	3	0	0	0	9	
10:30	1	14	7	0	5	1	0	0	2	0	0	0	0	30	22:30	0	7	1	0	0	0	0	0	1	0	0	0	9	
10:45	0	17	17	0	5	0	0	1	4	0	0	0	0	44	22:45	0	4	1	0	0	0	0	0	3	0	0	0	8	
11:00	1	19	11	0	2	1	0	0	1	0	0	0	0	35	23:00	0	5	0	0	0	0	0	0	0	0	0	0	5	
11:15	2	21	23	1	7	0	1	1	5	0	0	0	0	61	23:15	0	4	0	0	0	0	0	0	0	0	0	0	4	
11:30	1	31	9	0	8	1	1	0	5	1	0	0	0	57	23:30	0	2	0	0	0	0	0	0	2	0	0	0	4	
11:45	0	21	16	1	7	0	0	2	2	0	0	0	0	49	23:45	0	2	0	0	0	0	0	0	1	0	0	0	3	
TOTAL	14	357	225	4	86	12	2	8	57	1	2	2	0	770	TOTAL	5	580	192	4	76	4	1	5	118	5	3	2	0	995

AM PEAK HOUR
AM PEAK VOLUME
11:00 AM
202

PM PEAK HOUR
PM PEAK VOLUME
12:00 PM
205

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	19	937	417	8	162	16	3	13	175	6	5	4	0	1,765
% OF TOTAL	1.1%	53.1%	23.6%	0.5%	9.2%	0.9%	0.2%	0.7%	9.9%	0.3%	0.3%	0.2%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Monday, September 30, 2024
JOB #: SC4923

CITY: Baker
LOCATION: CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	11	7	0	1	0	0	0	1	0	0	0	0	20	12:00	1	57	33	0	16	0	0	3	4	0	0	0	0	114
0:15	0	11	2	0	2	0	0	0	0	0	0	0	0	15	12:15	1	40	35	1	11	0	0	0	4	0	0	0	92	
0:30	0	15	7	0	2	0	0	0	2	0	0	0	0	26	12:30	2	33	31	1	18	2	0	2	4	0	0	0	93	
0:45	0	8	3	0	1	0	0	0	2	0	0	0	0	14	12:45	1	39	13	1	9	0	0	2	4	0	0	0	69	
1:00	0	7	6	1	5	0	0	0	0	0	0	0	0	19	13:00	1	39	22	0	7	4	0	0	3	0	0	0	76	
1:15	0	8	2	1	2	0	0	0	1	0	0	0	0	14	13:15	1	42	23	1	15	1	0	2	3	0	0	2	90	
1:30	1	7	3	0	3	0	0	0	1	0	0	0	0	15	13:30	0	45	30	0	13	0	1	0	2	0	0	0	91	
1:45	0	10	4	0	0	0	0	0	3	0	0	0	0	17	13:45	1	45	17	2	13	0	0	1	7	0	0	0	86	
2:00	0	6	1	0	0	0	0	0	2	0	0	0	0	9	14:00	0	45	18	0	9	0	0	0	5	0	0	0	77	
2:15	0	7	4	0	1	0	0	0	1	0	0	0	0	13	14:15	0	44	35	1	14	0	0	0	3	0	0	0	97	
2:30	0	2	1	0	0	0	0	1	0	0	0	0	0	4	14:30	1	42	24	2	8	0	0	1	5	0	0	0	83	
2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:45	0	66	8	0	1	0	0	0	5	0	0	0	80	
3:00	0	3	3	0	1	0	0	0	0	0	0	0	0	7	15:00	1	45	7	0	1	0	0	0	7	1	0	0	62	
3:15	1	2	0	0	1	1	0	0	0	0	0	0	0	5	15:15	0	51	4	0	2	1	0	0	6	0	0	1	65	
3:30	0	3	2	0	2	0	0	0	0	0	0	0	0	7	15:30	1	39	1	0	1	0	0	0	7	1	2	0	52	
3:45	0	4	3	0	0	0	0	0	1	0	0	0	0	8	15:45	0	33	4	0	1	0	0	0	12	0	0	0	50	
4:00	0	1	5	0	0	0	0	0	0	0	0	0	0	6	16:00	0	31	4	0	0	0	0	0	3	0	0	0	38	
4:15	2	10	10	1	1	2	0	1	5	0	0	0	0	32	16:15	0	48	7	0	4	0	0	0	6	0	0	0	65	
4:30	1	11	5	0	2	1	0	0	3	0	0	0	0	23	16:30	0	31	2	0	3	0	0	0	7	0	0	0	43	
4:45	1	9	4	0	1	1	0	0	4	0	0	0	0	20	16:45	0	24	4	0	3	0	0	0	6	0	0	0	37	
5:00	0	4	8	0	2	0	0	0	2	0	0	0	0	16	17:00	0	28	4	0	0	0	0	0	7	0	1	0	40	
5:15	0	5	2	0	1	0	0	0	2	0	0	0	0	10	17:15	0	18	2	0	2	0	0	0	9	1	0	0	32	
5:30	0	4	2	0	0	0	0	1	1	0	0	0	0	8	17:30	0	26	5	0	0	1	0	0	8	0	0	0	40	
5:45	0	8	6	0	3	1	0	0	1	0	0	0	0	19	17:45	0	24	7	0	0	0	0	6	0	0	0	37		
6:00	0	11	4	0	6	0	0	2	2	0	0	0	0	25	18:00	0	30	5	0	0	0	0	0	6	0	0	0	41	
6:15	1	12	4	0	1	1	0	1	4	0	0	1	0	25	18:15	0	19	3	0	0	0	0	0	3	0	0	0	25	
6:30	0	12	8	0	2	0	0	0	3	0	0	0	0	25	18:30	0	26	3	0	0	0	0	4	1	0	0	34		
6:45	1	13	10	0	3	2	0	1	5	0	0	0	0	35	18:45	0	18	0	0	3	0	0	0	5	0	0	0	26	
7:00	0	9	13	0	6	0	0	0	3	0	1	0	0	32	19:00	0	25	2	0	0	0	0	0	6	0	0	0	33	
7:15	0	17	12	0	7	2	1	0	1	0	1	0	0	41	19:15	1	24	3	0	0	0	0	5	0	0	0	33		
7:30	1	17	7	0	6	0	0	0	3	0	0	0	0	34	19:30	0	25	2	0	0	0	0	2	0	0	0	29		
7:45	0	20	7	0	4	0	0	0	2	0	0	0	0	33	19:45	0	15	0	0	1	0	0	0	2	0	1	0	19	
8:00	2	21	7	1	8	2	0	1	4	0	0	0	0	46	20:00	0	17	1	0	1	0	0	0	3	0	0	0	22	
8:15	2	13	5	0	2	2	0	0	0	0	0	0	0	24	20:15	0	18	3	0	2	0	0	1	5	0	0	0	29	
8:30	0	19	10	0	3	0	0	1	0	0	0	0	0	33	20:30	0	24	2	0	0	1	0	0	3	1	0	0	31	
8:45	1	18	9	1	7	1	0	0	3	0	0	0	0	40	20:45	0	19	1	0	1	0	0	0	3	0	0	0	24	
9:00	0	28	14	0	10	1	0	2	3	0	1	0	0	59	21:00	0	11	0	0	1	0	0	0	5	0	0	0	17	
9:15	0	27	7	1	11	1	0	0	4	1	0	1	0	53	21:15	0	24	0	0	0	0	0	0	0	0	0	0	24	
9:30	0	26	11	0	9	1	0	1	2	0	0	0	0	50	21:30	0	19	3	0	0	0	0	0	3	0	0	0	25	
9:45	0	19	25	0	5	1	0	0	1	0	0	0	0	51	21:45	0	21	2	0	0	0	0	0	2	0	0	0	25	
10:00	5	20	10	0	10	2	0	0	1	0	0	0	0	48	22:00	0	17	1	0	0	0	0	0	5	0	0	0	23	
10:15	1	34	19	0	10	1	0	1	6	0	0	0	0	72	22:15	0	19	1	0	0	1	0	0	4	0	0	0	25	
10:30	3	30	15	1	10	2	0	0	3	0	0	0	0	64	22:30	0	18	2	0	0	0	0	2	0	0	0	0	22	
10:45	1	28	32	1	15	0	0	2	4	0	0	0	0	83	22:45	0	12	1	0	2	0	0	0	4	0	0	0	19	
11:00	1	34	23	0	10	1	0	1	1	0	0	0	0	71	23:00	0	12	1	0	0	0	0	0	2	0	0	0	15	
11:15	3	32	43	1	10	1	1	2	6	0	0	0	0	99	23:15	0	14	0	0	0	0	0	0	0	0	0	0	14	
11:30	2	45	28	1	15	2	1	0	6	1	0	0	0	101	23:30	0	10	1	0	0	0	0	0	2	0	0	0	13	
11:45	2	44	23	1	13	0	0	3	7	0	0	0	0	93	23:45	0	9	1	0	0	0	0	2	0	0	0	1	13	
TOTAL	32	706	436	11	214	29	3	21	106	2	3	2	0	1,565	TOTAL	12	1,381	378	9	162	11	1	12	211	5	4	2	2	2,190

**AM PEAK HOUR
AM PEAK VOLUME**
11:00 AM
364

**PM PEAK HOUR
PM PEAK VOLUME**
12:00 PM
368

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	44	2,087	814	20	376	40	4	33	317	7	7	4	2	3,755
% OF TOTAL	1.2%	55.6%	21.7%	0.5%	10.0%	1.1%	0.1%	0.9%	8.4%	0.2%	0.2%	0.1%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, October 01, 2024
JOB #: SC4923

CITY: Baker
LOCATION: CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.

AM TIME	WESTBOUND													TOTAL	PM Time	WESTBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	2	0	0	0	0	0	0	2	0	0	0	0	4	12:00	0	18	9	0	0	0	0	0	3	0	0	0	30	
0:15	0	1	1	0	0	0	0	0	0	0	0	0	0	2	12:15	0	17	5	0	1	0	0	0	6	0	0	29		
0:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	12:30	0	26	5	0	0	0	0	2	0	0	0	33		
0:45	0	3	0	0	1	0	0	1	0	0	0	0	0	5	12:45	0	16	3	0	2	0	0	0	5	0	0	26		
1:00	0	1	0	0	0	0	0	0	1	0	0	0	0	2	13:00	3	23	2	0	1	1	0	0	2	0	0	32		
1:15	0	2	0	0	0	0	0	0	1	0	0	0	0	3	13:15	0	25	3	0	1	0	0	0	3	0	1	0	33	
1:30	0	1	0	0	0	0	0	0	1	0	0	0	0	2	13:30	0	21	1	0	2	0	0	0	8	0	1	0	33	
1:45	0	1	0	0	0	0	0	0	1	0	0	0	0	2	13:45	1	16	4	0	4	1	0	0	3	0	0	29		
2:00	0	0	0	0	1	0	0	0	1	0	0	0	0	2	14:00	0	15	4	0	1	0	0	0	2	0	0	22		
2:15	0	1	1	0	0	0	0	0	2	0	0	0	0	4	14:15	0	8	3	0	1	2	0	1	4	0	1	0	20	
2:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:30	0	18	2	0	1	0	0	0	2	0	0	23		
2:45	1	3	0	0	0	0	0	0	2	0	0	0	0	6	14:45	0	15	1	0	2	0	0	0	5	0	0	23		
3:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	15:00	0	17	7	0	0	0	0	0	5	0	0	29		
3:15	0	4	1	0	0	0	0	0	1	0	0	0	0	6	15:15	0	4	3	0	0	0	0	0	1	0	0	8		
3:30	0	2	0	0	2	0	0	0	1	0	0	0	0	5	15:30	0	12	4	0	1	1	0	0	7	0	0	25		
3:45	0	1	1	0	0	0	0	0	2	0	0	0	0	4	15:45	0	14	1	0	1	0	0	0	5	0	0	21		
4:00	0	2	0	0	0	0	0	0	1	0	0	0	0	3	16:00	0	8	0	0	1	0	0	0	2	0	0	11		
4:15	0	0	0	0	1	0	0	0	2	0	0	0	0	3	16:15	0	13	2	0	2	0	0	0	5	0	1	0	23	
4:30	0	1	2	0	1	0	0	0	3	0	0	0	0	7	16:30	0	11	1	0	0	0	0	0	4	0	0	16		
4:45	0	1	0	0	0	0	0	0	2	0	0	0	0	3	16:45	1	8	4	0	1	0	0	0	3	0	0	17		
5:00	0	1	0	0	0	0	0	0	4	0	0	0	0	5	17:00	0	7	2	0	0	0	0	0	2	0	0	11		
5:15	0	4	1	0	0	0	0	0	1	0	0	0	0	6	17:15	0	8	2	0	0	0	0	0	2	0	0	12		
5:30	0	3	3	0	0	0	0	0	3	0	0	0	0	9	17:30	0	11	2	0	0	0	0	0	6	0	0	19		
5:45	0	5	1	0	0	0	0	0	1	0	1	0	0	8	17:45	0	8	6	1	1	0	0	0	2	0	1	19		
6:00	0	0	1	0	0	0	0	0	3	1	0	0	0	5	18:00	1	11	4	0	3	2	0	0	3	0	0	24		
6:15	0	6	1	0	0	0	0	0	5	0	0	0	0	12	18:15	0	8	3	0	3	0	0	0	2	0	0	16		
6:30	0	2	2	0	0	1	0	0	2	0	0	0	0	7	18:30	0	7	2	0	2	0	0	0	2	0	0	13		
6:45	0	7	4	0	1	0	0	0	2	0	0	0	0	14	18:45	0	4	3	1	2	0	0	0	1	0	0	11		
7:00	0	10	2	0	0	0	0	0	2	0	0	0	0	14	19:00	1	4	9	1	3	1	0	1	0	0	0	20		
7:15	0	4	0	0	0	0	0	0	3	0	2	0	0	9	19:15	0	2	1	0	1	0	0	0	1	0	0	5		
7:30	0	2	5	0	0	0	0	0	4	0	0	0	0	11	19:30	1	5	5	1	2	0	0	0	1	0	0	15		
7:45	0	5	2	0	0	0	0	0	2	0	1	0	0	10	19:45	0	10	1	1	0	0	0	0	2	0	0	14		
8:00	1	5	0	0	1	0	0	0	4	0	2	0	0	13	20:00	0	8	2	1	2	0	0	0	1	0	0	14		
8:15	1	6	6	0	1	0	0	0	5	0	1	0	0	20	20:15	0	6	3	0	1	1	0	0	2	0	0	13		
8:30	0	11	1	0	1	0	0	0	3	1	2	0	0	19	20:30	1	10	3	0	2	1	0	0	2	0	0	19		
8:45	0	9	3	0	0	0	0	0	4	0	0	0	0	16	20:45	0	3	3	0	0	1	0	0	1	0	0	8		
9:00	0	7	4	0	0	0	0	0	3	0	0	0	0	14	21:00	0	11	4	0	0	0	0	0	2	0	0	17		
9:15	0	10	2	0	1	0	0	0	3	0	1	0	0	17	21:15	0	4	4	1	1	0	0	0	2	0	0	12		
9:30	0	9	1	0	1	0	0	0	2	0	0	0	0	13	21:30	0	2	2	0	1	0	0	0	1	0	0	6		
9:45	0	9	4	1	1	0	0	0	2	2	2	0	0	21	21:45	0	9	3	0	1	0	0	1	2	0	1	17		
10:00	0	10	2	0	3	0	0	0	0	0	0	0	0	15	22:00	0	6	1	0	0	0	0	0	3	0	0	10		
10:15	1	12	1	0	1	0	0	0	3	0	1	0	0	19	22:15	0	1	3	0	0	0	0	0	1	0	0	5		
10:30	0	12	4	0	2	0	0	0	1	0	0	0	0	19	22:30	1	5	4	1	1	0	0	0	1	0	0	13		
10:45	0	13	4	0	1	0	0	0	2	0	1	0	0	21	22:45	0	8	4	0	0	0	0	0	0	0	0	12		
11:00	0	16	2	1	0	0	0	0	0	0	1	0	0	20	23:00	0	3	1	0	0	0	0	0	1	0	0	5		
11:15	0	24	2	0	0	0	0	0	3	0	0	0	0	29	23:15	0	2	0	0	1	0	0	0	1	0	0	4		
11:30	0	17	3	1	0	0	0	0	6	0	1	0	0	28	23:30	0	1	1	0	0	0	0	0	0	0	0	2		
11:45	0	18	2	0	1	0	0	0	7	0	0	0	0	28	23:45	0	1	0	0	0	0	0	0	0	0	0	1		
TOTAL	4	271	69	3	21	1	0	1	103	4	16	0	0	493	TOTAL	10	470	142	8	49	11	0	3	121	0	5	1	0	820

AM PEAK HOUR
AM PEAK VOLUME
11:00 AM
105

PM PEAK HOUR
PM PEAK VOLUME
1:00 PM
127

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	14	741	211	11	70	12	0	4	224	4	21	1	0	1,313
% OF TOTAL	1.1%	56.4%	16.1%	0.8%	5.3%	0.9%	0.0%	0.3%	17.1%	0.3%	1.6%	0.1%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, October 01, 2024

JOB #: SC4923

CITY: Baker

LOCATION: CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.

AM TIME	COMBINED													TOTAL	PM Time	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	3	1	0	1	0	0	0	0	3	0	0	0	8	12:00	0	43	11	1	2	0	0	1	11	0	0	0	0	69
0:15	0	4	2	0	1	0	0	0	0	2	0	0	0	9	12:15	0	45	9	0	2	0	0	0	14	0	0	0	0	70
0:30	0	13	0	0	0	0	0	0	0	1	0	1	0	15	12:30	0	48	11	0	1	0	0	0	8	0	0	0	0	68
0:45	0	4	1	0	1	0	0	1	1	0	1	0	0	9	12:45	0	50	3	0	3	0	0	0	10	0	0	0	0	66
1:00	0	7	2	0	0	0	0	1	2	0	0	0	0	12	13:00	3	45	7	0	2	1	0	0	5	0	0	0	0	63
1:15	0	6	1	0	0	0	0	0	1	0	0	0	0	8	13:15	0	55	15	0	3	0	0	0	8	0	1	0	0	82
1:30	0	4	0	0	1	0	0	0	2	0	0	0	0	7	13:30	0	48	4	0	2	0	0	0	9	0	1	0	0	64
1:45	0	4	0	0	0	0	0	0	1	0	0	0	0	5	13:45	1	38	8	0	5	1	0	0	6	0	0	0	0	59
2:00	0	1	1	0	1	0	0	0	4	0	0	0	0	7	14:00	0	47	8	0	4	0	0	0	5	0	1	0	0	65
2:15	0	2	1	0	0	0	0	0	2	0	0	0	0	5	14:15	1	23	5	0	1	2	0	2	8	0	1	0	0	43
2:30	0	9	0	0	0	0	0	0	1	0	0	0	0	10	14:30	0	34	6	0	3	0	0	0	4	1	0	0	0	48
2:45	1	5	1	0	0	0	0	0	2	0	0	0	0	9	14:45	0	42	3	0	3	1	0	0	8	0	0	0	0	57
3:00	1	3	1	0	0	0	0	0	1	0	0	0	0	6	15:00	0	29	9	0	0	0	0	0	6	0	0	0	0	44
3:15	0	7	3	0	0	0	0	0	1	0	0	0	0	11	15:15	0	14	6	0	0	0	0	0	2	0	0	0	0	22
3:30	0	2	0	0	2	0	0	0	2	0	0	0	0	6	15:30	1	30	6	0	2	1	0	0	8	0	0	0	0	48
3:45	0	2	1	0	1	0	0	0	5	0	1	0	0	10	15:45	0	27	4	1	2	0	0	0	9	0	0	0	0	43
4:00	0	2	0	0	0	0	0	0	3	0	0	0	0	5	16:00	0	27	5	0	1	0	0	0	5	0	1	0	0	39
4:15	0	1	1	0	1	0	0	0	3	0	0	0	0	6	16:15	6	32	12	0	3	0	0	0	9	0	2	0	0	64
4:30	0	2	2	0	2	0	0	0	5	0	3	0	0	14	16:30	0	29	5	0	3	0	0	0	8	0	0	0	0	45
4:45	0	3	0	0	0	0	0	0	4	0	1	0	0	8	16:45	1	21	10	0	1	0	0	0	5	0	0	0	0	38
5:00	0	2	0	0	0	0	0	0	6	0	1	0	0	9	17:00	0	30	4	0	1	0	0	0	6	0	0	0	0	41
5:15	0	7	2	0	1	0	0	0	1	0	0	0	0	11	17:15	0	21	4	0	0	0	0	0	4	0	0	0	0	29
5:30	0	8	4	0	0	0	0	0	6	0	0	0	0	18	17:30	0	24	4	0	0	0	0	0	8	0	0	0	0	36
5:45	0	10	2	0	1	0	0	0	3	0	1	0	0	17	17:45	1	17	7	1	3	1	0	0	5	0	0	1	0	36
6:00	0	3	2	0	0	0	0	0	6	1	1	0	0	13	18:00	1	27	10	0	6	2	0	0	5	0	0	0	0	51
6:15	0	11	1	0	1	0	0	0	9	0	2	0	0	24	18:15	1	14	7	0	5	1	0	1	4	0	0	0	0	33
6:30	0	7	4	0	0	1	0	0	7	0	1	0	0	20	18:30	0	14	4	0	3	0	1	0	4	0	0	0	0	26
6:45	0	17	9	0	3	1	0	0	1	4	0	1	0	36	18:45	0	13	4	2	7	0	0	1	1	0	0	0	0	28
7:00	0	21	5	0	2	0	0	0	4	0	0	0	0	32	19:00	2	13	9	2	4	2	0	1	3	0	0	0	0	36
7:15	1	11	1	0	2	1	0	0	6	0	2	0	0	24	19:15	0	13	10	1	4	0	0	1	2	0	0	0	0	31
7:30	0	10	8	0	0	0	0	0	8	0	1	0	0	27	19:30	1	11	9	1	5	0	0	1	2	0	0	0	0	30
7:45	0	13	3	0	0	0	0	1	7	0	1	0	0	25	19:45	1	15	3	2	2	1	0	0	2	0	0	0	0	26
8:00	1	11	2	0	2	0	0	0	7	0	2	0	0	25	20:00	1	21	3	1	2	0	0	0	4	0	0	0	0	32
8:15	2	14	10	0	1	0	0	0	7	0	1	0	0	35	20:15	1	9	5	0	3	2	0	0	2	0	0	0	0	22
8:30	0	22	6	0	2	0	0	0	6	1	2	0	0	39	20:30	2	16	9	0	6	2	0	0	2	0	0	0	0	37
8:45	0	19	7	0	1	1	0	0	7	0	0	0	0	35	20:45	1	11	7	1	0	2	0	0	2	0	0	0	0	24
9:00	0	17	9	0	0	0	0	0	5	0	0	0	0	31	21:00	1	19	5	0	1	1	0	0	4	0	0	0	0	31
9:15	0	24	2	0	1	0	0	0	6	0	2	0	0	35	21:15	0	15	6	1	5	0	0	0	3	0	0	0	0	30
9:30	0	16	2	0	2	0	0	0	9	0	1	0	0	30	21:30	1	10	3	2	1	1	0	0	1	0	0	0	0	19
9:45	0	18	10	1	1	0	0	0	4	2	2	0	0	38	21:45	0	16	5	0	2	0	0	1	3	0	1	0	0	28
10:00	1	24	5	0	4	0	0	0	0	0	0	0	0	34	22:00	0	14	4	1	2	0	0	1	3	0	0	0	0	25
10:15	2	25	2	0	2	0	0	0	6	0	1	0	0	38	22:15	0	6	4	0	1	0	0	0	1	0	0	0	0	12
10:30	0	26	6	0	3	0	0	0	1	0	0	0	0	36	22:30	2	7	7	1	2	1	0	0	1	0	0	0	0	21
10:45	0	25	5	0	2	0	0	0	8	0	2	0	0	42	22:45	0	12	6	0	0	0	0	0	0	0	0	0	0	18
11:00	1	29	4	1	0	0	0	0	2	0	1	0	0	38	23:00	0	9	1	0	0	0	0	0	2	0	0	0	0	12
11:15	0	38	5	0	2	0	0	0	5	0	0	0	0	50	23:15	0	6	4	0	1	0	0	1	2	0	0	0	0	14
11:30	0	30	5	1	1	0	0	0	7	0	2	0	0	46	23:30	0	3	3	0	0	0	0	0	0	0	0	0	0	6
11:45	3	34	10	0	2	0	0	0	10	0	1	0	0	60	23:45	0	8	3	0	0	0	0	0	1	0	0	0	0	12
TOTAL	13	576	149	3	47	4	0	4	203	4	35	0	0	1,038	TOTAL	29	1,121	297	18	109	22	1	11	225	1	8	1	0	1,843

AM PEAK HOUR
AM PEAK VOLUME
11:00 AM
194

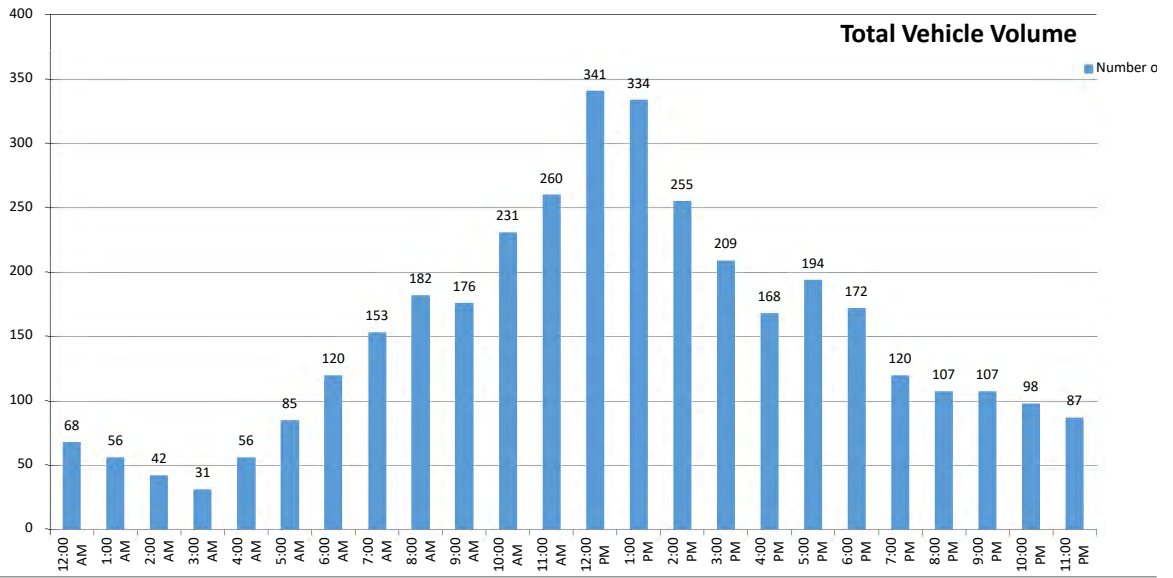
PM PEAK HOUR
PM PEAK VOLUME
12:30 PM
279

- CLASS 1** Class 1 — Motorcycles
- CLASS 2** Passenger Cars
- CLASS 3** 2 Axles, 4-Tire Single Units
- CLASS 4** Buses
- CLASS 5** 2 Axles, 6-Tire Single Units
- CLASS 6** 3 Axles, Single Unit
- CLASS 7** 4 or More Axles, Single Unit
- CLASS 8** 3 to 4 Axles, Single Trailer
- CLASS 9** 5 Axles, Single Trailer
- CLASS 10** 6 or More Axles, Single Trailer
- CLASS 11** 5 or Less Axles, Multi-Trailers
- CLASS 12** 6 Axles, Multi-Trailers
- CLASS 13** 7 or More Axles, Multi-Trailers

TOTAL: AM+PM	1	2	3	4	5	6	7	8	9	10	11	12	13	TOTAL
% OF TOTAL	1.5%	58.9%	15.5%	0.7%	5.4%	0.9%	0.0%	0.5%	14.9%	0.2%	1.5%	0.0%	0.0%	100.0%

24 Hour Volume Plot
Baker
CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.
 9/25/2024

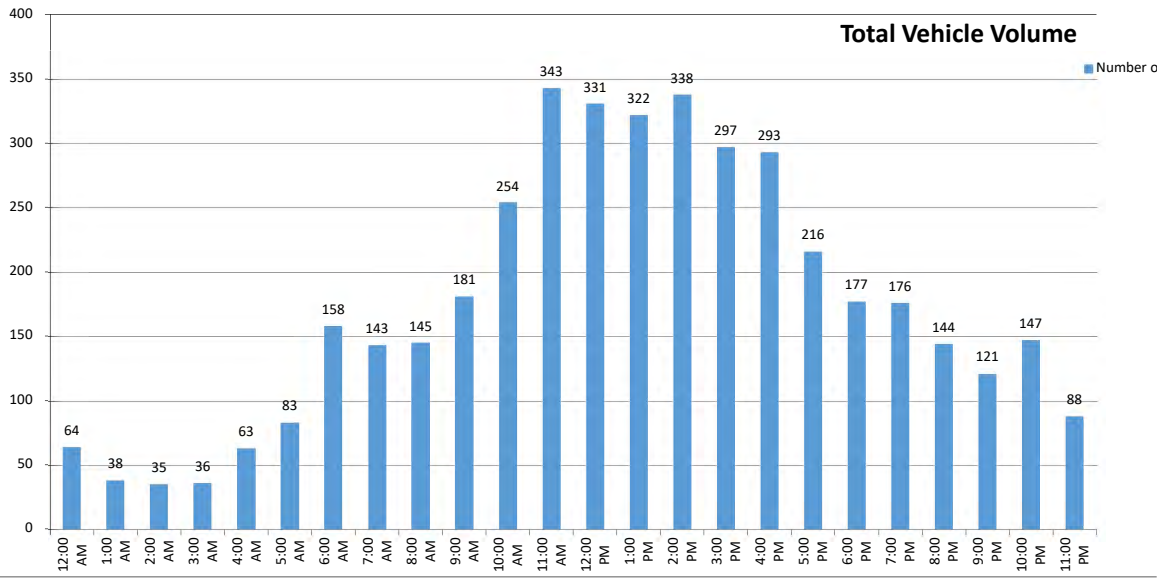
Start Time	Volume
12:00 AM	68
1:00 AM	56
2:00 AM	42
3:00 AM	31
4:00 AM	56
5:00 AM	85
6:00 AM	120
7:00 AM	153
8:00 AM	182
9:00 AM	176
10:00 AM	231
11:00 AM	260
12:00 PM	341
1:00 PM	334
2:00 PM	255
3:00 PM	209
4:00 PM	168
5:00 PM	194
6:00 PM	172
7:00 PM	120
8:00 PM	107
9:00 PM	107
10:00 PM	98
11:00 PM	87
Total	3,652



Volumes represent the combined totals for both directions

24 Hour Volume Plot
Baker
CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.
 9/26/2024

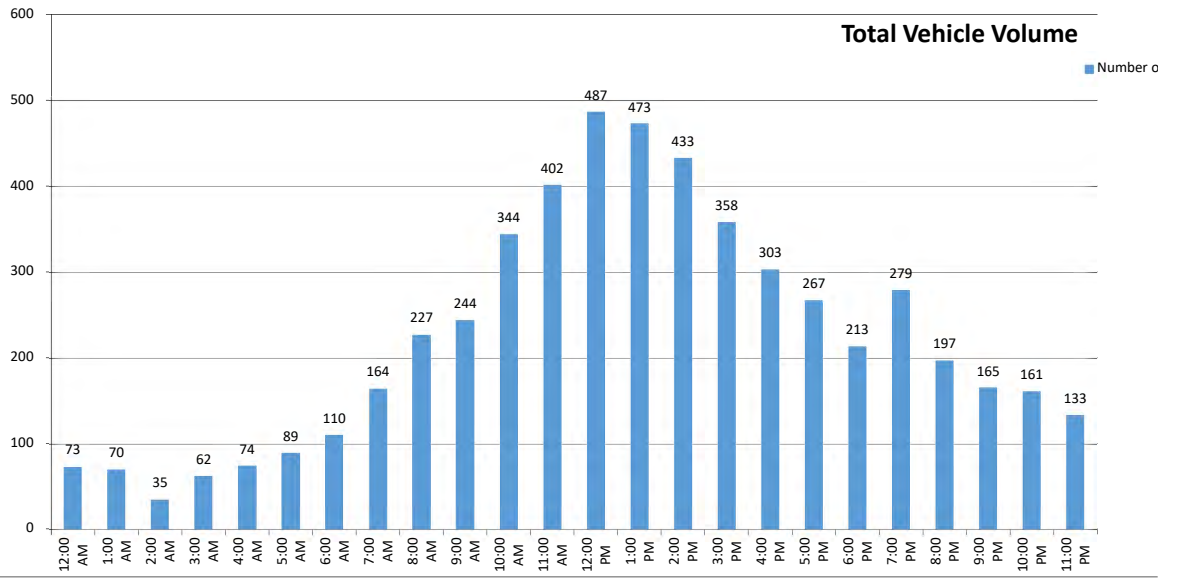
Start Time	Volume
12:00 AM	64
1:00 AM	38
2:00 AM	35
3:00 AM	36
4:00 AM	63
5:00 AM	83
6:00 AM	158
7:00 AM	143
8:00 AM	145
9:00 AM	181
10:00 AM	254
11:00 AM	343
12:00 PM	331
1:00 PM	322
2:00 PM	338
3:00 PM	297
4:00 PM	293
5:00 PM	216
6:00 PM	177
7:00 PM	176
8:00 PM	144
9:00 PM	121
10:00 PM	147
11:00 PM	88
Total	4,193



Volumes represent the combined totals for both directions

24 Hour Volume Plot
Baker
CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.
 9/27/2024

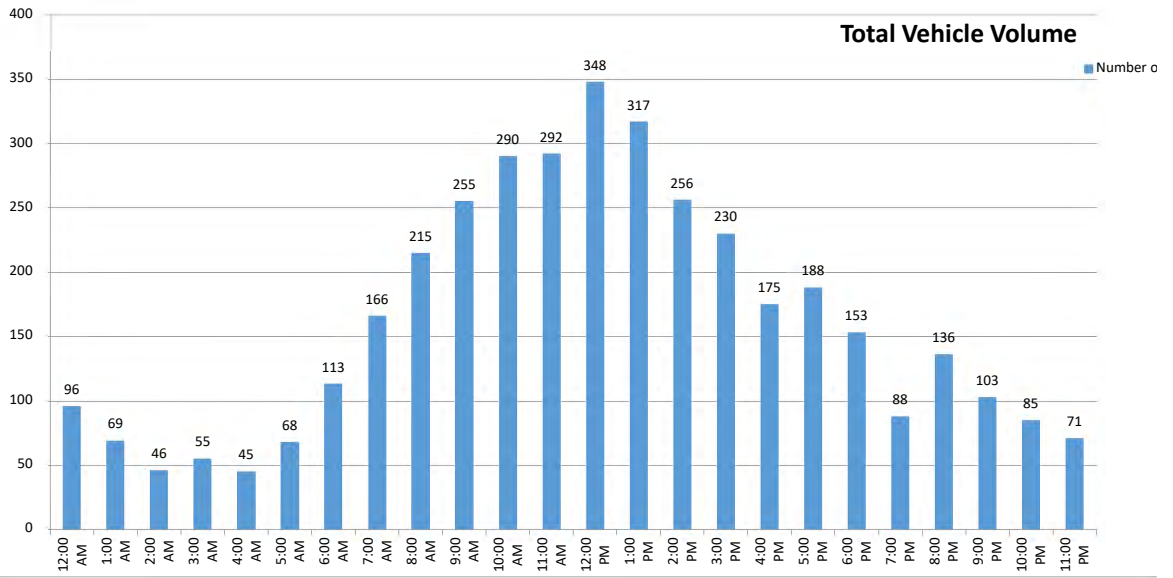
Start Time	Volume
12:00 AM	73
1:00 AM	70
2:00 AM	35
3:00 AM	62
4:00 AM	74
5:00 AM	89
6:00 AM	110
7:00 AM	164
8:00 AM	227
9:00 AM	244
10:00 AM	344
11:00 AM	402
12:00 PM	487
1:00 PM	473
2:00 PM	433
3:00 PM	358
4:00 PM	303
5:00 PM	267
6:00 PM	213
7:00 PM	279
8:00 PM	197
9:00 PM	165
10:00 PM	161
11:00 PM	133
Total	5,363



Volumes represent the combined totals for both directions

24 Hour Volume Plot
Baker
CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.
 9/28/2024

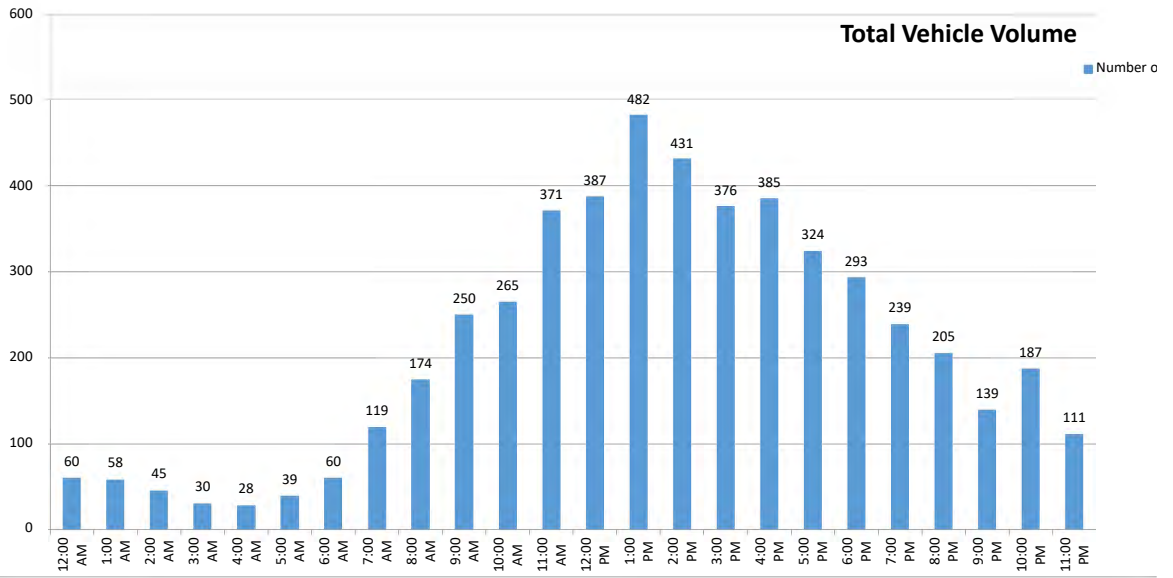
Start Time	Volume
12:00 AM	96
1:00 AM	69
2:00 AM	46
3:00 AM	55
4:00 AM	45
5:00 AM	68
6:00 AM	113
7:00 AM	166
8:00 AM	215
9:00 AM	255
10:00 AM	290
11:00 AM	292
12:00 PM	348
1:00 PM	317
2:00 PM	256
3:00 PM	230
4:00 PM	175
5:00 PM	188
6:00 PM	153
7:00 PM	88
8:00 PM	136
9:00 PM	103
10:00 PM	85
11:00 PM	71
Total	3,860



Volumes represent the combined totals for both directions

24 Hour Volume Plot
Baker
CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.
 9/29/2024

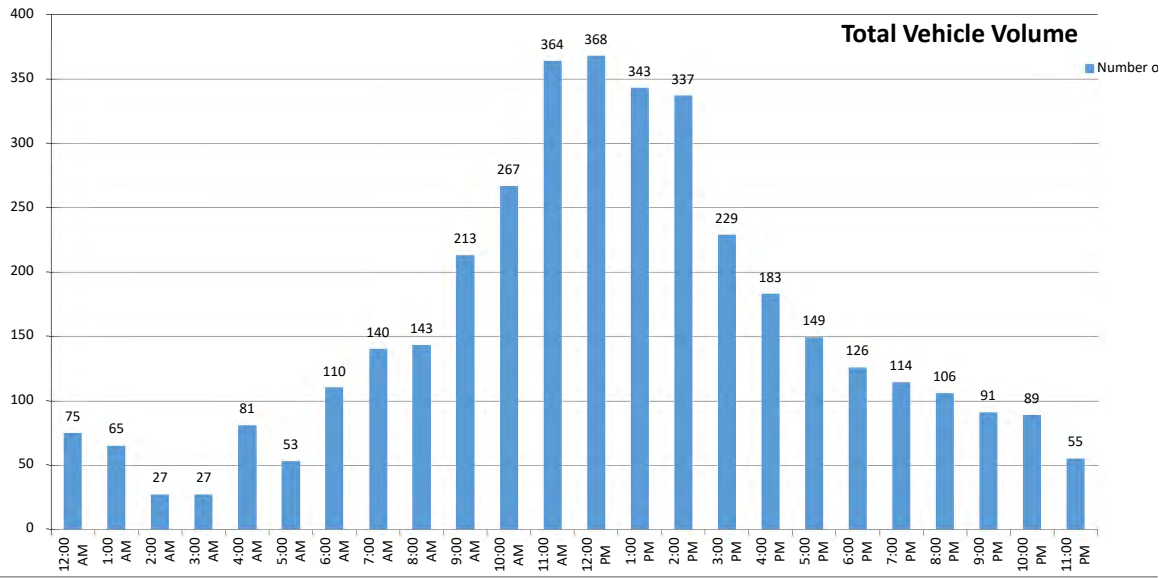
Start Time	Volume
12:00 AM	60
1:00 AM	58
2:00 AM	45
3:00 AM	30
4:00 AM	28
5:00 AM	39
6:00 AM	60
7:00 AM	119
8:00 AM	174
9:00 AM	250
10:00 AM	265
11:00 AM	371
12:00 PM	387
1:00 PM	482
2:00 PM	431
3:00 PM	376
4:00 PM	385
5:00 PM	324
6:00 PM	293
7:00 PM	239
8:00 PM	205
9:00 PM	139
10:00 PM	187
11:00 PM	111
Total	5,058



Volumes represent the combined totals for both directions

24 Hour Volume Plot
Baker
CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.
 9/30/2024

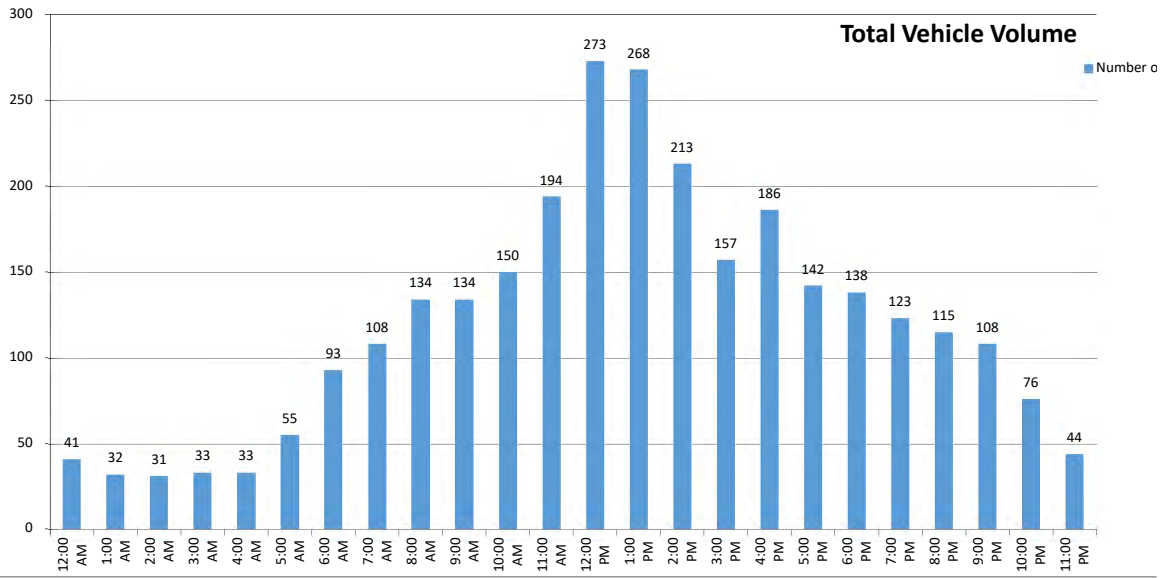
Start Time	Volume
12:00 AM	75
1:00 AM	65
2:00 AM	27
3:00 AM	27
4:00 AM	81
5:00 AM	53
6:00 AM	110
7:00 AM	140
8:00 AM	143
9:00 AM	213
10:00 AM	267
11:00 AM	364
12:00 PM	368
1:00 PM	343
2:00 PM	337
3:00 PM	229
4:00 PM	183
5:00 PM	149
6:00 PM	126
7:00 PM	114
8:00 PM	106
9:00 PM	91
10:00 PM	89
11:00 PM	55
Total	3,755



Volumes represent the combined totals for both directions

24 Hour Volume Plot
Baker
CLASS1 Baker Blvd between Mill Rd and Kelbaker Rd.
 10/1/2024

Start Time	Volume
12:00 AM	41
1:00 AM	32
2:00 AM	31
3:00 AM	33
4:00 AM	33
5:00 AM	55
6:00 AM	93
7:00 AM	108
8:00 AM	134
9:00 AM	134
10:00 AM	150
11:00 AM	194
12:00 PM	273
1:00 PM	268
2:00 PM	213
3:00 PM	157
4:00 PM	186
5:00 PM	142
6:00 PM	138
7:00 PM	123
8:00 PM	115
9:00 PM	108
10:00 PM	76
11:00 PM	44
Total	2,881



Volumes represent the combined totals for both directions

Appendix G TCWG Supporting Documentation

RTIP ID# <i>(required)</i> SB200810
TCWG Consideration Date December 3, 2024
<p>Project Description (clearly describe project)</p> <p>The San Bernardino County, Department of Public Works (County) in cooperation with the California Department of Transportation (Caltrans), proposes to implement the PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement Project (Project) in the community of Baker, California (Figure 1. Project Vicinity and Figure 2. Project Location). The Project will replace the existing two lane, timber bridge on Baker Boulevard, with a new four lane structure.</p> <p>The existing bridge was originally built in 1931 as a 93-foot (plus or minus) 5 span simple-supported stringer timber bridge crossing the Mojave River Channel on Baker Boulevard (formerly US 91 and State Route 31). It was repaired and lengthened in 1938. Repairs conducted in 1938 included replacement of all untreated Douglas Fir timber within the existing bridge with Redwood; the addition of 9 new spans to the west and 8 new spans to the east increasing bridge overall length to 408-feet (plus or minus), and channel excavation for the length of the structure to maintain a minimum clearance of 6-feet below the bottom stringer (soffit) of the bridge. The bridge currently exists as a 22-span simple-supported stringer timber bridge with a 5- to 6-inch-thick continuous cast in place reinforced concrete deck overlain with asphalt concrete and closed end reinforced concrete strutted abutments supported on Coastal Douglas Fir (CDF) timber piles. The bents and abutments are set at a 45-degree skew to accommodate flows within the Mojave River (Channel) below. Timber railing and plywood planking accommodating an elevated 2-foot-wide walk on both sides of the bridge is worn and deteriorating. Current sufficiency rating per Caltrans biannual bridge inspection reports (BRIS) for the structure is roughly 76. Average daily traffic (ADT) recorded in vicinity of the bridge in 2022 is 9,559 vehicles per day.</p> <p>The Project includes the demolition of the existing two-lane 22 span simple-supported stringer timber bridge and its replacement with a four-lane, 10-span cast-in-place reinforced concrete slab structure founded on cast-in-drilled hole piles (CIDH) or driven concrete pile extensions (Figure 3. Project Features). This proposed structure will meet and address County and American Association of State Highway and Transportation Officials (AASHTO) standards and criteria, or equivalent. Approximately 1,200 feet of approach roadway work would be required to widen Baker Boulevard to its ultimate width. The design would construct and/or tie into existing, planned and projected ultimate roadway improvements from 0.14 miles west of the existing structure to Death Valley Road (State Highway 127). Additionally, the new bridge will include sidewalks, streetlights, and bridge barrier railing meeting current MASH safety and testing requirements. Existing driveways located within the Project area may require improvements to ensure conformity with the widened bridge and roadway approaches.</p> <p>It is anticipated that excavators, dozers, dump trucks, concrete trucks, drill rigs, pile driving rigs and concrete pumps will be required to rehabilitate and widen the existing road surface and replace the bridge. Temporary and permanent right of way acquisition may be required for construction. The existing structure is well suited for either staged construction, with part of the new structure built adjacent to the existing bridge prior to removal of the existing bridge or a full detour (1.25-mile detour length) using adjacent SR-127/I-15 and the local road network to provide a complete closure for construction. Both options will keep the new bridge and approach road widenings within existing ROW. The Project will require relocation of overhead utilities, utilities attached to the bridge, and may require relocation of underground utilities along the roadway approaches. Construction may start as early as 2026 and may last 24 months.</p> <p>The proposed Project may construct a permanent ramp providing access into the San Bernardino County (SBC) Flood Control District (FCD) owned floodway channel north of the bridge along the eastern levee to better facilitate channel maintenance and future bridge inspections.</p> <p>This project is included in the Southern California Association of Governments (SCAG) 2024 Connect SoCal plan, the current Regional Transportation Plan/Sustainable Communities Strategy, and the 2023 Federal Transportation Improvement Program (2023 FTIP). Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and County is lead agency under the California Environmental Quality Act (CEQA).</p>
<p>Type of Project <i>(use Table 1 on instruction sheet)</i></p> <p>Change to existing regionally significant street.</p>

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

County San Bernardino		Narrative Location/Route & Postmiles The bridge replacement would occur along Baker Boulevard over the Mohave River Channel between Death Valley Road (State Route 127) and Mill Road in the town of Baker, CA. Caltrans Project Federal Number: STPL-5954(193)			
Lead Agency: Caltrans (NEPA)					
Contact Person Zach Liptak		Phone# 916-858-0642	Fax# 916-858-0643	Email zliptak@dokkenengineering.com	
Hot Spot Pollutant of Concern (<i>check one or both</i>) PM2.5 PM10 X					
Federal Action for which Project-Level PM Conformity is Needed (<i>check appropriate box</i>)					
<input checked="" type="checkbox"/>	Categorical Exclusion (NEPA)	<input type="checkbox"/>	EA or Draft EIS	<input type="checkbox"/>	FONSI or Final EIS
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	PS&E or Construction
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	Other
Scheduled Date of Federal Action: 2025					
NEPA Assignment – Project Type (<i>check appropriate box</i>)					
<input type="checkbox"/>		Section 326 – Categorical Exemption		<input checked="" type="checkbox"/>	
Exempt				Section 327 – Non-Categorical Exemption	
Current Programming Dates (<i>as appropriate</i>)					
	PE/Environmental	ENG	ROW	CON	
Start	Prior	Prior	Prior	2023/2024	
End	Prior	Prior	Prior	2023/2024	
Project Purpose and Need (Summary): (<i>attach additional sheets as necessary</i>) The purpose of the Project is to improve structure safety and operations through replacement of the existing bridge and roadway approach. The project is needed to meet current bridge structural design and safety standards along with projected future traffic capacity needs albeit the project in and of itself will not generate increase traffic volume and/or demand.					
Surrounding Land Use/Traffic Generators (<i>especially effect on diesel traffic</i>) Highway Commercial, Rural Commercial, and Floodway. Implementation of the project would not affect light duty vehicle or truck traffic volumes along Baker Boulevard, and it would not introduce new truck trips to the area.					

Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility
 Opening Year (2028)

Baker Boulevard between Death Valley Road (State Route 127) and Mill Road	Level of Service		AADT		AADT Trucks	
	Build	No Build	Build	No Build	Build	No Build
Average Weekday	LOS C	LOS C	6,062	6,062	552 (9.1%)	552 (9.1%)
Average Weekend	LOS C	LOS C	9,369	9,369	853 (9.1%)	853 (9.1%)

Source: Fehr & Peers, 2024. Traffic information from *Baker Bridge Replacement and Travel Demand Forecasting Memo, October 2024*

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility
 Design Year (2050)

Baker Boulevard between Death Valley Road (State Route 127) and Mill Road	Level of Service		AADT		AADT Trucks	
	Build	No Build	Build	No Build	Build	No Build
Average Weekday	LOS C	LOS C	9,700	9,700	883 (9.1%)	883 (9.1%)
Average Weekend	LOS C	LOS D	14,700	14,700	1,338 (9.1%)	1,338 (9.1%)

Source: Fehr & Peers, 2024. Traffic information from *Baker Bridge Replacement and Travel Demand Forecasting Memo, October 2024*

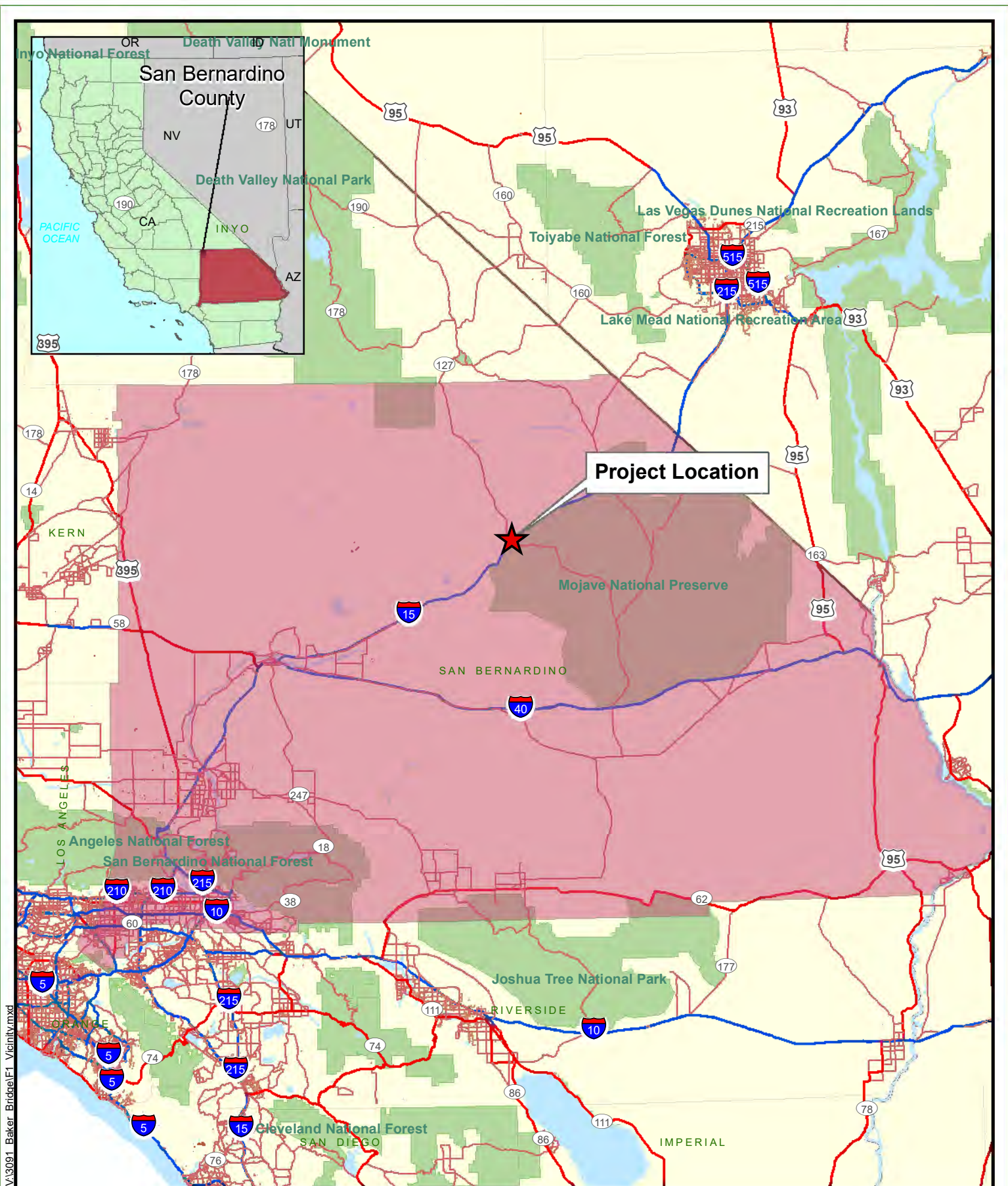
As shown in the data above, the maximum truck AADT along Baker Boulevard would be approximately 1,338 trucks per day in the Horizon/Design Year of 2050. The maximum truck percentage throughout the project area would be approximately 9.1% under both the Build and No Build Alternative.

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT
 The proposed action does not involve development of a new interchange or intersection, nor does it involve reconfiguration of an existing intersection that would affect local traffic circulation patterns or truck volumes.

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
 The proposed action does not involve development of a new interchange or intersection, nor does it involve reconfiguration of an existing intersection that would affect local traffic circulation patterns or truck volumes.

Describe potential traffic redistribution effects of congestion relief (impact on other facilities)
 The proposed project improvements would increase capacity and improve traffic operations, reducing delay times and improving operations from a LOS D to a LOS C or better in the design year conditions.

Comments/Explanation/Details <i>(attach additional sheets as necessary)</i>	
The following table details why the project does not meet the definition of a Project of Air Quality Concern.	
EPA Definition of POAQC	Proposed Project
(i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;	The Baker Boulevard Bridge Replacement Project is not a new or expanded highway project with a significant number of or significant increase in diesel vehicles. Diesel/heavy truck traffic is expected to be 9.1% within the Project Area. The greatest number of trucks on a segment is estimated to be 1,338, which is well below the general threshold of 10,000 diesel trucks (i.e. 125,000 volume of which 8% is diesel). The truck percentage is projected to remain the same for both the opening year and the horizon year at approximately 9.1%.
(ii) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;	The anticipated number of diesel vehicles is not significant (see above).
(iii) New bus and rail terminals and transfer points than have a significant number of diesel vehicles congregating at a single location;	Bus and rail terminals and transfer points are not part of this project.
(iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and	Expanded bus and rail terminals and transfer points are not part of this project.
(v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM ₁₀ or PM _{2.5} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.	The project is not in, nor will it affect, a location of violation or possible violation



VA:3091_Baker_Bridge(E).Vicinity.mxd

Source: ESRI 2008; Dokken Engineering 10/24/2024; Created By: amyd

FIGURE 1
Project Vicinity

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement
STPL-5954(193)
Baker, San Bernardino County, California

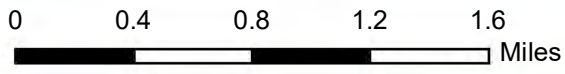


v:\1836_11thStBridge\Cultural\F2_Loc_10-12-10.mxd

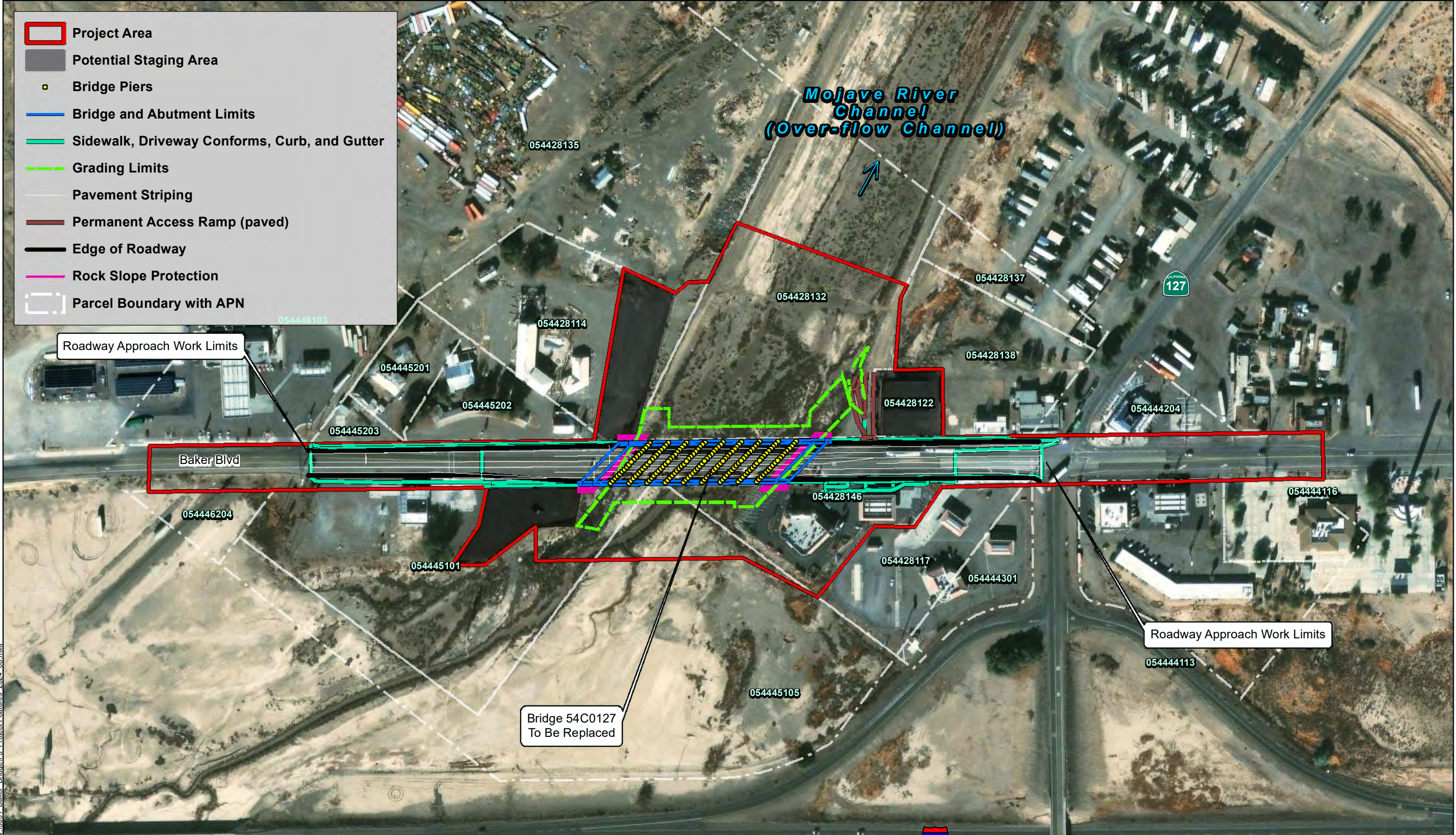
Source: ESRI World Street Maps Online; Dokken Engineering 10/24/2024; Created By: amyd

FIGURE 2
Project Location

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement
STPL-5954(193)
Baker, San Bernardino County, California



- Project Area
- Potential Staging Area
- Bridge Piers
- Bridge and Abutment Limits
- Sidewalk, Driveway Conformers, Curb, and Gutter
- Grading Limits
- Pavement Striping
- Permanent Access Ramp (paved)
- Edge of Roadway
- Rock Slope Protection
- Parcel Boundary with APN



V:\3091_Baker_Bidder\F3_Project_Features_2024_08.mxd

Source: ESRI Maps Online; Dokken Engineering 10/1/2024; Created By: amyd



Figure 3
Project Features