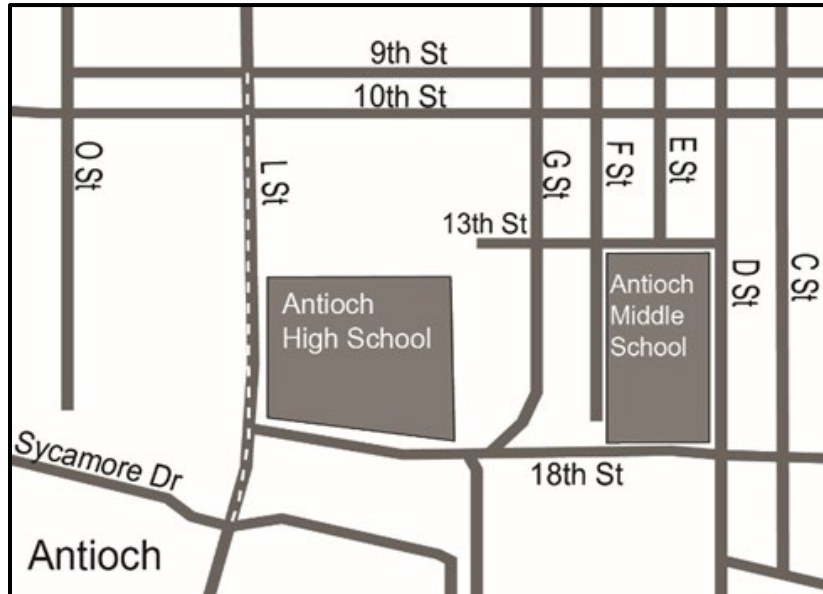


AIR QUALITY REPORT

Antioch L Street Pathways to Transit Phase 2



Caltrans District 4
City of Antioch, Contra Costa County, California

Project ID: SS4AL – 6072 (042)

Prepared by

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December 2025

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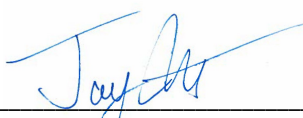
ANTIOCH L STREET PATHWAYS TO TRANSIT PHASE 2 AIR QUALITY REPORT

CITY OF ANTIOCH, CONTRA COSTA COUNTY, CALIFORNIA
CALIFORNIA DEPARTMENT OF TRANSPORTATION DISTRICT 4

SS4AL – 6072 (042)

Approved by:  Date: 03/17/2026

Tom Holstein
Environmental Branch Chief
Office of Local Assistance
California Department of Transportation - District 4

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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
ATM	Active Traffic Management
BMP	Best Management Practice
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CCTA	Contra Costa Transportation Authority
Cal EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CalEEMod	California Emissions Estimator Model
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
City	Antioch
CT-EMFAC	Caltrans Emissions Factor Model
CO	Carbon monoxide
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
County	Contra Costa County

Term	Definition
EMFAC	CARB Emissions Factor Model
EO	Executive Order
EPA	United States Environmental Protection Agency
FCAA	Federal Clean Air Act
FHWA	Federal Highway Administration
ft	Feet
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GHG	Greenhouse gas
IPCC	International Panel on Climate Change
LOS	Level of service
LRTP	Long Range Transportation Plan
mi	Miles
MOVES	Motor Vehicle Emission Simulator
mph	Miles per hour
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
MTC	Metropolitan Planning Commission
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 ₃	Ozone
OPR	California Office of Planning and Research
PM	Particulate matter

Term	Definition
PM ₁₀	Particulate matter less than 10 microns in diameter
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
ppb	Parts per billion
ppm	Parts per million
Protocol	Transportation Project-Level Carbon Monoxide Protocol
ROG	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
TOAR	Transportation Operations Analysis Report
TOG	Total Organic Gases
USC	United States Code
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency
VHT	Vehicle hours traveled
VMT	Vehicle miles traveled
VOC	Volatile Organic Compounds

1. Proposed Project Description

1.1 Introduction

The Contra Costa Transportation Authority (CCTA), in partnership with the City of Antioch (City), proposes improvements to L Street between 9th Street and Sycamore Drive in the City of Antioch, Contra Costa County.

The Build Alternative includes widening L Street from two lanes to four lanes between 10th Street and Sycamore Drive with on-street parking, constructing new sidewalks under the railroad tracks and along the fairground, and installing ADA compliant curb ramps. L Street would be striped to allow for multi-modal facilities between 9th Street and Sycamore Drive, improving multimodal safety and operations along the corridor. The intersections at 10th Street, E. 18th Street and Sycamore Drive would be improved to include traffic signal modifications. Other improvements include new bus stops and bus shelters, trail access and connection to bike facilities and sidewalks.

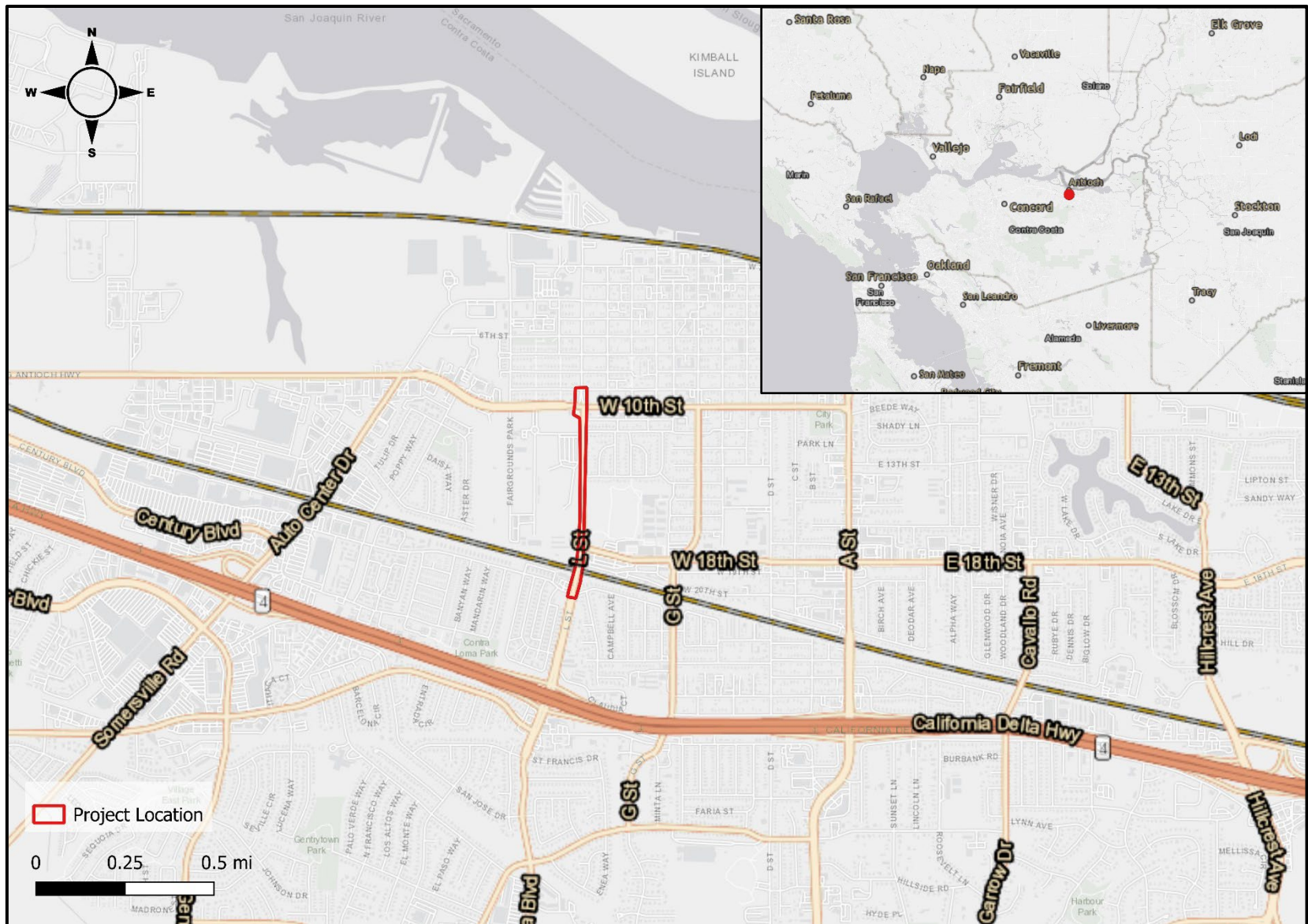
Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and the City is the lead agency for the California Environmental Quality Act (CEQA).

1.2 Location and Background

The Project limits are along L Street in the City of Antioch from Sycamore Drive to 9th Street as shown in Figure 1. Contra Costa County is in the San Francisco Bay Area Air Basin and falls under the jurisdiction of the Bay Area Air Quality Management District (Air District), responsible for regional air quality planning, monitoring, and permitting, and the Metropolitan Transportation Commission (MTC), responsible for regional transportation planning. Ambient air quality standards have been established at both the state and federal levels. The Bay Area meets all federal ambient air quality standards except for ground-level ozone and fine particulate matter (PM_{2.5}). At the State level, the region meets all ambient air quality standards except those for ground-level ozone, PM_{2.5}, and respirable particulate matter (PM₁₀). These pollutants and the applicable standards are described further in Section 2.1.

L Street is a two-lane roadway that terminates at the entrance to the existing multi use Delta Trail/waterfront promenade which connects and serves the Antioch Amtrak Station. There are two overhead structures (UPRR and an overhead Kinder Morgan natural gas pipe) and five intersections (three signalized and two STOP sign controlled) in the project area. L Street is adjacent to both the Contra Costa County Fairgrounds and Antioch High School.

To improve traffic operations in the area, the Project proposes to widen L Street, between 10th Street and Sycamore Drive, from two to four, allowing for on-street parking, new sidewalks, ADA-compliant curb ramps, and allowing for multi-modal facilities.



Source: Illingworth & Rodkin, 2025.

Figure 1. Map of the Project Vicinity

Director's Policy 37 - Complete Streets High-Priority Implementation Actions Purpose, dated December 6, 2021, outlines specific high-priority actions that Caltrans will initially take to immediately implement Caltrans' complete street goals. Accordingly, in locations with current and/or future pedestrian, bicycle, or transit needs, all transportation projects funded or overseen by Caltrans will provide comfortable, convenient, and connected complete streets facilities for people walking, biking, and taking transit or passenger rail unless an exception is documented and approved.

This Project is included in the current MTC Regional Transportation Plan (RTP), Plan Bay Area 2050, as RTP ID 21-T08-060 and MTC's 2025 Transportation Improvement Program (TIP) as TIP ID CC-230231.

1.3 Purpose and Need

The purpose of the proposed project is to:

- Equitably improve safety and connectivity of the L Street corridor for all modes of travel with an emphasis on pedestrians and bicyclists.
- Improve corridor operations for all users.
- Close bicycle and pedestrian gaps by connecting to existing and planned multimodal improvements.

The project is needed because:

- Lack of multimodal connectivity – particularly for bicycle and pedestrian access – along L Street.
- Lack of ADA-compliant curb ramps.
- Vehicle bottleneck constraints between 10th Street and 18th Street cause vehicle queues and delays, which are anticipated to worsen and will cause the L Street intersections with 10th Street and 18th Street to operate at unacceptable conditions by the year 2030.

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

The proposed alternatives are the No-Build Alternative and the Build Alternative. The scenarios analyzed are baseline (2020) conditions, opening year (2030) and the design year/RTP horizon year (2050). These alternatives, along with the existing baseline conditions, are discussed below in more detail.

1.4.1 Existing Roadways and Traffic Conditions

L Street is a principal arterial that connects State Route (SR 4) to the Antioch City Boat Ramp on the San Joaquin River. It also serves as the primary access to Antioch High School, the Antioch Speedway, and the Contra Costa County Fairgrounds. It is on a Tri-Delta Transit bus route that serves and connects the Priority Development Area and the Equity Priority Area and serves Contra Costa County low and moderate housing development around J Street. L Street terminates at the entrance to the existing multi use Delta Trail/waterfront promenade which connects and serves the Antioch Amtrak Station.

The section of L Street between 10th Street and Sycamore Drive is currently one lane in each direction with no dedicated bicycle lanes and two lanes in each direction from 18th Street to Sycamore Drive with no dedicated bicycle lanes. Both segments have a posted speed limit of 35 miles per hour (mph). L Street crosses under UPRR north of Sycamore Drive. Sidewalks in the area are discontinuous and curb ramps are not compliant with the Americans With Disabilities Act (ADA). Existing conditions and project area are illustrated in Figure 2.

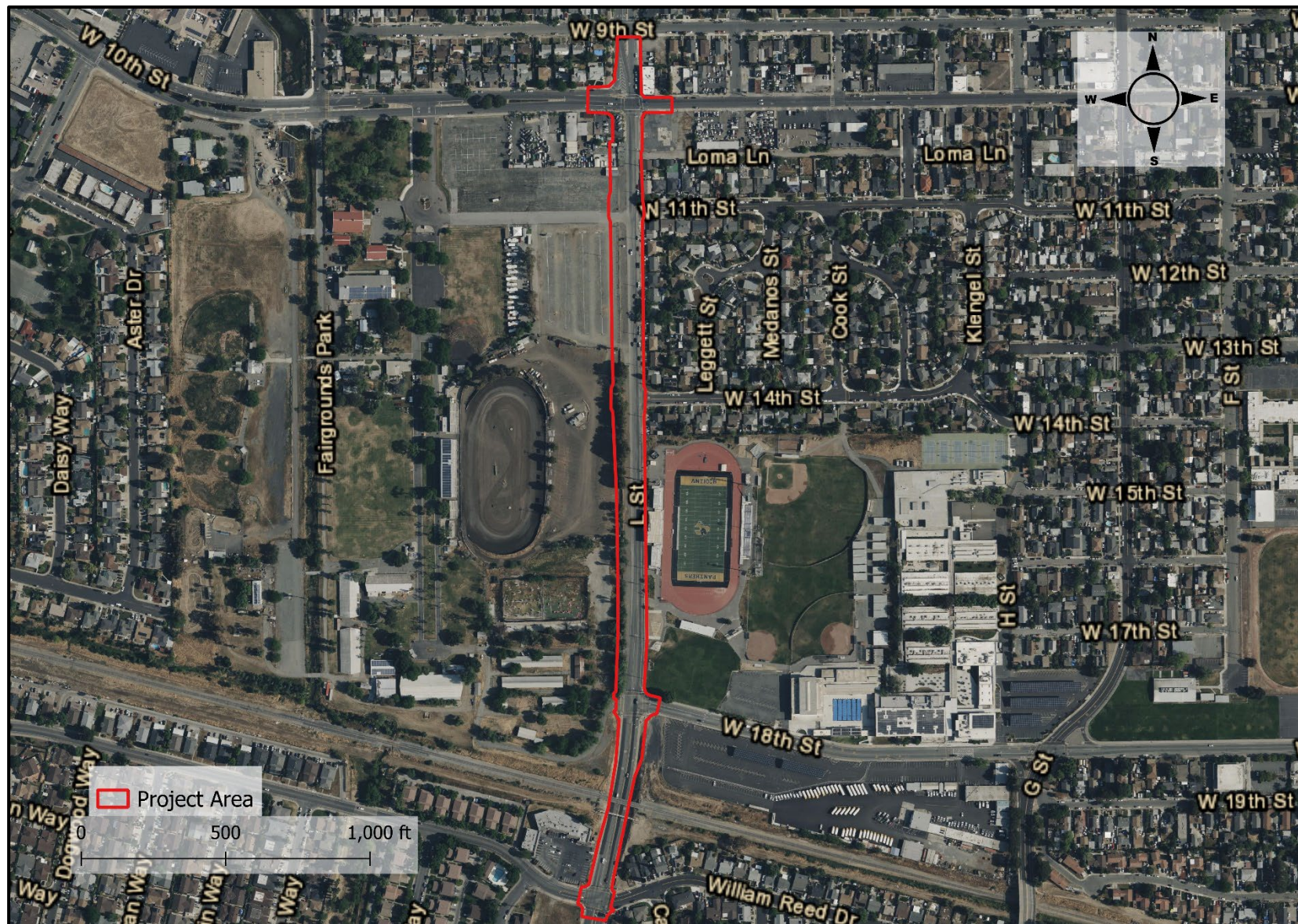
Table 1 lists the existing Average Annual Daily Traffic (AADT) for the project area roadways, the percentage of daily trucks on them, and the average daily vehicle miles traveled (VMT) within the Project's area of influence used for the emissions analysis (Section 4.3). The average daily VMT includes traffic on freeways and local facilities (arterials).

1.4.2 No-Build Alternative

The No-Build Alternative represents future travel conditions in the Project study area without the proposed Project and provides a basis for comparing the effects of the Build Alternative. The No-Build (No Action) Alternative consists of those transportation projects that are already planned for construction by or before 2050. Consequently, the No-Build alternative represents future travel conditions in the study area without the Project and is the baseline against which the Build Alternative will be assessed to meet NEPA requirements.

Under the No-Build Alternative, L Street would not be widened to two lanes in each direction between 10th Street and Sycamore Drive and the multimodal facilities would remain as they are, resulting in continued congestion and safety issues. Planned developments in the City of Antioch would further increase traffic congestion. Gaps in the existing bicycle and pedestrian networks would continue to impede connectivity for those users. To account for future increases in traffic associated with planned growth that will occur under both the No-Build and Build alternatives, forecasts for the opening year (2030) and design year (2050) were developed using the most current travel demand model developed maintained by CCTA.

Table 2 lists the No-Build Alternative AADT for the roadways impacted by the Project, the percentage of daily trucks in the Project study area, estimated truck volumes, peak hour roadway speeds, intersection level of service (LOS), and the average daily VMT within the Project's area of influence.



Source: Illingworth & Rodkin, 2025.

Figure 2. Existing Conditions and Project Area.

Table 1. Summary of Baseline Traffic Conditions.

2020					
Location		Direction	Total	Truck	% Truck
L Street	South of Sycamore Drive	NB	7,902	72	0.9
		SB	7,236	71	
	South of 18 th Street	NB	8,144	78	1.0
		SB	6,819	74	
	North of 18 th Street	NB	5,852	52	0.9
		SB	5,106	43	
	South of 10 th Street	NB	4,126	41	1.0
		SB	3,403	31	
	North of 10 th Street	NB	1,900	18	0.9
		SB	1,435	12	
Average Daily VMT			1,907,646 miles		
Intersection LOS			AM		PM
L Street at W. 10 th Street			C		C
L Street at W. 18 th Street			B		B
L Street at Sycamore Drive			B		C

Source: Kittelson & Associates, 2021.

Table 2. Summary of No-Build Alternative Traffic Conditions.

No Build								
Location		Direction	2030			2050		
			Total	Truck	% Truck	Total	Truck	% Truck
L Street	South of Sycamore Drive	NB	8,272	75	0.9	9,459	85	0.9
		SB	7,271	68		8,979	88	
	South of 18 th Street	NB	8,788	83	1.0	10,211	112	1.1
		SB	7,056	72		9,133	99	
	North of 18 th Street	NB	6,404	57	0.9	7,488	92	1.2
		SB	5,456	45		7,095	80	
	South of 10 th Street	NB	4,646	46	1.0	6,777	86	1.2
		SB	3,647	33		6,392	72	
	North of 10 th Street	NB	2,020	19	0.9	3,020	43	1.3
		SB	1,478	13		2,230	27	
Average Daily VMT			2,078,675 miles			2,537,306 miles		
Intersection LOS			AM		PM	AM		PM
L Street at W. 10 th Street			F		C	F		E
L Street at W. 18 th Street			E		B	F		B
L Street at Sycamore Drive			B		C	B		C

Source: Kittelson & Associates, 2025.

1.4.3 Project Build Alternative

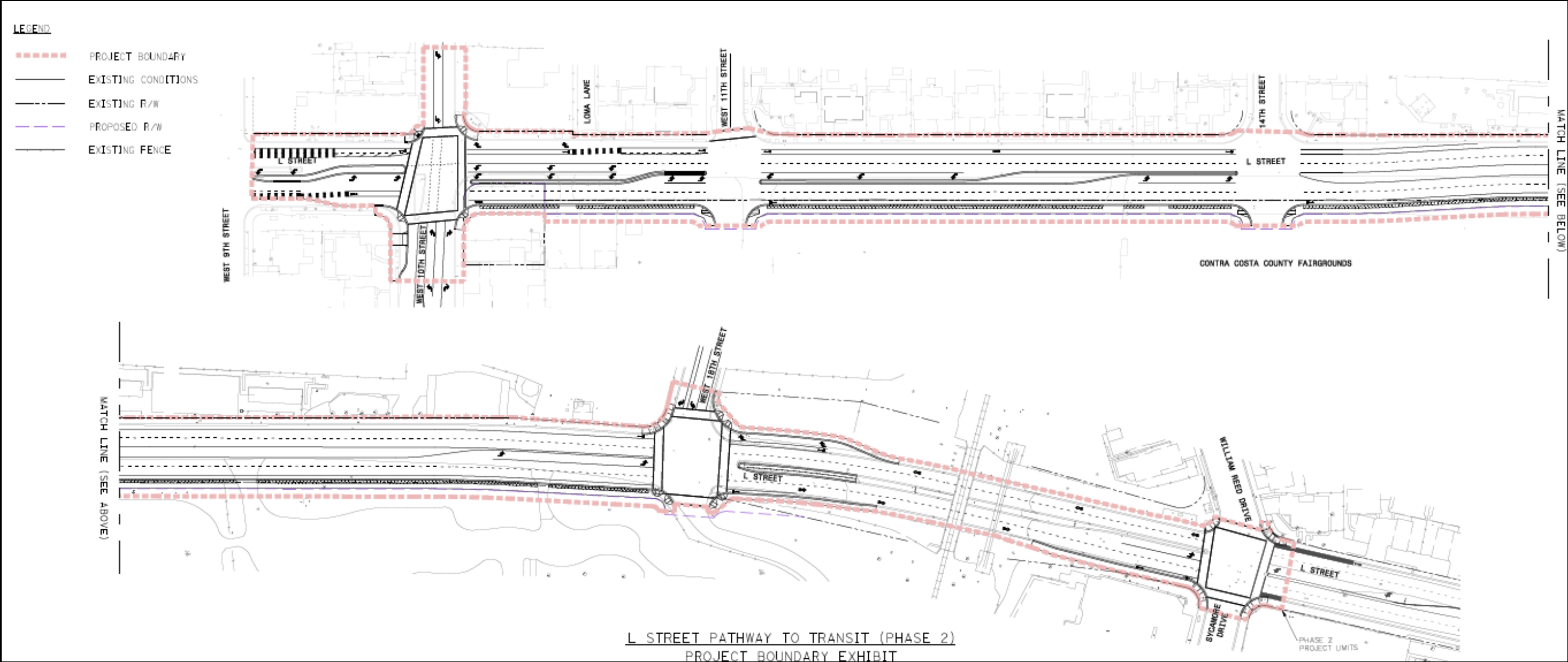
The Build Alternative proposes to widen approximately 0.5 miles of L Street between 10th Street and Sycamore Drive from two total lanes (one in each direction) to four total lanes (two in each direction). It would also construct new sidewalks and dedicated bicycle lanes under the railroad tracks and along the fairgrounds, installing ADA compliant curb ramps, re-striping to allow for multi-modal facilities between 9th Street and Sycamore Drive, improving multimodal safety and operations along the corridor, and intersection improvements including traffic signal modifications at 10th Street, E. 18th Street and Sycamore Drive. Other improvements include new bus stops and bus shelters, and connection to existing bike facilities and sidewalk networks. Figure 3 provides a plan-view of the proposed improvements associated with Build Alternative. Table 3 lists the Build Alternative AADT and the percentage of daily trucks on the impacted roadway segments in the Project study area, and the average daily VMT in the local study area (i.e., City of Antioch).

Transportation System Management (TSM) strategies increase the efficiency of existing facilities and increase the number of vehicle-trips a facility can carry without increasing the number of through lanes. TSM also promotes automobile, transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. Although TSM measures alone could not satisfy the purpose and need of the Project, TSM measures will be incorporated into the design of the Build Alternative as appropriate and applicable.

Table 3. Summary of Build Alternative Traffic Conditions.

Build								
Location		Direction	2030			2050		
			Total	Truck	% Truck	Total	Truck	% Truck
L Street	South of Sycamore Drive	NB	8,312	75	0.9	9,751	85	0.9
		SB	7,326	69		9,123	88	
	South of 18 th Street	NB	8,861	83	1.0	10,435	112	1.1
		SB	7,092	72		9,072	99	
	North of 18 th Street	NB	6,548	57	0.9	9,165	104	1.1
		SB	5,475	45		8,323	85	
	South of 10 th Street	NB	4,682	45	1.0	7,547	96	1.2
		SB	3,661	33		6,767	75	
	North of 10 th Street	NB	2,038	19	0.9	2,985	37	1.2
		SB	1,474	13		2,159	25	
Average Daily VMT			2,078,433 miles			2,536,652 miles		
Intersection LOS			AM		PM	AM		PM
L Street at W. 10 th Street			C		C	C		C
L Street at W. 18 th Street			B		B	C		B
L Street at Sycamore Drive			B		C	B		C

Source: Kittelson & Associates, 2025.



Source: BKF 2025.

Figure 3. Proposed Improvements Associated with Build Alternative

1.4.4 Comparison of Existing/Baseline, No-Build, and Build Alternatives

Existing/baseline conditions provide the basis for comparison to the future No-Build and Build alternatives. In addition, the difference between future No-Build and Build conditions shows how the Build Alternatives would affect traffic conditions within the Project study area (i.e., City of Antioch). Table 4 details the design features and traffic conditions for the baseline year (2020), opening year (2030), and design year/RTP horizon year (2050) for the No-Build and the Build Alternatives. The average daily VMT within the Project study area for all future years given the Build Alternative was compared to the existing/baseline average daily VMT. When compared to existing/baseline conditions, the future increases in VMT shown in Table 4 are attributable to planned growth in the area that will occur with or without the proposed Project. The average daily VMT for the Build Alternative in 2030 is slightly (i.e., approximately 0.01 percent) lower than the No Build and slightly higher (less than 0.03 percent) than the No Build in 2050.

Table 4. Comparison of Traffic Conditions under Existing, No-Build, and Build Alternatives.

Scenario/ Analysis Year		Design Features and Operational Impacts on Traffic Conditions	Daily VMT	Change in VMT from Baseline
Baseline Year 2020	Existing	This is the baseline year. The traffic conditions from the No-Build and Build alternatives are compared to the baseline conditions.	1,907,646 miles	N/A
Opening Year 2030	No-Build	No improvements would be constructed. L Street would remain two lanes in each direction.	2,078,675 miles	+171,029 miles
	Build Alternative	Under the Build Alternative, L Street would be widened to two lanes in each direction, bike lanes constructed, and sidewalks improved/constructed. When compared to No-Build conditions, VMT would be 242 miles lower, or a decrease of approximately 0.01%. VMT is anticipated to decrease because drivers would remain on L Street and would no longer utilize other local streets to reach their destination, decreasing trip lengths.	2,078,433 miles	+170,787 miles
Design Year and Plan Bay	No-Build	No Improvements and VMT in the region would continue to increase compared to the existing year due to population growth in the region.	2,537,306 miles	+629,660 miles

Scenario/ Analysis Year		Design Features and Operational Impacts on Traffic Conditions	Daily VMT	Change in VMT from Baseline
Area 2050 Horizon Year 2050	Build Alternative	The design features would have been constructed and VMT in the area would continue to increase compared to the existing year. When compared to No-Build conditions, VMT would increase by 654 miles, or less than 0.03%. VMT is anticipated to increase because more trips will utilize L Street given its increase in capacity.	2,536,652 miles	+629,006 miles

Source: Kittelson & Associates, 2025.

1.5 Construction Activities and Schedule

For the emissions analysis, construction is assumed to begin in July of 2027 and would last for approximately 18 months. For the purposes of estimating emissions using the California Emissions Estimator Model (CalEEMod), the Project was assumed to have one project type (i.e., roadway only, no bridges/structures) with four “default” phases: Grubbing and Land Clearing; Grading and Excavation; Drainage, Utilities, & Sub-Grade; and Paving.

In order to maintain two vehicle lanes of traffic and bicycle and pedestrian access along L Street during construction, the project would be constructed in stages. Construction of either the northbound or southbound alignment would be completed first, during which time traffic would remain on the existing roadway and travel lanes. Upon completion of the initial stage(s), traffic would be shifted onto the new alignment and the existing travel lanes would be removed, and the new alignment would be constructed. Construction activities would primarily be during the day; however, night-time work (10 p.m. to 5 a.m.) may be required. The project development team would develop and implement a Traffic Management Plan (TMP) and other measures to minimize construction impacts on the human and natural environment.

The proposed Project contains several standardized measures that are employed on most, if not all, transportation projects (see Chapter 5). They were not developed in response to any specific environmental impacts resulting from the proposed Project. Chapter 5 provides more detail regarding the anticipated emissions control measures.

Table 5 lists the CalEEMod default construction phases that are anticipated based on the project’s length, area, and overall duration (i.e., 18 months). Note that it is assumed that there would be 22 workdays per month. No construction activities are expected to last more than five years at any individual site. Emissions from construction-related activities are thus considered temporary as defined in 40 CFR 93.123(c)(5); and are not required to be included in PM hot-spot analyses to meet conformity requirements.

Table 5. Construction Activities and Schedule.

Construction Project Type	Description/List of Phase	Begin Date	Completion Date	Working Days
Roadway	Mobilization, Grubbing/Land Clearing	7-26-2027	9-20-2027	40
	Grading/Excavation	9-2-2027	4-29-2028	158
	Drainage/Utilities/Sub-Grade	4-30-2028	11-10-2028	139
	Paving	11-11-2028	2-1-2029	59

Source: CalEEMod Version 2022.1.1.29, based on information provided by BKF via David J Powers & Associates. January 2025 and April 2025.

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 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 (MSATs): 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter.¹ 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 NAAQS for six criteria air contaminants: ozone (O₃), carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO₂), lead (Pb), and sulfur dioxide (SO₂). It also permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants. Table 6 documents the current air quality standards while Table 7 summarizes the sources and health effects of the six criteria pollutants and pollutants regulated in the state of California.

¹ https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/

Table 6. State and Federal Criteria Air Pollutant Standards.

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (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	15.0 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...

See footnotes on next page ...

CARB Air Quality Standards chart developed 7/16/2024 and accessed June 2025.

Greenhouse Gases and Climate Change: Greenhouse gases do not have concentration standards for that purpose. Conformity requirements do not apply to greenhouse gases.

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, 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 PM_{2.5}, 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 PM_{2.5} 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 PM_{2.5} 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.

Table 7. Air Pollutant Effects and Sources.

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Ozone (O₃)	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.
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.
Respirable Particulate Matter (PM₁₀)	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 & 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 & 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.
Nitrogen Dioxide (NO₂)	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 (SO₂)	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.
Sulfates	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 (H₂S)	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.
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.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes

Source: Caltrans Air Quality Pollution Standards Tables, June 2025.

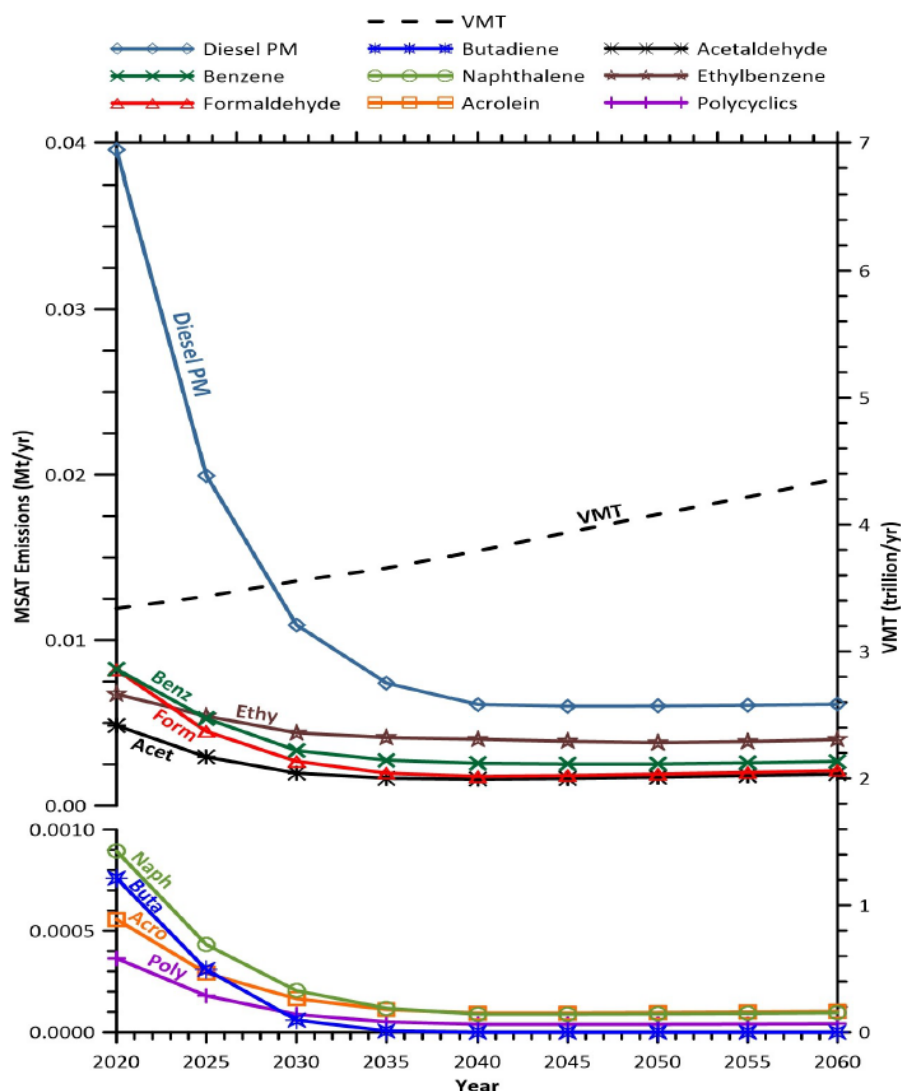
2.1.2 Mobile Source Air Toxics (MSAT)

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 (MSATs), 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 MOVES3 model, even if vehicle activity (vehicle-miles traveled, VMT) increases by 31 percent from 2020 to 2060 as forecast, a combined reduction of 76 percent in the total annual emission rate for the priority MSATs is projected for the same period, as shown in Figure 4.

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.



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

Figure 4. Projected National MSAT Trends, 2020-2060

GHGs differ in how much heat each trap 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.² Generally, estimates of all GHGs are summed

² 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>.

to obtain total emissions for a project or given period, usually expressed in metric tons (MTCO_{2e}), or million metric tons (MMTCO_{2e}).³

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 deciding 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 California Air Resource Board (CARB) to develop a Scoping Plan that describes the approach California will take to achieve that goal and to update it every 5 years. In 2015, Governor Jerry Brown enhanced the overall adaptation planning effort with Executive Order (EO) B-30-15, establishing an interim GHG reduction goal of 40 percent below 1990 levels by 2030, and requiring state agencies to factor climate change into all planning and investment decisions.

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, furthered state climate action goals by mandating coordinated transportation and land use planning through preparation of sustainable communities strategies (SCSs). The CARB sets GHG emissions reduction targets for passenger vehicles for each region. Each regional metropolitan planning organization (MPO) must include in its regional transportation plan SCSs proposing actions toward achieving the regional emissions reduction targets.⁴

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.

³ See <http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>.

⁴ <https://www.arb.ca.gov/cc/sb375/sb375.htm>

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 CARB 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 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).

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

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

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for CO, NO₂, O₃, PM₁₀, and PM_{2.5}, and in some areas (although not in California), SO₂. California has nonattainment or maintenance areas for all these transportation-related "criteria pollutants" except SO₂ and has a nonattainment area for lead (Pb). However, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analyses 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 if the implementation of planned projects would conform to emission budgets or other tests at various analysis years showing that the requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the 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 FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity can be demonstrated. 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 FTIP, 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 FTIP and the project has a design concept and scope⁵ that has not changed significantly from those in the RTP and FTIP. If the design concept and scope have changed substantially from that used in the RTP/FTIP Conformity analysis, RTP and FTIP amendments may be needed. Project-level conformity also needs to demonstrate that project analyses have used the latest planning assumptions, used U.S. EPA-approved emissions models, and the project complies with any control measures in the SIP in PM nonattainment/maintenance areas. Furthermore, additional analyses known as hot-spot analyses may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

⁵ "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

2.2.3 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)

CEQA⁶ 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 for NAAQS compliance to the states. California has delegated responsibility to local air districts which establish local rules to protect air quality. Caltrans' Standard Specification 14-9.02 (Caltrans, 2024) requires compliance with all applicable air quality laws and regulations including local and air district ordinances and rules.

Local Air District Significance Thresholds

In June 2010, Bay Area Air District (Air District)⁷ adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the district's 2011 CEQA Air Quality Guidelines. They were designed to establish the level at which the Air District believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. The Air District has updated their CEQA Air Quality Guidelines twice, once in 2017 and again in 2022. The most recent significance thresholds are summarized in Table 8 and provided for informational purposes.

⁶ For general information about CEQA, see: <http://resources.ca.gov/ceqa/more/faq.html>.

⁷ Formerly known as the Bay Area Air Quality Management District, or BAAQMD.

Table 8. Air District Air Quality Significance Thresholds.

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (Exhaust)	82	15
PM _{2.5}	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	Single Sources Within 1,000-foot Zone of Influence	Combined Sources (Cumulative from all sources within 1000-foot zone of influence)	
Excess Cancer Risk	> 10 per one million	> 100 per one million	
Hazard Index	> 1.0	> 10.0	
Incremental annual PM _{2.5}	> 0.3 µg/m ³	> 0.8 µg/m ³	
Greenhouse Gas Emissions			
Land Use Projects – (Must Include A or B)	A. Projects must include, at a minimum, the following project design elements: 1. Buildings a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development). b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. 2. Transportation a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor’s Office of Planning and Research’s Technical Advisory on Evaluating Transportation Impacts in CEQA: i. Residential projects: 15 percent below the existing VMT per capita ii. Office projects: 15 percent below the existing VMT per employee iii. Retail projects: no net increase in existing VMT b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2. B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).		
Note: ROG = reactive organic gases, NO _x = nitrogen oxides, PM ₁₀ = coarse particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM _{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.			

Plan Bay Area

Senate Bill (SB) 375 requires the Bay Area regional planning agencies to include SCSs in their regional transportation plan updates to describe how the GHG emissions reductions set by CARB would be met through land-use and transportation planning. In 2010, the MTC approved a set of "Bay Area Principles for Establishing Regional Greenhouse Gas Reduction Targets" (Resolution 3970) that proposed per-capita GHG emissions reductions of 7 percent from 1990 by 2020 and 15 percent by 2035. Subsequently, MTC, along with ABAG, developed SCS plans to meet state targets for reducing GHG emissions from light-duty vehicles. Plan Bay Area 2050 is the recently adopted RTP. It includes new and/or updated transportation projects and Climate Initiatives.⁸ Plan Bay Area 2050 was adopted by both MTC and ABAG on October 21, 2021 and approved by the FHWA and Federal Transit Administration (FTA) on December 3, 2021.

Bay Area 2017 Clean Air Plan

The *Bay Area 2017 Clean Air Plan* is a multi-pollutant plan prepared by the Air District that addresses GHG emissions along with other air emissions in the San Francisco Bay Area Air Basin. One of the key objectives in the Plan is to reduce greenhouse gas emissions. The 2017 Clean Air Plan includes emission control measures in five categories: Stationary Source Measures, Mobile Source Measures, Transportation Control Measures (TCMs), Land Use and Local Impact Measures, and Energy and Climate Measures. Project consistency with current control measures is one method of evaluating its consistency with the Plan. The current Plan also includes performance objectives, consistent with the State's climate protection goals under AB 32, designed to reduce emissions of GHGs to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

⁸ <https://www.planbayarea.org/plan-bay-area-2050-1>

3. Affected Environment

The topography of a region can substantially impact air flow and elevate 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.

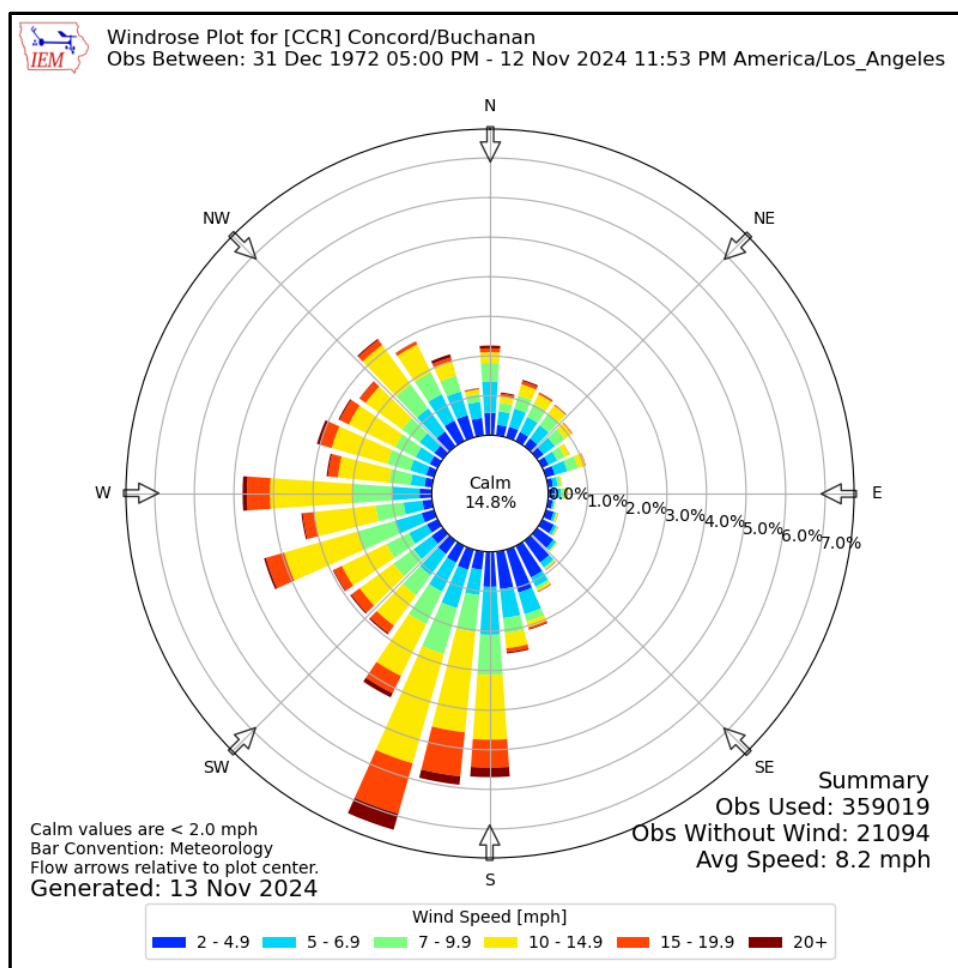
The L Street Improvements Project is located in the city of Antioch in Contra Costa County, an area within the San Francisco Bay Area Air Basin, which, in addition to Contra Costa County, includes Alameda County, Santa Clara County, Marin County, San Francisco County, San Mateo County, the western portion of Solano County, and the southern portion of Sonoma County. Air quality regulation in San Francisco Bay Area Air Basin is administered by the Air District. The current estimated population for Contra Costa County is 1,165,927 and its economy is largely driven by the wholesale/retail, scientific and professional services, health care and education, and government employment sectors.⁹

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 O₃ and O₃ precursors (i.e., reactive organic gases [ROG]) 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.

Buchanan Field climatological station, maintained by the National Weather Service, is located approximately 13 miles southwest of 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 climate of the Project area is generally Mediterranean in character, with cool winters (average 24-hour temperature of 49.4 degrees Fahrenheit in January) and warm, dry summers (average 24-hour temperature of 73.3 degrees Fahrenheit in July). The City of Antioch is located along the San Joaquin River–Stockton Deepwater Shipping Channel at the western end of the San Joaquin–Sacramento River Delta. The city's proximity to the Pacific Ocean and San Francisco Bay has a significant influence on its climate. However, Antioch's inland location lying close to the border between the Central Valley and Bay Area results in hotter temperatures in the summer and colder nights in the winter in contrast to the rest of the Bay Area. As shown in Figure 5, the prevailing winds in the Project area flow mainly from the south and west off of the San Francisco Bay. Annual average rainfall is almost 16.2 inches (at the Buchanan Field), mainly falling during the winter months.

⁹ Source: <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/new-state-planning/transportation-economics/socioeconomic-forecasts/2022/contra-costa-2022-a11y.pdf>



Source: https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=CCR&network=CA_ASOS

Figure 5. Predominant Wind Patterns Near the Project.

3.2 Existing Air Quality

This section summarizes existing air quality conditions near the 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 operating air quality monitoring sites to the Project are the Bethel Island Station, located approximately 10 miles east at 5551 Bethel Island Road in Bethel Island and the Concord – Treat Boulevard Station, located approximately 12 miles southwest at 2956-A Treat Boulevard in Concord (see Figure 6). These stations both monitor O₃, CO, NO₂, SO₂, and volatile organic compound (i.e., toxics) concentrations, while the Treat Boulevard Station also monitors PM_{2.5} and PM₁₀ concentrations.



Source: Illingworth and Rodkin, 2025.

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

3.2.1 Criteria Pollutants and Attainment Status

Table 9 lists the state and federal attainment status for all regulated pollutants. Under current designations of the Air Basin, the area is nonattainment for CAAQS for O₃, PM₁₀, and PM_{2.5} and Attainment for CO. For the NAAQS, the area is nonattainment for O₃ and PM_{2.5}, and Attainment for CO, PM₁₀, NO₂ and SO₂. Table 10 lists air quality trends collected at the Concord (for PM₁₀ and PM_{2.5}) or Bethel Island Road Station (for CO, O₃, and NO₂) for the past 5 years. The CO and NO₂ concentrations are from air pollution data published by the Air District, while O₃, PM₁₀, and PM_{2.5} concentrations were obtained through CARB's Air Quality Data Statistics "Select 8" air quality summaries. Table 11 lists the status of SIPs relevant to the Project study area.

Table 9. State and Federal Attainment Status.

Pollutant	State Attainment Status	Federal Attainment Status	Attainment Plan (O ₃ , PM and CO)
O ₃	Nonattainment	Nonattainment (Marginal – 2015 Standard)	Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard (2001)
Respirable PM (PM ₁₀)	Nonattainment	Unclassifiable/Attainment	--
Fine PM (PM _{2.5})	Nonattainment	Nonattainment (Moderate – 2006 Standard)	Bay Area Winter Emissions Inventory for Primary PM _{2.5} & PM Precursors: Year 2010 (2012)
CO	Attainment	Attainment	2004 Revision to the California State Implementation Plan for Carbon Monoxide (2004)
NO ₂	Attainment	Unclassifiable/Attainment	--
SO ₂	Attainment	Unclassifiable/Attainment	--
Pb	Attainment	Unclassifiable/Attainment	--
Visibility-Reducing Particles	Unclassified	N/A	--
Sulfates	Attainment	N/A	--
Hydrogen Sulfide	Unclassified	N/A	--
Vinyl Chloride	No Information Available	N/A	--

Source: CARB, 2023; www.arb.ca.gov/desig/adm/adm.htm, accessed June 5, 2025, US EPA Greenbook <https://www3.epa.gov/airquality/greenbook/cbtc.html>, Federal Register / Vol. 77, No. 33 / February 17, 2012, Federal Register / Vol. 83, No. 66 / April 5, 2018.

Table 10. Air Quality Concentrations for 2019-2023 Measured at the Nearest Air Quality Monitor.

Pollutant		Standard	2019	2020	2021	2022	2023
O₃ - Bethel Island							
Max 1-hr concentration			0.082 ppm	0.107 ppm	0.096 ppm	0.093 ppm	0.078 ppm
No. days exceeded: CAAQS	0.09 ppm		0	1	1	0	0
Max 8-hr concentration			0.072 ppm	0.085 ppm	0.085 ppm	0.079 ppm	0.065 ppm
No. days exceeded: CAAQS	0.070 ppm		1	2	4	2	0
NAAQS	0.070 ppm		1	2	4	1	0
CO - Bethel Island							
Max 1-hr concentration			1.8 ppm	2.4 ppm	2.0 ppm	1.0 ppm	4.5 ppm
No. days exceeded: CAAQS	20 ppm		0	0	0	0	0
NAAQS	35 ppm		0	0	0	0	0
Max 8-hr concentration			1.0 ppm	2.0 ppm	1.0 ppm	0.9 ppm	1.4 ppm
No. days exceeded: CAAQS	9.0 ppm		0	0	0	0	0
NAAQS	9 ppm		0	0	0	0	0
PM₁₀ - Concord							
Max 24-hr concentration			34.8 µg/m ³	165.4 µg/m ³	25.0 µg/m ³	33.4 µg/m ³	38.8 µg/m ³
No. days exceeded: CAAQS	50 µg/m ³		0	11.5	0	0	0
NAAQS	150 µg/m ³		0	NA	0	0	NA
Max annual concentration			5.9 µg/m ³	9.7 µg/m ³	12.1 µg/m ³	12.1 µg/m ³	6.7 µg/m ³
Standard exceeded: CAAQS	20 µg/m ³		No	No	No	No	No
PM_{2.5} - Concord							
Max 24-hr concentration			28.2 µg/m ³	119.8 µg/m ³	43.7 µg/m ³	28.7 µg/m ³	39.3 µg/m ³
No. days exceeded: NAAQS	35 µg/m ³		0	16.2	2.0	0	1.0
Max annual concentration			6.8 µg/m ³	11.0 µg/m ³	8.0 µg/m ³	7.0 µg/m ³	6.2 µg/m ³
Standard exceeded: CAAQS	12 µg/m ³		No	No	No	No	No
NAAQS	12.0 µg/m ³		No	No	No	No	No
NO₂ - Bethel Island							
Max 1-hr concentration			0.030 ppm	0.030 ppm	0.032 ppm	0.028 ppm	0.024 ppm
No. days exceeded: CAAQS	0.18 ppm		0	0	0	0	0
NAAQS	0.10 ppm		0	0	0	0	0
Max annual concentration			0.004 ppm	0.005 ppm	0.004 ppm	0.005 ppm	0.003 ppm
No. days exceeded: CAAQS	0.030 ppm		0	0	0	0	0
NAAQS	0.053 ppm		0	0	0	0	0

NA = Not Available. Source: CARB, 2025; <https://arb.ca.gov/adam/select8/sc8start.php>, <https://www.arb.ca.gov/aqmis2/aqdselect.php>. Bay Area Air District, 2025; <https://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data>.

Table 11. Status of SIPs Relevant to the Project Area.

Name/Description	Status
O ₃	Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard (2001)
PM _{2.5}	No SIP required. Bay Area Winter Emissions Inventory for Primary PM _{2.5} & PM Precursors: Year 2010 (2012)
CO	No conformity requirements. 2004 Revision to the California State Implementation Plan for Carbon Monoxide (2004)

Source: CARB, California State Implementation Plans see <https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans/nonattainment-area-plans/san-francisco-bay>, accessed June 5, 2025.

3.2.2 Mobile Source Air Toxics

The Project is located near sources that emit priority Mobile Source Air Toxics (MSATs), including non-mobile sources. The primary sources are traffic and stationary sources.

Traffic

Vehicles that travel to, from, and on L Street and on the surrounding local roadways and arterials are the largest sources of MSATs affecting sensitive receptors in the Project area. Vehicle traffic in the area is generated primarily by the many residential and commercial developments near or within the project area. Additionally, vehicles accessing the Contra Costa County Fairgrounds, Antioch High School, and/or traveling through the area on 18th Street, 10th Street, G Street and the other nearby local roadways generate MSATs affecting nearby sensitive receptors.

Existing Permitted Stationary Sources

There are approximately two permitted stationary sources of air pollution within 1,000 feet of the project area. One is a diesel-powered emergency generator and one is a gasoline station. Both stationary sources are located east of L Street.

Railroads

UPRR operates the rail line crossing over L Street at the southern end of the project area. It is primarily used to move freight through the area. There is a light amount of diesel-engine traffic along the line, with approximately two trains and four switching trains passing through the area each day.¹⁰

¹⁰ Per Federal Railroad Administration – Office of Safety Analysis crossing reports for Auto Center Drive. <https://safetydata.fra.dot.gov/OfficeofSafety/Default.aspx>

MSAT Monitoring

Ambient MSAT data are available from CARB's website¹¹, with the closest monitoring station reporting recent data being the Concord Treat Blvd. monitor located approximately 12 miles southwest of the Project.

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, located in the City of Antioch in Contra Costa County, is included in the current RTP/SCS, *Plan Bay Area 2050*. *Plan Bay Area 2050* uses the base year of 2015 for the existing conditions, except for GHG emissions, where a 2005 baseline is once again used for the analysis of SB 375 greenhouse gas reduction targets. The plan also uses a 1990 baseline for analyzing consistency with SB 32, which calls for a statewide reduction of GHG emissions to 40 percent from 1990 levels by 2030.¹² *Plan Bay Area 2050* has established 2050 as the current RTP horizon year.

3.3 Sensitive Receptors

The Project is located within the City of Antioch, which is a populated urban area. The land uses adjacent to the Project primarily includes public uses (i.e., the Fairgrounds and High School), single-family and multi-family residential, and commercial/retail developments.

The Air District defines sensitive receptors to include residential dwellings (including single-family houses and multi-family residential buildings, townhouses, and apartments), schools, daycare centers, hospitals, and senior-care facilities. Based on research, the zone of greatest concern near roadways is within 500 feet (150 meters). Figure 7 shows the locations of sensitive receptors relative to the 500-foot area of greatest concern. Receptors located within 500 feet of L Street were identified using Google Maps and GIS. Table 12 lists the type of sensitive receptors, and the number identified.

¹¹ <http://www.arb.ca.gov/adam/toxics/toxics.html>

¹² MTC and ABAG. 2021. *Plan Bay Area 2050 Draft EIR*. June.



Source: Illingworth & Rodkin, 2025.

Figure 7. Sensitive Receptors Located Near the Project.

Table 12. Sensitive Receptors Located Within 500 Feet of the Project.

Sensitive Receptor Group	Number of Receptors Identified	Receptor Names	Address (if applicable)	Distance Between Receptor and Project (ft)
Schools	1	Antioch High School	700 W. 18 th St.	60 - 875
Parks	1	Contra Costa Fairgrounds	1201 W. 10 th St.	100 - 1,016

Sensitive Receptor Group	Number of Receptors Identified	Receptor Names	Address (if applicable)	Distance Between Receptor and Project (ft)
Residences	350+	Not provided due to the abundance of single-family and multi-family buildings identified near the project area.	Not Applicable.	20 – 500+

Source: Illingworth & Rodkin, 2025.

3.4 Conformity Status

Transportation Conformity applies in areas that are “nonattainment” or “maintenance” for the NAAQS, and only for the standards that are or previously were violated. Conformity analysis and determinations are done at regional and project-level scales. From a practical viewpoint, the pollutant analyses addressed by project-level conformity focus on CO and PM hotspots, while regional conformity pollutant analyses can involve CO, PM, and O₃ precursors (ROG and NO_x) emissions.

The San Francisco Bay Area Air Basin is designated as a nonattainment area for the O₃ and PM_{2.5} NAAQS and considered attainment for the CO NAAQS. CO SIP conformity requirements ended in June 2018 (See Appendix E) and, based on current guidance from FHWA and Caltrans, a project-level CO hot-spot analysis is not required for the Project.

Since O₃ impacts are regional in nature, projects that are included in a conforming RTP and TIP regional emissions analysis do not require project-level analysis for conformity. The Air District adopted the *2017 Clean Air Plan* to achieve compliance with the federal and state O₃ standards. The Project would not interfere with the control measures described in the *2017 Clean Air Plan*. Furthermore, the Project would provide transportation benefits that reduce pollutant emissions, including O₃ precursors, by improving traffic operations and efficiency.

Both regional and project-level conformity apply to this Project for PM_{2.5}. The type of project-level analysis needed depends on if the Project is found to be a Project of Air Quality Concern (POAQC) through interagency consultation with the MTC Air Quality Conformity Task Force.

3.4.1 Regional Conformity

Regional conformity requires planned and programmed transportation projects be included in a regional emissions analysis. However, certain types of projects are exempt from conformity requirements. These project types are found by the U.S. EPA to be neutral from an air quality or emissions standpoint and are listed in the Conformity Regulations at 40 CFR 93.126, 40 CFR 92.127, and 40 CFR 92.128. If a project is exempt, it may need little or no conformity analysis and does not need to be individually listed and considered in the regional emissions analysis (i.e., regional conformity modeling).

This Project is not exempt from regional conformity requirements per 40 CFR 93.127 as it will increase the capacity of the local roadway network. Therefore, the Project must be included in a conforming RTP and TIP and demonstrate that it will not interfere with the timely implementation of Transportation Control Measures (TCMs) identified in the applicable SIP (i.e., 2017 Clean Air Plan).

The Project is listed in the RTP, *Plan Bay Area 2050* (Project ID 21-T08-060), which is financially constrained and has been determined to conform to the SIP (i.e., 2017 Clean Air Plan) by FHWA and FTA. MTC's financially constrained 2025 TIP also includes the Project (Project ID CC-230231) and has been found to conform to the SIP by FHWA and FTA as part of their approval of the Federal-Statewide TIP (FSTIP). The design concept and scope of the Project listed in the TIP and FSTIP are consistent with the project description in both the RTPs and the TIP. Conformity status information is summarized in Table 13. Copies of relevant pages from the *Plan Bay Area 2050* and the 2025 TIP are included in Appendix A.

Table 13. Status of Plans Related to Regional Conformity.

MPO	Plan/TIP	Date of adoption by MPO	Date of Approval by FHWA	Last Amendment	Date of Approval by FHWA of Last Amendment
MTC	Transportation Improvement Program (FSTIP approval)	November 15, 2024	December 16, 2024	April 23, 2025	May 23, 2025
MTC	Regional Transportation Plan (<i>Plan Bay Area 2050</i>)	October 21, 2021	December 3, 2021	November 14, 2024	December 16, 2024

Source: MTC, 2025. Web: <https://mtc.ca.gov/our-work/fund-invest/transportation-improvement-program>.

3.4.2 Project-Level Conformity

Project-level conformity requires project sponsors to demonstrate their transportation project will not cause or contribute to any new localized CO, PM₁₀, and/or PM_{2.5} violations, increase the frequency or severity of any existing CO, PM₁₀, and/or PM_{2.5} violations, or delay timely attainment of any NAAQS, any required interim emission reductions, or other SIP milestones. This is demonstrated through a hotspot analysis where Build and No-Build emissions are modeled, both with and without any mitigation measures committed to in the current RTP (i.e., *Plan Bay Area 2050*).

The Project is in an attainment area for CO and a nonattainment area for PM_{2.5}.¹³ Thus, a project-level conformity analysis applies to the Project for PM_{2.5} under 40 CFR 93.109. Hot-spot analysis for PM_{2.5} is only required for projects found to meet the definition of a POAQC by the MPO's Air Quality Conformity Task Force (AQCTF). The Project was found not to be a POAQC by MTC's AQCTF on June 26, 2025 (Appendix B). Therefore, a PM_{2.5} hot-spot analysis is not required.

40 CFR 93.123(c)(5) states that: "CO, PM₁₀, and PM_{2.5} hot-spot analyses are not required to consider construction-related activities which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established 'Guideline'

¹³ Guidance from FHWA and Caltrans states that a project-level CO hot-spot analysis is not required to demonstrate project-level conformity in the area.

methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site.” Since construction of the Project would last less than five years, an evaluation of CO, PM₁₀, and PM_{2.5} emissions during Project construction is not required for project-level conformity determination.

3.4.3 Interagency Consultation

CCTA and the City of Antioch, as the Project sponsors, initiated consultation with MTC’s AQCTF by submitting a Project Assessment Form for PM_{2.5} Interagency Consultation. The AQCTF considers future traffic conditions with and without the Project and whether the Project meets the specific regulatory definition of a POAQC set forth in 40 CFR Part 93. On June 26, 2025, the AQCTF determined that the Project is not a POAQC. See Appendix B for documentation of the Task Force’s determination.

3.5 NEPA Analysis/Requirement

Caltrans, as assigned by the FHWA, is the lead agency under NEPA. The air quality analysis to support NEPA findings addresses federal criteria pollutants (O₃, PM₁₀, PM_{2.5}, CO, NO₂, SO₂, and Pb), MSATs, and asbestos. The Project is in an O₃ and PM_{2.5} nonattainment area and a CO attainment area. The Project is listed in the MPO’s (i.e., MTC’s) 2025 TIP (ID CC-230231) and the RTP (ID 21-T08-060). For NEPA, future Build Alternative emissions are compared with future No-Build Alternative emissions.

3.6 CEQA Analysis/Requirement

The City of Antioch is the lead agency under CEQA. For CEQA, the air quality analysis addresses pollutants for which California has established air quality standards (O₃, PM₁₀, PM_{2.5}, CO, NO₂, SO₂, Pb, visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride), as well as GHGs, MSATs, and asbestos. Analysis and/or documentation requirements for CEQA vary by pollutant; ranging from a narrative describing that the pollutant is typically not a transportation issue to an emissions analysis. For CEQA, future scenario emissions (Build and No-Build Alternatives) should be compared with baseline (existing conditions) emissions.

4. Environmental Consequences

This section describes the methods, impact criteria, and results of the air quality analyses of the proposed Project. Analyses in this report were conducted using methodologies and assumptions that are consistent with the requirements of NEPA, CEQA, the CAAA 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} Nonattainment and Maintenance Areas* (U.S. EPA, 2021), and the *FHWA Updated Interim Guidance on Air Toxics Analysis in NEPA Documents* (FHWA, 2023).

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 6) or contribute to an existing air quality violation.

The NAAQS were used to evaluate air quality impacts from a NEPA and CEQA perspective. The CT-EMFAC2021 on-road emissions model (Version 1.0.2.0) and the California Emissions Estimator Model (Version 2022.1.1.29) (CalEEMod) were used to estimate emissions from the operation and construction of the of the Project, respectively.

4.2 Short-Term Effects (Construction Emissions)

Site preparation and construction would involve clearing, cut-and-fill activities, grading, removing, or improving the existing roadway, 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 and on-road vehicles powered by gasoline and diesel engines are also anticipated and would include CO, NO_x, ROG, directly emitted PM₁₀ and PM_{2.5}, and toxic air contaminants (TACs) such as diesel exhaust. Construction activities in the area may temporarily increase traffic congestion and slow the speed of traffic, resulting in a temporary increase in on-road vehicle emissions. These emissions would be limited to the immediate area impacted by construction-related traffic delays.

4.2.1 Construction Equipment, Traffic Congestion, and Fugitive Dust

Per federal transportation conformity regulations (40 CFR 93.123(c)(5)), construction-related activities that cause temporary increases in emissions do not require a hot-spot analysis. Construction emissions are defined as those that occur only during the construction phase of the project and last five years or less at any individual site. They typically fall into two main categories:

- *Fugitive Dust*: Emissions 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.

Sources of fugitive dust include disturbed soil at the construction site and trucks carrying uncovered loads of materials. Unless properly controlled, vehicles leaving the site may deposit mud on the interstate or 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, 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 (TAC), and localized issues may exist if diesel-powered construction equipment is operated near sensitive receptors.

Construction emissions were estimated using the latest version of the California Emissions Estimator Model (CalEEMod) which uses emission factors from EMFAC2021. Detailed construction plans were not available at the time of this analysis. Therefore, equipment quantities and construction phases estimated by CalEEMod were used along with the overall project duration provided by the Project’s design engineering team. Table 14 presents the construction emissions estimated using CalEEMod. Appendix C lists all the construction inputs provided and entered into CalEEMod.

Construction was assumed to only include roadway work with four “default” phases: Grubbing and Land Clearing; Grading and Excavation; Drainage, Utilities, & Sub-Grade; and Paving. Estimates of the total project duration were provided by BKF via David J Powers & Associates, while CalEEMod provided the phase durations and schedule. Table 5 summarizes the overall durations that are anticipated for each stage.

Table 14. Uncontrolled Construction Emissions for the L Street Improvement Project

Construction Type	Phase/Activity	ROG* (lbs/day)	CO (lbs/day)	NO _x (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)	CO ₂ e (MT/phase)
Roadway	Grubbing and Land Clearing	1.00	10.87	8.13	0.87	0.39	98
	Grading and Excavation	1.01	11.23	8.35	0.88	0.38	407
	Drainage, Utilities, & Sub-Grade	0.97	11.41	8.10	0.85	0.36	358
	Paving	1.08	12.71	9.00	0.94	0.40	124
Average Workday Emissions (lbs/day) *Based on 369 Workdays		2.15 lbs/day	24.75 lbs/day	17.80 lbs/day	1.87 lbs/day	0.81 lbs/day	658 MT/Year
Total Construction (tons or MT)		0.43 tons	4.90 tons	3.52 tons	0.37 tons	0.16 tons	987 MT

*ROG is reactive organic gases, which is a subset of total organic gases (TOG). Source: Illingworth & Rodkin using Illingworth & Rodkin using CalEEMod version 2022.1.1.29.

Emissions are shown per project phase in pounds per day (lbs/day) and in total tons for the entire construction period. The CO₂ equivalent (CO₂e) emissions are represented in metric tons (MT) to express the impact of various GHGs in one singular number. CO₂e was calculated by converting tons/phase to metric tons (MT) and multiplying the emissions (MT/phase) of CO₂, CH₄, N₂O, and Hydrofluorocarbons (HFCs) by their greenhouse warming potentials (GWPs) and summing the emissions.¹⁴ The GWP for CO₂ is one (1) as it is the reference gas, while the GWP for CH₄ is 25, the GWP for N₂O is 298, and the GWP for HFCs is 1,430¹⁵ per CARB, which uses the International Panel on Climate Change (IPCC) fourth assessment report. Average daily emissions are also presented in Table 14 and are based on 369 workdays. The CalEEMod construction emissions output is included in Appendix C and is based on the best information available at the time this report was developed.

As described further in Section 5.1, implementation of the following best management practices, some of which may also be required for other purposes such as stormwater pollution control, would reduce air quality impacts resulting from construction activities. Please note that although these practices are anticipated to reduce construction-related emissions, reductions cannot be quantified at this time.

- The construction contractor must comply with the Caltrans' Standard Specifications in Sections 13 – Water Pollution Control and 14-9 – Air Quality (2024).
 - Section 13 requires a Stormwater Pollution Prevention Plan (SWPPP) and use of best management practices (BMPs) that manage fugitive dust and material track-out from construction sites. Many of the SWPPP requirements and BMPs are the same as Air District's basic controls for construction sites (see below).
 - Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and

¹⁴ Per the EPA, GWP is a measure of how much energy the emission of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (<https://www.epa.gov/ghgemissions/understanding-global-warming-potentials#Learn%20why>).

¹⁵ HFCs assumed to be 134a.

air quality management district regulations and local ordinances. The Air District's basic controls for construction sites include:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) would be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site would be covered.
- All visible mud or dirt track-out onto adjacent public roads would be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads would be limited to 15 mph. All roadways, driveways, and sidewalks to be paved would be completed as soon as possible. Building pads would be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage would be provided for construction workers at all access points.
- All construction equipment would be maintained and properly tuned in accordance with manufacturer's specifications. All equipment would be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person would respond and take corrective action within 48 hours. The Air District's phone number would also be visible to ensure compliance with applicable regulations.

The *Final Environmental Impact Report* (EIR) for *Plan Bay Area 2050* lists specific construction-related measures that would reduce emissions from construction exhaust and dust. Section 5.1 identifies these measures.

4.2.2 Asbestos

As detailed in Section 2.1.4, asbestos is a known human carcinogen that can be found in manufactured items (e.g., structural asbestos found in ceilings) or found naturally (e.g., naturally occurring asbestos [NOA]). Structural asbestos is regulated by federal and state air district regulations, while NOA is regulated by CARB and worker-safety programs.

NOA in California may occur in serpentinite and ultramafic rocks. NOA is commonly found in the foothill region of the Sierra Nevada, the Coast Ranges, and northwestern California. In an NOA area, construction could disturb the NOA, and it may become airborne. Therefore, a review of the Project footprint and of asbestos areas in California was completed to determine if NOA would be present in the area. Based on the information on NOA provided by CARB¹⁶, there are no NOA areas located within the project limits and further analysis is not needed.

Buildings and bridges may have materials that contain asbestos. When they are demolished, there is a potential for asbestos emissions. The Project would not require the demolition of any existing buildings or bridges. However, should the design change and require demolition, prior to demolition activities, the presence or absence of asbestos would be confirmed. Demolition activities are subject to Air District Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing). Air District Regulation 11, Rule 2 is intended to limit asbestos emissions, and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule addresses the national emissions standards for asbestos along with some additional requirements. The Air District requires the Lead Agency and its contractors to notify the Air District of any regulated renovation or demolition activity. This notification includes a description of structures and methods utilized to determine whether asbestos-containing materials are potentially present. All asbestos-containing material found in the Project limits must be removed prior to demolition or renovation activity in accordance with Air District Regulation 11, Rule 2, which includes specific requirements for surveying, notification, removal, and disposal of material containing asbestos. The Project would comply with Regulation 11, Rule 2, ensuring that asbestos-containing materials are disposed of appropriately and safely (Air District 2022).

4.2.3 Lead

Aerially Deposited Lead

Prior to the mid-1980s, lead (Pb) was commonly added to gasoline. As a result, lead was emitted as a component of motor vehicle exhaust. Soil sampling along many roadways has found that concentrations of lead exceed applicable thresholds for classification as a hazardous material. This phenomenon known as “aerially deposited lead” (ADL) is widespread. Because the roadways in the Project area were built prior to the phaseout of lead as a gasoline additive, elevated concentrations of lead are likely to be present in the soil along the freeways.

Prior to Project construction, a soil investigation would be conducted to determine whether ADL has affected soils that would be excavated as part of the Project. The investigation for ADL would be performed in accordance with Caltrans’ Lead Testing Guidance Procedure. The analytical results would be compared against applicable hazardous waste criteria. Based on analytical results, the investigation would provide recommendations regarding management and disposal of affected soils in the Project area including the reuse potential of ADL-affected soil during Project construction. The provisions of a variance granted to Caltrans by the California Department of Toxic Substances Control on September

¹⁶ See https://ww2.arb.ca.gov/sites/default/files/classic/toxics/asbestos/ofr_2000-019.pdf.

22, 2000 (or any subsequent variance in effect when the Project is constructed) regarding aerially deposited lead would be followed.

Lead-Based Paint

Due to the age of the structures and buildings located within the Project limits, there is a potential for the presence of lead-based paint. Testing for the presence of lead-based paint on the existing structures affected by Project construction would occur prior to demolition activities, if necessary. If this substance is found to be present, applicable regulations pertaining to its removal and disposal will be followed.

4.3 Long-Term Effects (Operational Emissions)

The operational emissions analysis compares emissions for existing/baseline conditions to the forecasted conditions for the No-Build and Build alternatives given the Project's opening year (2030) and design year/RTP horizon year (2050). Air pollutant emissions associated with the roadways in the Project area were estimated using specific VMT data provided by the Project's traffic consultant, Kittelson & Associates, Inc. (Kittelson), and the Caltrans Emission Factors (CT-EMFAC2021) program.

Kittelson provided VMT for the City of Antioch given existing/baseline conditions (2020), future No-Build Alternative conditions, and future Build Alternative conditions. The VMT data broke into 5 mph speed bins for the Project's existing/baseline conditions, future No-Build Alternative conditions, and future Build Alternative conditions were provided on March 24, 2025. The area used to evaluate changes in VMT includes only the city limits of Antioch.

Daily VMT forecasts from the CCTA travel demand forecasting model were placed into one of 14 speed bins by the model using increments of 5 mph. Emissions estimates were obtained using Caltrans' CT-EMFAC2021 emissions model, which is based on CARB's EMFAC2021 emissions model. EMFAC2021 became available for use in January 2021 and was approved by the EPA in November 2022. It includes the latest data on California's car and truck fleets and travel activity. CT-EMFAC2021 was run in both emissions rate mode and inventory mode for each of the analysis years (2020, 2030, and 2050) with the mix of vehicles in Contra Costa County. Average truck percentages for each year analyzed were estimated using the truck VMT Kittelson provided from the CCTA travel demand model, which was estimated to be between 1.2 and 1.4 percent given future traffic conditions in the analysis area.

CT-EMFAC2021 produced daily emissions for each year and scenario (i.e., existing, Build, and No-Build), based on the daily VMT data provided. Table 15 provides the operational emissions for the No-Build and Build scenarios for the analysis years of 2020, 2030, and 2050. Appendix D provides the CT-EMFAC2021 output and VMT estimates used to calculate emissions for each year and scenario.

Table 15. Summary of Comparative Emissions Analysis for the L Street Improvements Project.

Scenario/ Analysis Year	CO (pounds/day)	PM _{2.5} (pounds/day)	PM ₁₀ (pounds/day)	ROG (pounds/day)	NO _x (surrogate for NO ₂) (pounds/day)
Baseline (Existing Conditions) 2020	4,673	505	3,245	253	581
No-Build Alternative 2030	2,736 (- 41.4%)	545 (+ 8.0%)	3,527 (+ 8.7%)	172 (- 32.3%)	224 (- 61.5%)
Build Alternative 2030	2,735 (- 41.4%)	545 (+ 8.0%)	3,527 (+ 8.7%)	171 (- 32.3%)	224 (- 61.5%)
No-Build Alternative 2050	2,712 (- 42.0%)	674 (+ 33.5%)	4,373 (+ 34.8%)	166 (- 34.4%)	162 (- 72.1%)
Build Alternative 2050	2,712 (- 42.0%)	674 (+ 33.5%)	4,372 (+ 34.5%)	166 (- 34.6%)	162 (- 72.2%)

Source: Illingworth & Rodkin using CT-EMFAC2021 Version 1.0.2.0, 2025.

Overall, emissions of CO, ROG, and NO_x will decrease in the future as older vehicles are replaced by newer vehicles with more stringent emissions and fuel economy standards and zero-emission vehicles. Additionally, based on the operational period emission data in Table 15, when compared to the No-Build Alternative, the Build Alternatives would result in approximately the same emissions (i.e., less than 0.01 percent change between No Build and Build) in 2030. In 2050, the differences are slightly greater, but still less than a 0.02 percent change. This is due to both the project and the No Build condition yielding approximately the same VMT (i.e., less than 0.02 percent change in 2030 and less than a 0.03 percent change in 2050) and speed profile.

4.3.1 CO Analysis

CO emissions were estimated for baseline, No-Build, and the Build Alternatives for the opening year (2030) and the RTP horizon year/design year (2050). The changes in the Build Alternative CO emissions between the various modeling scenarios are shown in Table 15. CO levels in the future will be on average 42 percent lower than the baseline conditions. When compared to the No-Build Alternative, CO emissions for the Build Alternative will be approximately the same (i.e., less than 0.01 percent change) in both 2030 and 2050.

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

The transportation conformity requirements for CO ceased to apply on June 1, 2018 (see Appendix E). The Project is not anticipated to increase the percentage of vehicles operating in cold start mode; increase traffic volume; or worsen traffic flow. Additionally, the Project is in an area designated "Attainment" for CO under both the NAAQS and CAAQS. Therefore, based on the CO Protocol Carbon Monoxide Screening Analysis, no further analysis is necessary to demonstrate that the Project would not cause or contribute to a violation of an ambient air quality standards for CO. Measured CO concentrations near the Project footprint are well below the NAAQS and state standards (See Table 10).

4.3.2 PM Analysis

Emissions Analysis

PM₁₀ and PM_{2.5} emissions were estimated for baseline, No-Build Alternative, and the Build Alternative for the opening year (2030) and the RTP horizon year/design year (2050). The changes in the Build Alternative PM emissions are shown in Table 15. When compared to the baseline/existing condition, both PM₁₀ and PM_{2.5} would increase on average by 21 and 22 percent, respectively, due to future increases in VMT. PM₁₀ and PM_{2.5} emissions are heavily influenced by VMT as much of these pollutants are emitted as a result of fugitive road dust emissions, tire wear, and brake wear. Comparing the Build Alternative to the No Build, PM emissions are approximately the same (i.e., less than 0.01 percent change) in both 2030 and 2050. This is due to the VMT and speed profiles being approximately the same in the analysis area for the Build and No Build alternatives.

It was determined on June 26, 2025 through interagency consultation that the Project is not a POAQC as described in 40 CFR 93.123(b)(1)(i), and therefore, is not subject to PM_{2.5} project level conformity requirements or emissions analysis. See Appendix B for Interagency Consultation Documentation.

Hot-Spot Analysis

In December 2010, the U.S. EPA released its original PM hot-spot analysis guidance document, the *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas* (Guidance) for estimating the local air quality impacts of transportation projects and comparing them to the PM NAAQS (75 FR 79370). The U.S. EPA has updated the guidance several times since to reflect new emission model approvals and the U.S. EPA's 2012 PM NAAQS final rule.¹⁷ The current version (October 2021) reflects the U.S. EPA's most current emissions model (MOVES5), updates and/or removes references to outdated versions of EMFAC,

¹⁷ The November 2013 revision reflected the approval of EMFAC 2011 and U.S. EPA's 2012 PM NAAQS final rule. The November 2015 version reflected MOVES2014, revised design value calculations to be more consistent with other U.S. EPA programs and reflected guidance implementation and experience in the field. The current guidance is dated October 2021.

requires the use of the U.S. EPA AERMOD dispersion model for use in hot-spot analyses, and updates web pages and references.

A hot-spot analysis is required to be completed for a 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.

This Project is not a POAQC as determined by the MTC Air Quality Task Force on June 26, 2025, and therefore it is not required to include a hot-spot analysis.

4.3.3 NO₂ Analysis

The NO₂ NAAQS include both an annual and a 1-hr standard of 53 and 100 parts per billion (ppb), respectively. Currently there is no federal project-level NO₂ analysis requirement. However, NO₂ is a pollutant of concern near roadways. The Project is in an area classified by U.S. EPA as attainment for NO₂ standard. Current and historical monitoring data for the region do not indicate any violations of the NAAQS or exceedances of the CAAQS for NO₂. Therefore, a project-level analysis is not necessary.

NO₂ concentrations affected by the Project will likely be dominated by overall NO_x emissions. Table 15 provides NO_x emission estimates for baseline (2020), No-Build, and the Build Alternative for the opening year (2030) and the RTP horizon year/design year (2050). If ozone is present at relatively low (background) concentrations, most of the directly emitted NO_x will convert to NO₂ within a few seconds. Therefore, NO_x emissions overall can serve as a useful analysis surrogate for NO₂ (Caltrans, 2012). NO_x levels in the future will be on average 67 percent lower than the baseline conditions. When compared to the No-Build Alternative, the Build Alternative would be slightly less, with a less than 0.01 percent change in 2030 and less than a 0.02 percent change in 2050.

4.3.4 Mobile Source Air Toxics Analysis

FHWA released updated guidance in January 2023 to determine 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 do not create a facility that is likely to substantially increase emissions. Most 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 PM in a single location; or
- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes 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 in proximity to populated areas or, in rural areas, in proximity to concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals).

This assessment considers the expected effect of the Project on traffic volumes, vehicle mix, routing of traffic, and the associated changes in MSAT for the Project alternatives (i.e., No-Build and Build Alternatives) based on VMT, vehicle mix, and speed. Since the emission effects of this type of project are typically low, no appreciable difference in overall MSAT emissions between the alternatives is expected.

The Project would not change the traffic mix nor create or significantly alter major roadways in the area. For the Project, the amount of MSAT emitted is expected to be proportional to VMT, assuming other variables such as fleet mix remain the same.

Table 16 shows the MSAT emissions estimated for the baseline, No-Build Alternative, and Build Alternatives for all analysis years. MSAT emissions for both the No-Build and Build Alternatives would be on average 53 to 64 percent lower than the baseline emissions, due in large part to vehicle fleet turnover. CT-EMFAC2021, released in May 2023, was used to estimate the emissions of nine MSAT pollutants: acetaldehyde, benzene, ethylbenzene, 1,3-butadiene, formaldehyde, acrolein, naphthalene, diesel PM, and polycyclic organic matter (POM). Traffic activity data were estimated for each of the different periods in a representative day given the baseline year (2020), opening year (2030) and RTP horizon year/design year (2050). Appendix D includes traffic activity data.

Table 17 compares the average daily VMT estimates used for the MSAT analysis provided by Kittelson for the City of Antioch. VMT estimates for the Build Alternative are approximately the same as those of the No-Build Alternative, which results in the same (i.e., 1 percent or less) emissions of MSAT pollutants.

Table 16. Summary of Comparative MSAT Emissions Analysis.

Scenario/ Analysis Year		1,3- butadiene (lbs/day)	Acetaldehyde (lbs/day)	Acrolein (lbs/day)	Benzene (lbs/day)	Diesel PM (lbs/day)	Ethylbenzene (lbs/day)	Formaldehyde (lbs/day)	Naphthalene (lbs/day)	POM (lbs/day)
Baseline (Existing Conditions) 2020		0.50	1.62	0.05	7.70	2.24	3.08	3.92	0.49	0.11
2030	No-Build Alternative	0.23 (- 55.0%)	0.73 (- 55.2%)	0.02 (- 49.8%)	4.19 (- 45.6%)	0.83 (- 62.7%)	1.91 (- 37.9%)	1.75 (- 55.3%)	0.20 (- 57.9%)	0.05 (- 52.8%)
	Build Alternative	0.23 (- 55.2%)	0.73 (- 55.3%)	0.02 (- 49.8%)	4.19 (- 45.7%)	0.83 (- 62.7%)	1.91 (- 38.0%)	1.75 (- 55.4%)	0.20 (- 58.0%)	0.05 (- 53.2%)
2050	No-Build Alternative	0.18 (- 65.2%)	0.51 (- 68.5%)	0.02 (- 58.3%)	3.70 (- 51.9%)	0.54 (- 76.1%)	1.80 (- 41.7%)	1.26 (- 67.9%)	0.15 (- 68.2%)	0.04 (- 67.2%)
	Build Alternative	0.18 (- 65.4%)	0.51 (- 68.7%)	0.02 (- 58.3%)	3.70 (- 52.0%)	0.53 (- 76.5%)	1.79 (- 41.9%)	1.26 (- 68.1%)	0.15 (- 68.5%)	0.04 (- 67.8%)

Source: Illingworth & Rodkin using CT-EMFAC2021 Version 1.0.2.0, 2025.

Table 17. Summary of Average Daily VMT used in MSAT Qualitative Emissions Analysis

Scenario	Baseline 2020	Opening Year 2030	RTP Horizon/Design Year 2050
No-Build Alternative	1,907,646	2,078,675	2,537,306
Build Alternative		2,078,433	2,536,652
Difference (Build vs. No-Build)	--	- 243	- 653

Source: Kittelson & Associates, 2025.

Average MSAT emissions in the future are projected to be between 53 and 64 percent lower for the No Build Alternative and the Build Alternative when compared to present levels (baseline 2020) as a result of U.S. EPA's national control programs. Nationally, these programs are projected to reduce annual MSAT emissions by over 76 percent between 2020 and 2060. 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 U.S. EPA-projected reductions is so great (even after accounting for VMT associated with planned growth) that MSAT emissions in the City are likely to be lower in the future for both the No-Build and Build alternatives.

Additionally, it should be noted that current scientific techniques, tools, and data are not sufficient to accurately estimate human health impacts from transportation projects in a way that would be useful to decision-makers. A discussion of incomplete or unavailable information is provided in 40 CFR 1502.22 and provided below:

Sec. 1502.22 Incomplete or Unavailable Information

When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.

(a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.

(b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement:

- 1. a statement that such information is incomplete or unavailable;*
- 2. a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;*
- 3. a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and*
- 4. the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts that have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.*

(c) The amended regulation will be applicable to all environmental impact statements for which a Notice to Intent (40 CFR 1508.22) is published in the Federal Register on or after May 27, 1986. For environmental impact statements in progress, agencies may choose to comply with the requirements of either the original or amended regulation.

Incomplete or Unavailable Information for Project Specific MSAT Health Impacts Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project - specific health impacts due to changes in mobile source air toxic (MSAT) emissions associated with a proposed set of highway alternatives. The outcome of such C-2 an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific

statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects” (EPA, <https://www.epa.gov/iris/>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA’s Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI Special Report 16),¹⁸ or in the future as vehicle emissions substantially decrease.

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

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

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of C-3 occupational exposure data to the general population, a concern expressed by HEI (Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxicscritical-review-literature-exposure-and-health-effects>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, “[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk (<https://www.epa.gov/iris/>).”

¹⁸ <https://www.healtheffects.org/publication/traffic-related-air-pollution-critical-review-literature-emissions-exposure-and-health>

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

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

4.3.5 Greenhouse Gas Emissions Analysis

GHG emissions associated with the proposed Build Alternative would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips to and from the site. However, long-term operational emissions associated with vehicular traffic in the City of Antioch would continue.

GHG emissions impacts for the Build Alternatives were computed using CT-EMFAC2021 for the existing year and future years for the No-Build and Build Alternatives. Carbon dioxide equivalent (CO₂e) emissions for the No-Build Alternative and Build Alternatives and each analysis year were calculated using CT-EMFAC2021 which uses the total emissions (grams/day) of CO₂, CH₄, N₂O, black carbon (BC) and HFCs and multiplies them by their greenhouse warming potentials (GWPs). CARB uses GWPs from the International Panel on Climate Change's (IPCC's) fourth assessment report. CO₂e emissions are then summed and converted into annual metric tons of CO₂e.¹⁹ Table 18 lists the GHG emissions for the existing year (2020) and design year (2050). For CEQA purposes, the difference in GHG emissions between the baseline year and the design year must be compared. Opening year (2030) and RTP horizon years (2050) GHG emissions are included for additional comparisons.

¹⁹ Per the EPA, GWP is a measure of how much energy the emission of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (<https://www.epa.gov/ghgemissions/understanding-global-warming-potentials#Learn%20why>).

GHG emissions for the baseline year were computed to be 239,612 metric tons (MT) of CO₂e for the City of Antioch. The GHG emissions for the 2050 design year No-Build Alternative was 218,227 MT CO₂e. GHG emissions from the Build Alternative were calculated as 217,993 MT CO₂e. The difference between the baseline emissions and the Build Alternative emissions in 2050 is a decrease of 234 MT of CO₂e. As shown in Table 18, with or without the Project, the mobile-source GHG emissions in the City would decrease 14.4 percent in 2030 due to the improvements in vehicle technology and reformulation of fuels but only decrease 8.9 percent in 2050 due to VMT increases in the area. Modeling shows that the Build Alternative would decrease CO₂e emissions by 0.1 percent or less, making it comparable to the No Build scenario. The decrease is due to improvements in travel speeds in the analysis area given the Build scenario.

Table 18. Modeled Annual CO₂e Emissions and Vehicle Miles Traveled, by Alternative.

Measure	Existing 2020	No-Build 2030	Build 2030	No-Build 2050	Build 2050
GHG Emissions (MT/year)	239,612	204,994	204,884	218,227	217,993
Difference Between No-Build and Build (MT/year)	NA		- 110 MT/year	NA	- 234 MT/year
Change Between Existing and Alternative (MT/year)	NA	- 34,617 MT/year	- 34,728 MT/year	- 21,385 MT/year	- 21,618 MT/year
Daily Vehicle Miles Traveled	1,907,646	2,078,675	2,078,433	2,537,306	2,536,652
Annual Vehicle Miles Traveled ¹	661,953,260	721,300,346	721,216,171	880,445,037	880,218,320

¹ Annual VMT values derived from Daily VMT values multiplied by 347, per CARB methodology (CARB 2008). Source: Illingworth & Rodkin using CT-EMFAC2021 version 1.0.2.0, 2023. CO₂e = carbon dioxide equivalent.

4.4 Cumulative/Regional/Indirect Effects

Effects that are not immediately related to the Project, but are caused indirectly by the Project, are referred to as indirect effects. Cumulative impacts are those effects that result from the incremental impact of the Project when added to other past, present, and reasonably near future actions or projects. Cumulative impacts are inclusive of the indirect effects.

An analysis of emissions from the Build Alternative was conducted using CT-EMFAC2021 (Version 1.0.2.0) and the applicable traffic projections and speeds from the CCTA travel demand forecasting model to compute an emission “burden.” The analysis, presented in Section 4.3, includes the cumulative and indirect travel demand impacts of the Project, and shows that the Build Alternative would have effectively the same (i.e., within 0.2 percent change) emissions as the No-Build Alternative and lower CO, ROG, NO_x, MSAT, and CO₂e emissions than the baseline scenario.

The CO qualitative assessment and MSAT quantitative assessment can be considered indirect effect analyses because they look at air quality impacts (attributable to the Project) that would occur at a time in the future. Those assessments indicate that the potential for indirect effects associated with the Project would not be considerable. They demonstrate that in the future: (1) air quality impacts from CO will not cause or contribute to violations of the CO NAAQS; and (2) MSAT emissions from the Build

Alternative would be effectively the same as to the No-Build Alternative and lower than the baseline conditions.

O₃ and secondary PM are regional pollutants and should be considered cumulative in nature because they are formed by photochemical and chemical reactions over time in the atmosphere, unlike primary sources of PM that emit pollutants directly into the airshed. The Final EIR for *Plan Bay Area 2050* and the *Bay Area 2017 Clean Air Plan* address the regional and cumulative impacts from growth and transportation in the airshed, which include impacts from regional pollutants from existing transportation infrastructure. The Project is included in a conforming RTP (*Plan Bay Area 2050*) TIP (2025 TIP) and is included in the most recent regional emissions analyses which estimate the regional air quality impacts of all the significant and non-exempt projects listed in both the current RTP and TIP. Additionally, CCTA's travel demand forecasting model was used to estimate the cumulative and indirect impacts to VMT given the No-Build and Build Alternatives of the Project.

5. Minimization Measures

Feasible short-term and long-term measures that, when incorporated into the Project, can eliminate, or substantially reduce Project emissions are listed below. The Project sponsor would be responsible for implementing these measures.

5.1 Short-Term (Construction)

The following are measures from the *Final Environmental Impact Report Plan Bay Area 2050*. These measures control dust and exhaust during any construction period that involves ground disturbance.

Construction Best Practices for Exhaust

- The applicant/general contractor for the project would submit a list of all off-road equipment greater than 25 horsepower (hp) that would be operated for more than 20 hours over the entire duration of project construction, including equipment from subcontractors to the relevant air district (e.g., Air District) for review and certification. The list would include all information necessary to ensure the equipment meets the following requirement:
 - Equipment would be zero emissions or have engines that meet or exceed either EPA or CARB Tier 4 off-road emission standards, or it would have engines that are retrofitted with a CARB Level 3 Verified Diesel Emissions Control Strategy (VDECS), if one is available for the equipment being used. Equipment with engines that meet Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement; therefore, a VDECS would not be required.
 - Idling time of diesel-powered construction equipment and trucks would be limited to no more than two minutes. Clear signage of this idling restriction would be provided for construction workers at all access points.
 - All construction equipment would be maintained and properly tuned in accordance with the manufacturers' specifications.
- Portable diesel generators would be prohibited. Grid power electricity should be used to provide power at construction sites; or propane and natural gas generators may be used when grid power electricity is not feasible.

Construction Best Practices for Dust

- All haul trucks transporting soil, sand, or other loose material off-site would be covered.

- On-site dirt piles or other stockpiled PM would be covered, wind breaks installed, and water and/or soil stabilizers employed to reduce wind-blown dust emissions. The use of approved nontoxic soil stabilizers would be incorporated according to manufacturers' specifications to all inactive construction areas.
- All visible mud or dirt track-out onto adjacent public roads would be removed using wet power vacuum street sweepers at least once per day. Dry power sweeping should only be performed in conjunction with thorough watering of the subject roads.
- All vehicle speeds on unpaved roads and surfaces would be limited to 15 mph.
- All roadway, driveway, and sidewalk paving would be completed as soon as possible. Building pads would be paved as soon as possible after grading.
- All construction sites would provide a posted sign visible to the public with the telephone number and person to contact at the lead agency regarding dust complaints. The recommended response time for corrective action would be within 48 hours. Air District's Complaint Line (1-800-334-6367) would also be included on posted signs to ensure compliance with applicable regulations.
- All excavation, grading, and/or demolition activities would be suspended when average wind speeds exceed 20 mph.
- Wind breaks (e.g., trees, fences) would be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) would be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time would be limited. Activities would be phased to reduce the amount of disturbed surfaces at any one time.
- All transfer processes involving a free fall of soil or other PM would be operated in such a manner as to minimize the free fall distance and fugitive dust emissions.
- All trucks and equipment, including their tires, would be washed off before leaving the site.
- Site accesses to a distance of 100 feet from the paved road would be treated with a 6-to 12-inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures would be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Open burning would be prohibited at the project site. No open burning of vegetative waste (natural plant growth wastes) or other legal or illegal burn materials (e.g., trash, demolition debris) may be conducted at the project site. Vegetative wastes would be chipped or delivered to waste-to-energy facilities (permitted biomass facilities), mulched, composted, or used for firewood. It is unlawful to haul waste materials off-site for disposal by open burning.

- The primary contractor would be responsible for ensuring that all construction equipment is properly tuned and maintained before and for the duration of on-site operation.
- Where accessible, existing power sources (e.g., power poles) or clean-fuel generators would be used rather than temporary power generators.
- A traffic plan would be developed to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Operations that affect traffic would be scheduled for off-peak hours. Obstruction of through-traffic lanes would be minimized. A flag person would be provided to guide traffic properly and ensure safety at construction sites.
- Applicable mitigation measures would be required at the time grading permits are issued.

Caltrans Standard Specifications 13 – Water Pollution Control and 14-9.02 – Air Quality also require emissions control measures which include those listed above and will be part of the proposed project.

5.2 Long-Term (Operational)

The No Build and Build Alternatives would have lower ROG, CO, NO_x, MSAT, and CO_{2e} emissions when compared to existing/baseline conditions and higher PM₁₀ and PM_{2.5} emissions as PM emissions correlate more directly with VMT than with fuel use. VMT will increase due to planned growth in the area, with or without the project. Emissions would be lower than baseline conditions due to improvements in the vehicle fleet and fuels. However, by 2050, VMT increases begin to surpass fleet and fuel improvements, resulting in less of a decrease of GHG emissions. When compared to the No-Build Alternative, the Build Alternative would have about the same ROG, NO_x, CO, PM₁₀, PM_{2.5}, MSAT, and GHG emissions (i.e., less than 0.2 percent change) due to the No Build and Build alternatives having approximately the same VMT and speed profiles for the City of Antioch. Given the finding that there would be minor air quality impacts associated with the Project, there are no avoidance or minimization measures required or recommended to specifically reduce operational air quality impacts or GHG emissions from the Project.

6. Conclusions

CCTA, in partnership with the City of Antioch, proposes improvements to L Street between 9th Street and Sycamore Drive. The Build Alternative includes widening L Street between 10th Street and Sycamore Drive from two lanes to four lanes with on-street parking, constructing new sidewalks and dedicated bicycle lanes under the railroad tracks and along the Contra Costa County Fairgrounds, and installing ADA compliant curb ramps. L Street would be striped to allow for multi-modal facilities between 9th Street and Sycamore Drive, improving multimodal safety and operations along the corridor. The intersections at 10th Street, E. 18th Street and Sycamore Drive would be improved to include traffic signal modifications. Current conditions along this section of L Street lack multimodal connectivity and ADA-compliant curb ramps. They also create a bottleneck for vehicles traveling between 10th Street and 18th Street causing vehicle queues and delays, which are expected to worsen with planned future growth in the City. This Air Quality Report evaluated the emissions and GHG impacts of the No-Build and Build alternatives. The Build Alternative is listed as a Project in the conforming 2025 TIP and the conforming MTC RTP.

The short-term air quality impacts from construction were based on the CalEEMod model that estimated emissions from the roadway and structural construction work. Minimization measures were suggested that would reduce construction-related emissions (Section 5.1).

The long-term air quality impacts from the operation of the Project were based on estimates provided by CT-EMFAC2021 with the Project traffic data provided by Kittelson. The operational emissions were estimated for the baseline conditions in 2020, the No-Build Alternative, and the Build Alternative in the years 2030 and 2050. When compared to baseline conditions, both the No Build and Build Alternative would have lower ROG, CO, NO_x, MSAT, and GHG emissions and higher PM₁₀ and PM_{2.5} emissions as PM emissions correlate more directly with VMT than with fuel use. Emissions would be lower than baseline conditions due to improvements in the vehicle fleet and fuels. By 2050, VMT increases begin to surpass fleet and fuel improvements, resulting in less of a decrease in GHG emissions. When compared to the No-Build Alternative, the Build Alternative would have about the same (i.e., less than 0.2 percent change) ROG, NO_x, CO, PM₁₀, PM_{2.5}, MSAT, and GHG emissions due to the No Build and Build alternatives having approximately the same VMT and speed profiles for the City. Therefore, no long-term mitigation strategies are being proposed.

7. References

- Bay Area Air Quality Management District (Air District 2016) Planning Healthy Places. Available at http://www.baaqmd.gov/~media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en
- Bay Area Air Quality Management District (Air District 2022) Air District CEQA Air Quality Guidelines. May. Available at <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>
- California Environmental Protection Agency and California Air Resources Board (Cal/EPA and ARB, 2005) Air quality and land use handbook: a community health perspective. April. Available at <http://www.arb.ca.gov/ch/handbook.pdf>.
- California Department of Transportation (2012) Near-Road Nitrogen Dioxide Assessment. Final report, CTAQ-RT-12-270.09.02, August.
- California Department of Transportation (2024) Standard Specifications. Prepared by the State of California Department of Transportation. Available at <https://dot.ca.gov/programs/design/april-2025-ccs-standard-plans-and-standard-specifications>.
- Federal Highway Administration (2023) Updated Interim guidance update on mobile source air toxic analysis in NEPA documents. Available at https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/.
- Garza V., Graney P., Sperling D., Niemeier D., Eisinger D., Kear T., and Chang D. (1997) Transportation project-level carbon monoxide protocol revised. Prepared for Environmental Program California Department of Transportation by the Institute of Transportation Studies, University of California, Davis, UCD-ITS-RR-97-21, December. Available at <http://www.dot.ca.gov/hq/env/air/pages/coprot.htm>.
- Iowa State University. Iowa Environmental Mesonet, California ASOS, San José International Airport. Wind Roses. Accessed 6-4-2025. https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=CCR&network=CA_A_SOS
- Metropolitan Transportation Commission (2021) Final Environmental Impact Report Plan Bay Area 2050. Available at https://www.planbayarea.org/sites/default/files/documents/PBA_2050_Final_EIR.pdf
- Metropolitan Transportation Commission & Association of Bay Area Governments Plan Bay Area 2050 (2021). October. Available at <https://www.planbayarea.org/finalplan2050>.

- Metropolitan Transportation Commission & Association of Bay Area Governments Draft EIR for Plan Bay Area 2050 (2021). June. Available at <https://www.planbayarea.org/draftEIR>.
- Metropolitan Transportation Commission & Association of Bay Area Governments 2025 TIP (2024). October. Available at <https://mtc.ca.gov/funding/transportation-improvement-program/2025-tip>.
- South Coast Air Quality Management District (SCAQMD, 2014) Multiple Air Toxics Exposure Study: MATES IV draft report. Findings presented at the SCAQMD Governing Board Meeting, October 3.
- U.S. Code of Federal Regulations: Title 40. Protection of Environment, Chapter I. Environmental Protection Agency, Subchapter C. Air Programs, Part 93. Determining Conformity of Federal Actions to State or Federal Implementation Plans, Subpart A. Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Laws.
- U.S. Environmental Protection Agency (1995) Compilation of air pollutant emission factors, AP-42. Vol. 1: stationary point and area sources. 5th ed. (January 1995). Report prepared by the Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. Available at <http://www.epa.gov/ttnchie1/ap42/>.
- U.S. Environmental Protection Agency (2021) Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas. Prepared by the U.S. EPA Office of Transportation and Air Quality, Transportation and Climate Division, EPA-420-B-21-037, October. Available at <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1013C6A.pdf>.

8. Appendices

Appendix A – RTP, TIP, and FMS Listing for the Build Alternative

The Build Alternative is listed in the RTP *Plan Bay Area 2050* (Project ID 21-T08-060) which was found to conform to the SIP (i.e., 2017 Clean Air Plan) by FHWA and FTA on December 3, 2021

The Build Alternative is also included in the MTC's financially constrained 2025 TIP (TIP ID CC-230231).²⁰ The TIP gives priority to eligible Transportation Control Measures (TCMs) identified in the SIP and provides sufficient funds to provide for their implementation. The Build Alternative's design concept, scope, and open-to-traffic date assumptions are generally consistent with the regional emissions analysis performed for the current RTP and TIP. Therefore, the Build Alternative will not interfere with the timely implementation of any TCMs identified in the SIP.

²⁰ Note: TIP Revision is in progress that includes roadway widening in the project description.

Roadway Projects
Contra Costa County
Bike/Pedestrian Projects

TIP ID: CC-230208 **County:** Contra Costa **System:** LOCAL_ROAD **RTP ID:** 21-T09-061 **CTIPS** 20650000759
Sponsor: Contra Costa Transportation Authority (CCTA) **Implementing Agency:** Contra Costa Transportation Authority
Project Name: Contra Costa Countywide Safe Routes to School
Description: Contra Costa County : Countywide : implements various bicycle and pedestrian safety awareness, education and encouragement programs tailored to the subregion, age, and other characteristics of the communities they serve such as language, educational attainment, and cultural background.
Air Quality Exempt Code: 40 CFR 93.126 - Other - Grants for training and research programs

Route:		Post Mile From:	Post Mile To:				Toll Credits:	
Phase	All funding in thousands of dollars Fund Source	Prior Years	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	Future Years	Total Programmed
CON	OTHER LOCAL		\$ 689					\$ 689
CON	STP		\$ 3,665					\$ 3,665
Total Programmed Funding:			\$ 4,354					\$ 4,354

TIP ID: CC-230230 **County:** Contra Costa **System:** LOCAL_ROAD **RTP ID:** 21-T02-008 **CTIPS** 20650000956
Sponsor: Contra Costa Transportation Authority (CCTA) **Implementing Agency:** Contra Costa Transportation Authority
Project Name: Antioch Bike Garden
Description: Antioch : Antioch: Prewett Park : Build a Bike Garden with a small scale modern streetscape design elements and learning stations
Air Quality Exempt Code: 40 CFR 93.126 - Air Quality - Bicycle and pedestrian facilities

Route:	Post Mile From:		Post Mile To:				Toll Credits:	
Phase	All funding in thousands of dollars		FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	Future Years	Total Programmed
	Fund Source	Prior Years						
PE	OTHER FEDERAL	\$ 1						\$ 1
PE	OTHER LOCAL	\$ 1,000						\$ 1,000
ROW	OTHER LOCAL	\$ 1						\$ 1
CON	OTHER FEDERAL		\$ 3,450					\$ 3,450
CON_CE	OTHER FEDERAL		\$ 549					\$ 549
Total Programmed Funding:		\$ 1,002	\$ 3,999					\$ 5,001

TIP ID: CC-230231 **County:** Contra Costa **System:** LOCAL_ROAD **RTP ID:** 21-T08-060 **CTIPS** 20650000957
Sponsor: Contra Costa Transportation Authority (CCTA) **Implementing Agency:** Contra Costa Transportation Authority
Project Name: L Street Pathway to Transit – Bicycle and Pedestri
Description: Antioch : L Street between 10th St and Sycamore : Bike/Ped improvements include new sidewalks, installing ADA compliant curb ramps, re-striping to allow for multi-modal facilities, improving multimodal safety and operations along the corridor, and intersection improvements including traffic signal modifications
Air Quality Exempt Code: 40 CFR 93.126 - Air Quality - Bicycle and pedestrian facilities

Air Quality Exempt Code: 40 CFR 93.126 - Air Quality - Bicycle and pedestrian facilities										
Route:		Post Mile From:		Post Mile To:		Toll Credits:				
Phase	All funding in thousands of dollars Fund Source			Prior Years	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	Future Years	Total Programmed
PE	OTHER FEDERAL		\$ 1							\$ 1
PE	OTHER LOCAL		\$ 1,865							\$ 1,865
ROW	OTHER LOCAL		\$ 2,760							\$ 2,760
CON	OTHER FEDERAL			\$ 11,407						\$ 11,407
CON_CE	OTHER FEDERAL			\$ 1,600						\$ 1,600
Total Programmed Funding:			\$ 4,626	\$ 13,007						\$ 17,633

TIP ID: CC-230232 **County:** Contra Costa **System:** LOCAL_ROAD **RTP ID:** 21-T01-003 **CTIPS** 20650000958
Sponsor: Contra Costa Transportation Authority (CCTA) **Implementing Agency:** Contra Costa Transportation Authority
Project Name: SF Bay Trail Gap Closure: Martinez Intermodal Stat
Description: East Bay Regional Park District (EBRPD) : Along the Carquinez Loop Trail and SF Bay Trail in the vicinity of Berrellesa St : Project activities consists of project environmental documentation, design, right of way, construction including, design, construction, and project management.
Air Quality Exempt Code: 40 CFR 93.126 - Air Quality - Bicycle and pedestrian facilities

Air Quality Exempt Code: 40 CFR 93.126 - Air Quality - Bicycle and pedestrian facilities									
Route:		Post Mile From:	Post Mile To:				Toll Credits:		
Phase	All funding in thousands of dollars Fund Source		Prior Years	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	Future Years	Total Programmed
PE	OTHER FEDERAL	\$ 1							\$ 1
PE	OTHER LOCAL	\$ 522							\$ 522
ROW	OTHER LOCAL	\$ 1							\$ 1
CON	OTHER FEDERAL			\$ 924					\$ 924
CON	OTHER STATE			\$ 1,400					\$ 1,400
CON	REC TRAILS			\$ 918					\$ 918
CON_CE	OTHER LOCAL			\$ 271					\$ 271
Total Programmed Funding:		\$ 524		\$ 3,513					\$ 4,037

Antioch L Street Pathways To Transit Phase 2

Project Listing in MTC's Plan Bay Area 2050

Home / Previous Plans / Plan Bay Area 2050 (2021) / Final Supplemental Reports

Plan Bay Area 2050 Transportation Project List

Filter/Search ⓘ 21-T08-060 County Plan Strategy Open Period ⓘ CLEAR FILTERS	RTP ID	Title	Scope	Open Period	Funding* (millions)
	21-T08-060	Complete Streets Network Regional	This program includes funding to implement a regional Complete Streets network with an emphasis on improvements near transit and in Equity Priority Communities. It also includes funding to implement county and local initiatives to support active transportation systems. Investments include new and extended bike and pedestrian facilities; minor bicycle and/or pedestrian facility gap closures; minor road diets (less than 1/4-mile); ADA compliance; landscaping; lighting; streetscape improvements; secure bike parking at transit stations; and support to local jurisdictions to maintain and expand car-free slow streets. Example projects include the Bay Trail (MUL), Bay Skyway (SF), Better Market Street (SF), East Bay Greenway (ALA), and Urban Greenways and Trails (ALA).	Various	\$12,700

Plan Bay Area 2050 Transportation Project List

Appendix B – Interagency Consultation Documentation

From: [Fund Management System](#)
To: hnoeimi@ccta.net
Cc: [Fund Management System](#); [Adam Noelting](#)
Subject: FMS POAQC Project TIP ID: CC-230231 (L Street Pathway to Transit – Bicycle and Pedestri) update: Project is exempt
Date: Thursday, June 26, 2025 1:58:48 PM

Dear Project Sponsor

The Air Quality Conformity Task Force has reviewed and concurred that project TIP ID CC-230231 (FMS ID: 10349) is exempt. As the project sponsor, you are receiving this email notifying you that the project is exempt from PM2.5 project level conformity requirements. Please save this email as documentation of completing the PM2.5 project level conformity process.

If there are any questions regarding the status of the project, please direct them to Adam Noelting at anoelting@bayareametro.gov or by phone at 415-778-5366

null



METROPOLITAN
TRANSPORTATION
COMMISSION

Bay Area Metro Center
375 Beale Street, Suite 800
San Francisco, CA 94105
415.778.6700
www.mtc.ca.gov

Meeting Agenda Air Quality Conformity Task Force

Thursday, June 26, 2025

9:30 AM

Remote - Zoom

Join Zoom Meeting @ [Zoom Link](#)

Meeting ID: 847 6022 8836

Passcode: 154694

(Additional Zoom Meeting Call-In Info on Next Page)

MTC Staff Liaison: Adam Noelting, anoelting@bayareametro.gov

1. Welcome and Introductions

2. PM_{2.5} Project Conformity Interagency Consultations

- a. Consultation to Determine Project of Air Quality Concern Status
 - i. Staff Memo..... page 3
 - ii. Antioch L Street Pathways to Transit Phase 2 page 4
- b. Projects Exempt Under 40 CFR 93.126 – Not of Air Quality Concern
 - i. Staff Memo..... Page 12
 - ii. Project List page 13

3. Projects with Regional Air Quality Conformity Concerns

- a. Review of the Regional Conformity Status for New and Revised Projects
 - i. Staff Memo page 15
 - ii. Project List page 16

4. Consent Calendar

- a. May 22, 2025, Air Quality Conformity Task Force Meeting Summary page 17

5. Other Items

6. Next Meeting

The next meeting of the Air Quality Conformity Task Force will be held on Thursday, July 24, 2025, at 9:30 a.m. via Zoom. Any changes to the schedule will be duly noticed.

Join Zoom Meeting

<https://bayareametro.zoom.us/j/84760228836?pwd=GnlZmWY0JM42d2kh1qS1rV3MF3blrV.1&from=addon>

Meeting ID: 847 6022 8836

Passcode: 154694

One tap mobile

+14086380968,,84760228836#,,,,*154694# US (San Jose)

+16694449171,,84760228836#,,,,*154694# US

Dial by your location

- +1 408 638 0968 US (San Jose)
- +1 669 444 9171 US
- +1 669 900 6833 US (San Jose)
- +1 253 205 0468 US
- +1 253 215 8782 US (Tacoma)
- +1 346 248 7799 US (Houston)
- +1 719 359 4580 US
- +1 312 626 6799 US (Chicago)
- +1 360 209 5623 US
- +1 386 347 5053 US
- +1 507 473 4847 US
- +1 564 217 2000 US
- +1 646 876 9923 US (New York)
- +1 646 931 3860 US
- +1 689 278 1000 US
- +1 301 715 8592 US (Washington DC)
- +1 305 224 1968 US
- +1 309 205 3325 US
- 833 548 0276 US Toll-free
- 833 548 0282 US Toll-free
- 877 853 5247 US Toll-free
- 888 788 0099 US Toll-free

Meeting ID: 847 6022 8836

Passcode: 154694

Find your local number: <https://bayareametro.zoom.us/u/khG6QwBiU>

Join by SIP

- 84760228836@zoomcrc.com

Join by H.323

- 144.195.19.161 (US West)
- 206.247.11.121 (US East)

Meeting ID: 847 6022 8836

Passcode: 154694



METROPOLITAN
TRANSPORTATION
COMMISSION

Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105
TEL 415.778.6700
WEB www.mtc.ca.gov

Memorandum

TO: Air Quality Conformity Task Force

DATE: June 26, 2025

FR: Adam Noelting

RE: **PM_{2.5} Project Conformity Interagency Consultation**

One project sponsor is seeking interagency consultation from the Air Quality Conformity Task Force at today's meeting to determine Project of Air Quality Concern (POAQC) status for projects classified under 40 CFR §93.127. The project assessment form is on the following page.

1. Antioch L Street Pathways to Transit Phase 2

Application of Criteria for a Project of Air Quality Concern

Project Title: Antioch L Street Pathways to Transit Phase 2

Task Force Meeting: June 26, 2025

Description

The project includes Phase 2 improvements on “L” Street between 9th Street and Sycamore Drive in the City of Antioch, an approximate 0.5-mile section. These improvements include new sidewalks under the existing railroad overcrossing and along the frontage of the County fairgrounds, installing ADA compliant curb ramps, re-striping to allow for multi-modal facilities between 9th Street and Sycamore Drive, improving multimodal safety and operations along the corridor, and intersection improvements including traffic signal modifications at 10th Street, E. 18th Street and Sycamore Drive. The project includes roadway widening along L Street, between W. 10th Street and Sycamore Drive to close gaps in the sidewalk and bicycle lane network and accommodate one travel lane in each direction. The additional travel lanes are being added to address an existing bottleneck between 10th Street to 18th Street and conform to the existing lane configurations to the north and south.

Background

The Project limits are along L Street in the City of Antioch from Sycamore Drive to 9th Street. It is a federally funded local assistance project. Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and CCTA is the lead agency for the California Environmental Quality Act (CEQA). The NEPA document is expected to be a 326 Categorical Exclusion (Cat Ex).

This Project is included in the current MTC Regional Transportation Plan (RTP), Plan Bay Area 2050, as RTP ID 21-T08-060 and MTC’s 2025 Transportation Improvement Program (TIP) as TIP ID CC-230231.

Not a Project of Air Quality Concern (40 CFR 93.123(b)(1))

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

- L Street is classified as an arterial roadway, not a highway. Despite including roadway widening (i.e., capacity expansion), it does not carry a significant number of diesel vehicles, nor would it significantly increase the number of diesel vehicles using L Street.
- The purpose of the Project is to provide locally scaled transportation improvements that address multiple existing deficiencies.

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

- Diesel vehicles (trucks) represent approximately 1% of the daily traffic on L Street. This is not considered a significant number of diesel vehicles.
- Intersections in the area currently operate at an LOS of C or better. By 2030, L Street at 10th Street and L Street at 18th Street would operate at LOS F and LOS E, respectively, during the am peak hour. By 2050, L Street at 10th Street would operate at LOS F during the am peak hours and LOS E during the pm peak hour. By 2050, L Street at 18th Street would also operate at LOS F during the am peak hour.
- The project would improve forecasted LOS at affected intersections or result in no change when compared to the No-Build Alternative.

(iii) *New bus and rail terminals and transfer points?*

- Not Applicable

(iv) *Expanded bus and rail terminals and transfer points?*

- Not Applicable

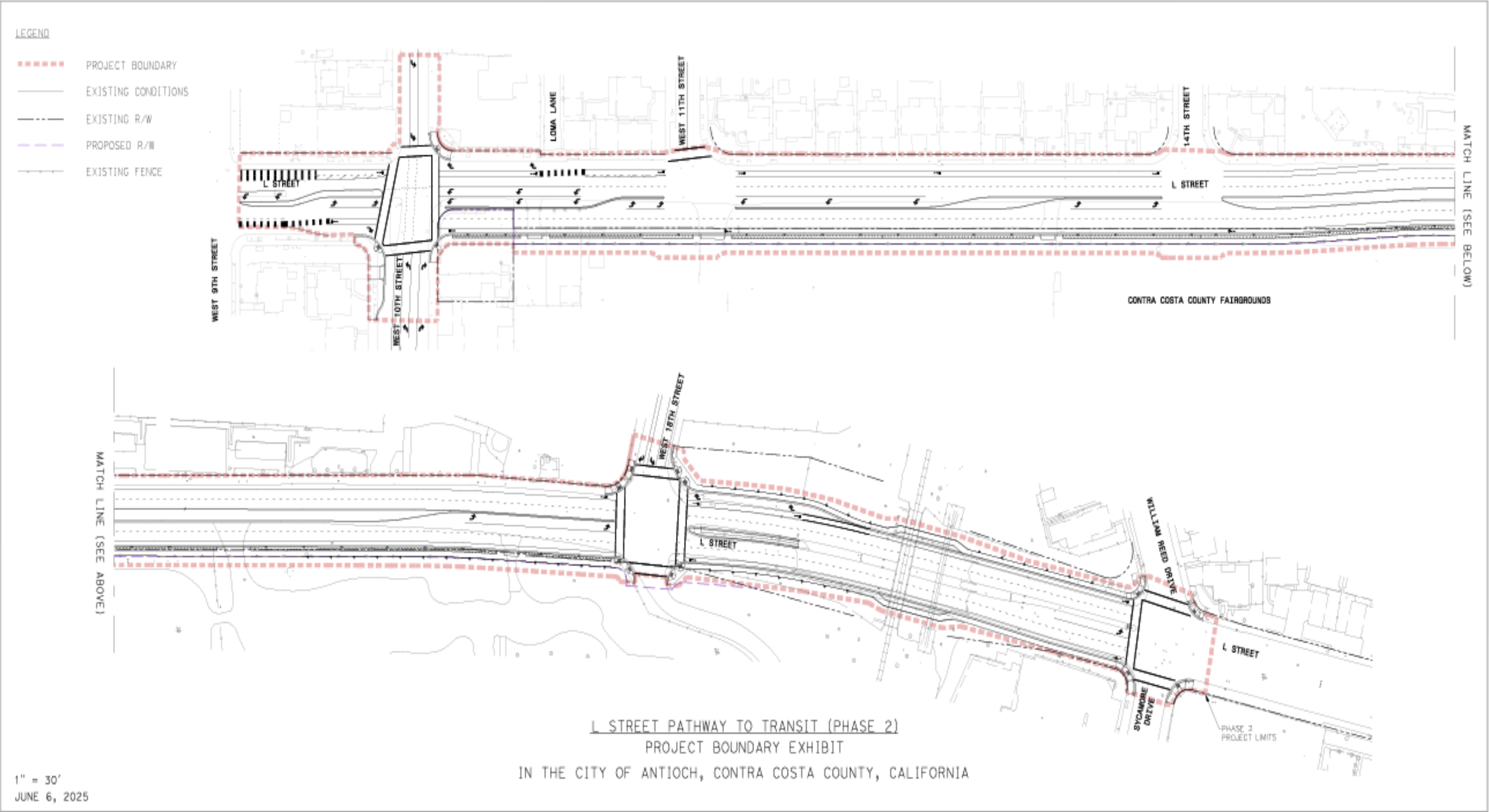
(v) *Affects areas identified in PM_{2.5} implementation plan as site of violation?*

- The Project location is not in an area identified by the PM_{2.5} State Implementation Plan (SIP) as one that could violate or possibly violate the National Ambient Air Quality Standards (NAAQS) for PM_{2.5}.
- The Project would not significantly increase PM_{2.5} emissions when compared to the No-Build Alternative.

RTIP ID# <i>(required)</i> 21-T08-060
TIP ID# <i>(required)</i> CC-230231
Air Quality Conformity Task Force Consideration Date June 26, 2025
Project Description <i>(clearly describe project)</i> Description The project includes Phase 2 improvements on “L” Street between 9th Street and Sycamore Drive in the City of Antioch, an approximate 0.5-mile section. These improvements include new sidewalks under the existing railroad overcrossing and along the frontage of the County fairgrounds, installing ADA compliant curb ramps, re-striping to allow for multi-modal facilities between 9th Street and Sycamore Drive, improving multimodal safety and operations along the corridor, and intersection improvements including traffic signal modifications at 10th Street, E. 18th Street and Sycamore Drive. The project includes roadway widening along L Street, between W. 10th Street and Sycamore Drive to close gaps in the sidewalk and bicycle lane network and accommodate one travel lane in each direction. The additional travel lanes are being added to address an existing bottleneck between 10th Street to 18th Street and conform to the existing lane configurations to the north and south. No Build Alternative. Under the No-Build Alternative, L Street would not be improved or widened. L Street is a two- to four-lane roadway that terminates at the entrance to the existing multi use Delta Trail/waterfront promenade which connects and serves the Antioch Amtrak Station. Traffic operations, accessibility, and safety would continue to deteriorate in the project area. Build Alternative. Figure 1 shows the proposed improvements under the Build Alternative. The Project would widen L Street between Sycamore Dive/William Reed Drive and W. 10th Street to provide four continuous travel lanes. It would include sidewalk repairs, curb ramp reconstructions, pavement resurfacing, roadway restriping to include a continuous Class II bike lane in both directions of travel, green bike lane striping, and high visibility crosswalks to enhance visibility. Intersection improvements would be made at 10th Street, E18th Street and Sycamore Drive.

Type of Project: Roadway Improvement			
County	Narrative Location/Route & Postmiles		
Contra Costa	L Street between 9th Street and Sycamore Drive in the City of Antioch, about 0.5-mile section		
	Caltrans Projects – EA# SS4AL – 6072 (042)		
Lead Agency: Contra Costa Transportation Authority			
Contact Person	Phone#	Fax#	Email
Andrew Dillard	925-256-4751	925-256-4701	adillard@ccta.net

Figure 1. Build Alternative



Federal Action for which Project-Level PM Conformity is Needed <i>(check appropriate box)</i>				
X	<i>Categorical Exclusion (NEPA)</i>	EA or Draft EIS	FONSI or Final EIS	PS&E or Construction
Scheduled Date of Federal Action: March 2026				
NEPA Delegation – Project Type <i>(check appropriate box)</i>				
	X	Section 326 – Categorical Exclusion	Section 327 – Non-Categorical Exclusion	
Current Programming Dates <i>(as appropriate)</i>				
	PE/Environmental	ENG	ROW	CON
Start	2024	2024	2026	2027
End	2026	2027	2027	2029
Project Purpose and Need (Summary): <i>(please be brief)</i> The purpose of the proposed Project is: - Equitably improve safety and connectivity of the L Street corridor for all modes of travel with an emphasis on pedestrians and bicyclists. - Improve corridor operations for all users. - Close bicycle and pedestrian gaps by connecting to existing and planned multimodal improvements. The project is needed for the following reasons: - Lack of multimodal connectivity – particularly for bicycle and pedestrian access – along L Street. - Lack of ADA-compliant curb ramps. - Vehicle bottleneck constraints between 10th Street and 18th Street cause vehicle queues and delays, which are anticipated to worsen and will cause the L Street intersections with 10th Street and 18th Street to operate at unacceptable conditions by the year 2040.				

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

L Street in the Project area is a minor arterial roadway that provides access to Antioch high School, the Contra Costa County Fair Grounds/Event Center, and Antioch Flea Market, as well as single family homes west of L Street and north of Antioch High School. There are some light industrial/commercial land uses near the intersection of L Street and W. 10th Street. The Project would not change the adjacent land uses nor would it significantly change forecasted diesel traffic.

Brief summary of assumptions and methodology used for conducting analysis

Kittleson conducted the traffic forecasting analysis for the Project. To account for future increases in traffic associated with planned growth that will occur under both the No-Build and Build alternatives, forecasts for the opening year (2030) and design year (2050) were developed using the CCTA travel demand forecasting model for an area that includes the City of Antioch. Land use forecasts were the same as those used for the Plan Bay Area 2050 RTP conformity analysis.

Opening Year 2030: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

2030								
Location		Direction	No Build			Build		
			Total	Truck	% Truck	Total	Truck	% Truck
L Street	South of Sycamore Drive	NB	8,272	75	0.9	8,312	75	0.9
		SB	7,271	68		7,326	69	
	South of 18 th Street	NB	8,788	83	1.0	8,861	83	1.0
		SB	7,056	72		7,092	72	
	North of 18 th Street	NB	6,404	57	0.9	6,548	57	0.9
		SB	5,456	45		5,475	45	
	South of 10 th Street	NB	4,646	46	1.0	4,682	45	1.0
		SB	3,647	33		3,661	33	
	North of 10 th Street	NB	2,020	19	0.9	2,038	19	0.9
		SB	1,478	13		1,474	13	

Intersection	2030 No Build LOS		2030 Build LOS	
	AM	PM	AM	PM
L Street at W. 10 th Street	F	C	C	C
L Street at W. 18 th Street	E	B	B	B
L Street at Sycamore Drive	B	C	B	C

RTP Horizon Year / Design Year 2050: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

2050								
Location		Direction	No Build			Build		
			Total	Truck	% Truck	Total	Truck	% Truck
L Street	South of Sycamore Drive	NB	9,459	85	0.9	9,751	85	0.9
		SB	8,979	88		9,123	88	
	South of 18 th Street	NB	10,211	112	1.1	10,435	112	1.1
		SB	9,133	99		9,072	99	
	North of 18 th Street	NB	7,488	92	1.2	9,165	104	1.1
		SB	7,095	80		8,323	85	
	South of 10 th Street	NB	6,777	86	1.2	7,547	96	1.2
		SB	6,392	72		6,767	75	
	North of 10 th Street	NB	3,020	43	1.3	2,985	37	1.2
		SB	2,230	27		2,159	25	

Intersection	2050 No Build LOS		2050 Build LOS	
	AM	PM	AM	PM
L Street at W. 10 th Street	F	E	C	C
L Street at W. 18 th Street	F	B	C	B
L Street at Sycamore Drive	B	C	B	C

Opening Year: If facility is a bus, rail or intermodal facility/terminal/transfer point, # of bus arrivals for Build and No Build, % and # of bus arrivals will be diesel buses

NA

RTP Horizon Year / Design Year: If facility is a bus, rail or intermodal facility/terminal/transfer point, # of bus arrivals for Build and No Build, % and # of bus arrivals will be diesel buses

NA

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

The Build Alternatives would result in a slight redistribution of traffic from G street and the connecting roadways of W. 18th Street, W 14th Street, W, 10th Street. Speeds along the impacted section of L Street would likely increase, reducing delay along the route.

Comments/Explanation/Details (please be brief)

This project does not meet the definition of a Project of Air Quality Concern (POAQC) as defined by 40 CFR 93.123(b)(1). Specifically:

1. The project is not a new or expanded highway project that would have a significant number of or increase in the number of diesel vehicles (40 CFR Section 93.123 (b)(1)(i)).

- The Project will not result in a significant number or significant increase in diesel vehicles in the area.

2. The project is not likely to affect any intersections (40 CFR Section 93.123 (b)(1)(ii)).

- The intersections impacted by the Build Alternative do not serve a significant number of diesel vehicles nor will the LOS of the intersections degrade due to increased traffic volumes from a significant number of diesel vehicles.

3. The project does not include the construction of a new bus or rail terminal with a significant number of diesel vehicles congregating at a single location (40 CFR Section 93.123 (b)(1)(iii)).

- The Project does not involve a bus terminal, rail terminal, or transfer points involving a significant number of diesel vehicles congregating at a single location.

4. The project does not expand an existing bus or rail terminal with significant increases in the number of diesel vehicles congregating at a single location (40 CFR Section 93.123 (b)(1)(iv)).

- The Project does not involve a bus terminal, rail terminal, or transfer points involving a significant number of diesel vehicles congregating at a single location.

5. The project is not in or affecting locations, areas or categories of sites that are identified in the PM_{2.5} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation (40 CFR Section 93.123 (b)(1)(v)).

- The Project location is not in an area identified by the SIP as one that could violate or possibly violate the NAAQS for PM_{2.5}.



METROPOLITAN
TRANSPORTATION
COMMISSION

Bay Area Metro Center
375 Beale Street
San Francisco, CA 94105
TEL 415.778.6700
WEB www.mtc.ca.gov

Memorandum

TO: Air Quality Conformity Task Force

DATE: June 26, 2025

FR: Adam Noelting

RE: **PM_{2.5} Project Conformity Interagency Consultation**

Four project sponsors are seeking interagency consultation from the Air Quality Conformity Task Force at today's meeting for projects classified under 40 CFR §93.126. The projects are on the following page.

Meeting Notes

Air Quality Conformity Task Force Meeting Metropolitan Transportation Commission

Date: June 26, 2025

Time: 9:30 AM PST

Location: Virtual (Zoom)

Facilitator: Adam Noelting, MTC

Attendees:

- Roxana Sierra, EPA Region 9
- Jasmine Amanin, FHWA CA
- Rodney Tavitias, Caltrans HQ
- Karishma Beccha, Caltrans HQ
- Nicole Lewis, Caltrans HQ
- Jennifer Ashby-Camp, Caltrans HQ
- Cid Chiu, Caltrans D4
- Nicole Lewis, Caltrans HQ
- Nick Compin, Caltrans HQ
- Mark Tang, Bay Area Air District
- Alesia Lau, Bay Area Air District
- John Salee, MTC/ABAG
- Adam Crenshaw, MTC/ABAG
- Jing Li, MTC/ABAG
- Eden Winniford, Yolo-Solano Air Quality Management District
- Akash Patel, Kimley-Horn
- Amir Abdollahi, BKF
- Andy Dillard, Contra Costa Transportation Authority
- Jay Witt, Illingworth & Rodkin
- Mike Alston, Kittelson & Associates
- Tanay Pradhan, Kimley-Horn & Associates
- Will Burns, David J. Powers & Associates

Key Discussion Points and Actions

1. Welcome and Introductions

- Adam Noelting (MTC) opened the meeting and welcomed attendees.

2. PM2.5 Project Conformity Interagency Consultations

a. Consultation to Determine Project of Air Quality Concern Status

- **Presenters:** Andy Dillard, Amir Abdollahi, Will Burns
- **Discussion:** The task force reviewed Antioch's L Street Pathways to Transit Phase 2 project and had no questions for the presenters.
- **Determination:** EPA and Caltrans concurred that there were no regional air quality conformity concerns for the reviewed project.

b. Projects Exempt Under 40 CFR 93.126 – Not of Air Quality Concern

- **Presenter:** Adam Noelting (MTC), John Saelee (MTC)

- **Discussion:** The task force reviewed a list of four projects. During the discussion, EPA Region 9, FHWA, and Caltrans HQ requested clarification on the relationship between Project 4—Dumbarton Bike Access Improvements—and the TIP program listing, Freeway Performance Program: SR-84. MTC staff clarified that the bike access improvements project is a subcomponent of the broader SR-84 program. Concurrence was being requested only for the bike access improvements project—not for the overall SR-84 program. No changes were being proposed to the SR-84 exemption classification.
- **Determination:** EPA, FHWA, and Caltrans concurred that there were no regional air quality conformity concerns for the reviewed projects.
- **Follow up Action:** MTC to schedule a call with FHWA to discuss how to appropriately track the Dumbarton Bike Access Improvements project in the TIP and document the task force's concurrence relative to the broader SR-84 program listing.

3. Regional Air Quality Conformity Review

- **Presenter:** John Saelee (MTC)
- **Discussion:** The task force reviewed a list of seven proposed new TIP projects along with their proposed regional air quality conformity exemption classifications. MTC staff clarified that the purpose of this item was to solicit initial feedback on the proposed classifications. In accordance with federal interagency consultation procedures for project-level conformity, project sponsors are still required to request formal concurrence on their project's exemption status at a future Task Force meeting.
- **Determination:** EPA, FHWA, and Caltrans confirmed that they had no concerns with the proposed exemption classifications for the projects reviewed.
- **Follow up Action:** None requested.

4. Consent Calendar

- **Discussion:** The task force reviewed the meeting summary from May 22, 2025. No comments were received, and the summary was accepted as final.

5. Other Items

- FHWA followed up on a discussion from the May task force meeting regarding the Port of Oakland project's proposed exemption status under Agenda Item 3. FHWA recommended using a classification consistent with Exempt (40 CFR 93.126) – Other - Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities). rather than the initially proposed exemption for Exempt (40 CFR 93.126) Mass Transit – Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet.” MTC will update the TIP to reflect the revised exemption classification in coordination with FHWA.
- MTC noted their intent to bring an item to the next task force meeting to discuss the proposed conformity analysis approach for Plan Bay Area 2050+.

Next Meeting:

- **Date:** July 24, 2025
- **Time:** 9:30 AM PST
- **Location:** Virtual

Appendix C – CalEEMod Construction Emissions Calculation

From: Connor Tutino

Sent: Friday, January 17, 2025 9:10 AM

To: Heather Bruce <HBruce@illingworthrodkin.com>

Cc: Will Burns <wburns@davidjpowers.com>; Jay Witt <jwitt@illingworthrodkin.com>; Michael S. Thill <mthill@illingworthrodkin.com>

Subject: RE: L Street Phase 2

Hi Heather and Jay,

Please consider this email as authorization to proceed with work on the L Street Phase 2 project. We will prepare and send a subagreement to you all soon. We have received some responses to the data requests you sent, see below the responses in red. BKF asked why the year 2050 is significant for the traffic data needs. Was that originally assumed to be the design year?

Clarifying Questions:

- The traffic forecast went to 2040, will this be the design year? **Yes**
- The appendices include a Heavy Vehicle Percentage (%), is this percentage for heavy trucks? **Yes, this is basically the number of trucks as a percentage of the individual movement that would be expected.**
- Is the with project traffic the concept sketch or the proposed revisions? **The traffic volume was not impacted by the sketch or proposed revisions. We conservatively assume there would be no diversion as a result of the project so we assumed the same volumes under 2040 no change, concept sketch, and proposed revisions.**

Additional Traffic Data Needs: **This entire section will be provided early next week (latest), our traffic sub is digging out this data. Is there any significance to 2050?**

- AADT for the local roadway segments impacted by the Build alternative (Existing, Opening year, and 2050)
- Truck percentages specific to the impacted segments of the local roadways. (Existing, Opening year, and 2050)
- AM and PM peak hour speeds for the impacted segments. (Existing, Opening year, and 2050)
- Level of service (LOS) for intersections impacted by the proposed project. (Existing, Opening year, and 2050)
- Daily VMT in 5mph speed bins for the area included in the travel demand forecasting analysis (which was described in what you provided).
- Truck percentages for the area used for travel demand forecasting analysis. These may be different than those provided in Item 2 above.

Construction Data Needs: **these are all approximations**

- Construction Start date (Month, Day, and Year) – **July 26, 2027**
- Construction duration (in months) – **18 months**

- Project length (in miles) – **0.58 miles**
- Total Project area (in acres) – **7.60 acres**
- Maximum area disturbed per day – **between 2 to 3 acres per day**

Thanks!

Connor Tutino | Project Manager

[David J. Powers & Associates, Inc.](#)

1736 Franklin, Suite 400 | Oakland, CA 94612

Main: 510.902.5850 | Direct: 510.902.5856

ctutino@davidjpowers.com

DJP&A is a certified Green Business, DBE, and MWBE

From: Will Burns <wburns@davidjpowers.com>
Sent: Friday, April 25, 2025 12:08 PM
To: Jay Witt <jjwitt@illingworthrodkin.com>
Cc: Connor Tutino <ctutino@davidjpowers.com>
Subject: RE: Antioch L Air/Noise Inputs - 1st set

Hi Jay,

BKF has provided the following construction materials quantities. Let me know if you have any questions.

- Soil import/Export volumes (in CY) → ~ 150 CY
- Asphalt and concrete volumes (in CY) → ~ Asphalt= 1500 CY Concrete (assumed to include Class II AB, which would need to be hauled on site to perform asphalt and concrete work) = ~10,000 CY

Thanks,

Will Burns, AICP | Vice President & Principal PM

[David J. Powers & Associates, Inc.](#)

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DJP&A is a certified Green Business, DBE, and MWBE

L St Ph 2 Antioch Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	L St Ph 2 Antioch
Construction Start Date	7/26/2027
Lead Agency	CCTA
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	0.80
Location	38.00769025677462, -121.81986444386177
County	Contra Costa
City	—
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1351
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Road Widening	0.58	Mile	7.60	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-5	Use Advanced Engine Tiers

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.13	3.47	28.0	37.9	0.07	1.18	1.79	2.97	1.09	0.24	1.32	—	8,018	8,018	0.32	0.16	2.14	8,051
Mit.	0.95	0.89	6.85	47.1	0.07	0.17	1.79	1.93	0.16	0.24	0.38	—	8,018	8,018	0.32	0.16	2.14	8,051
% Reduced	77%	74%	76%	-24%	—	86%	—	35%	85%	—	71%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.12	3.47	28.1	37.7	0.07	1.18	1.79	2.97	1.09	0.24	1.32	—	7,989	7,989	0.32	0.17	0.06	8,021
Mit.	0.94	0.88	6.87	46.8	0.07	0.17	1.79	1.93	0.16	0.24	0.38	—	7,989	7,989	0.32	0.17	0.06	8,021
% Reduced	77%	75%	76%	-24%	—	86%	—	35%	85%	—	71%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.86	1.54	12.8	18.0	0.04	0.48	0.86	1.34	0.44	0.13	0.57	—	4,078	4,078	0.18	0.10	0.55	4,112
Mit.	0.60	0.53	4.04	22.1	0.04	0.10	0.86	0.96	0.10	0.13	0.23	—	4,078	4,078	0.18	0.10	0.55	4,112

% Reduced	68%	65%	68%	-23%	—	79%	—	28%	78%	—	60%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.34	0.28	2.34	3.29	0.01	0.09	0.16	0.24	0.08	0.02	0.10	—	675	675	0.03	0.02	0.09	681
Mit.	0.11	0.10	0.74	4.04	0.01	0.02	0.16	0.18	0.02	0.02	0.04	—	675	675	0.03	0.02	0.09	681
% Reduced	68%	65%	68%	-23%	—	79%	—	28%	78%	—	60%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4.13	3.47	28.0	37.9	0.07	1.18	1.79	2.97	1.09	0.24	1.32	—	8,018	8,018	0.32	0.08	1.23	8,051
2028	3.97	3.34	26.3	37.7	0.07	1.07	1.79	2.86	0.99	0.24	1.22	—	8,010	8,010	0.32	0.16	2.14	8,040
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	4.12	3.47	28.1	37.7	0.07	1.18	1.79	2.97	1.09	0.24	1.32	—	7,989	7,989	0.32	0.08	0.03	8,021
2028	3.96	3.33	26.3	37.5	0.07	1.07	1.79	2.86	0.99	0.24	1.22	—	7,982	7,982	0.32	0.17	0.06	8,014
2029	1.00	0.80	7.88	12.7	0.02	0.23	0.38	0.61	0.21	0.10	0.31	—	2,673	2,673	0.13	0.14	0.05	2,719
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.88	0.74	6.02	8.04	0.01	0.26	0.39	0.64	0.24	0.05	0.29	—	1,673	1,673	0.07	0.02	0.12	1,680
2028	1.86	1.54	12.8	18.0	0.04	0.48	0.86	1.34	0.44	0.13	0.57	—	4,078	4,078	0.18	0.10	0.55	4,112
2029	0.06	0.05	0.49	0.80	< 0.005	0.01	0.02	0.04	0.01	0.01	0.02	—	167	167	0.01	0.01	0.05	170
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.16	0.14	1.10	1.47	< 0.005	0.05	0.07	0.12	0.04	0.01	0.05	—	277	277	0.01	< 0.005	0.02	278
2028	0.34	0.28	2.34	3.29	0.01	0.09	0.16	0.24	0.08	0.02	0.10	—	675	675	0.03	0.02	0.09	681

2029	0.01	0.01	0.09	0.15	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	27.7	27.7	< 0.005	< 0.005	0.01	28.2
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2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.90	0.89	6.85	47.1	0.07	0.14	1.79	1.93	0.14	0.24	0.38	—	8,018	8,018	0.32	0.08	1.23	8,051
2028	0.95	0.88	6.84	47.0	0.07	0.17	1.79	1.93	0.16	0.24	0.38	—	8,010	8,010	0.32	0.16	2.14	8,040
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.90	0.88	6.87	46.8	0.07	0.14	1.79	1.93	0.14	0.24	0.38	—	7,989	7,989	0.32	0.08	0.03	8,021
2028	0.94	0.88	6.87	46.8	0.07	0.17	1.79	1.93	0.16	0.24	0.38	—	7,982	7,982	0.32	0.17	0.06	8,014
2029	0.31	0.25	3.06	13.4	0.02	0.04	0.38	0.42	0.04	0.10	0.14	—	2,673	2,673	0.13	0.14	0.05	2,719
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.19	0.19	1.54	9.86	0.01	0.03	0.39	0.42	0.03	0.05	0.08	—	1,673	1,673	0.07	0.02	0.12	1,680
2028	0.60	0.53	4.04	22.1	0.04	0.10	0.86	0.96	0.10	0.13	0.23	—	4,078	4,078	0.18	0.10	0.55	4,112
2029	0.02	0.02	0.19	0.84	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	167	167	0.01	0.01	0.05	170
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.03	0.03	0.28	1.80	< 0.005	0.01	0.07	0.08	0.01	0.01	0.01	—	277	277	0.01	< 0.005	0.02	278
2028	0.11	0.10	0.74	4.04	0.01	0.02	0.16	0.18	0.02	0.02	0.04	—	675	675	0.03	0.02	0.09	681
2029	< 0.005	< 0.005	0.03	0.15	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	27.7	27.7	< 0.005	< 0.005	0.01	28.2

3. Construction Emissions Details

3.1. Linear, Grubbing & Land Clearing (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	3.81	4.47	0.01	0.18	—	0.18	0.17	—	0.17	—	632	632	0.03	0.01	—	635
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.42	0.49	< 0.005	0.02	—	0.02	0.02	—	0.02	—	69.3	69.3	< 0.005	< 0.005	—	69.6
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.5	11.5	< 0.005	< 0.005	—	11.5

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.37	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	84.8	84.8	< 0.005	< 0.005	0.29	86.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.60	8.60	< 0.005	< 0.005	0.01	8.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.42	1.42	< 0.005	< 0.005	< 0.005	1.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Linear, Grubbing & Land Clearing (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	1.50	4.42	0.01	0.01	—	0.01	0.01	—	0.01	—	632	632	0.03	0.01	—	635
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.16	0.48	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	69.3	69.3	< 0.005	< 0.005	—	69.6
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.5	11.5	< 0.005	< 0.005	—	11.5
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.37	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	84.8	84.8	< 0.005	< 0.005	0.29	86.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.60	8.60	< 0.005	< 0.005	0.01	8.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.42	1.42	< 0.005	< 0.005	< 0.005	1.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Linear, Grading & Excavation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm ent	3.99	3.35	27.9	36.5	0.07	1.18	—	1.18	1.09	—	1.09	—	7,644	7,644	0.31	0.06	—	7,670
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	3.99	3.35	27.9	36.5	0.07	1.18	—	1.18	1.09	—	1.09	—	7,644	7,644	0.31	0.06	—	7,670
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.80	0.67	5.57	7.28	0.01	0.24	—	0.24	0.22	—	0.22	—	1,526	1,526	0.06	0.01	—	1,531
Dust From Material Movement	—	—	—	—	—	—	0.29	0.29	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.15	0.12	1.02	1.33	< 0.005	0.04	—	0.04	0.04	—	0.04	—	253	253	0.01	< 0.005	—	253
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	0.08	1.47	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	339	339	0.01	0.01	1.15	344
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.0	26.0	< 0.005	< 0.005	0.06	27.2
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.25	8.25	< 0.005	< 0.005	0.02	8.67
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.10	1.24	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	310	310	0.01	0.01	0.03	315
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.0	26.0	< 0.005	< 0.005	< 0.005	27.2
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.25	8.25	< 0.005	< 0.005	< 0.005	8.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	62.6	62.6	< 0.005	< 0.005	0.10	63.5
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.19	5.19	< 0.005	< 0.005	< 0.005	5.43
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.65	1.65	< 0.005	< 0.005	< 0.005	1.73
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.02	10.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.86	0.86	< 0.005	< 0.005	< 0.005	0.90
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.29

3.4. Linear, Grading & Excavation (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	0.76	6.73	45.6	0.07	0.14	—	0.14	0.14	—	0.14	—	7,644	7,644	0.31	0.06	—	7,670
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	0.76	6.73	45.6	0.07	0.14	—	0.14	0.14	—	0.14	—	7,644	7,644	0.31	0.06	—	7,670
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.15	1.34	9.10	0.01	0.03	—	0.03	0.03	—	0.03	—	1,526	1,526	0.06	0.01	—	1,531

Dust From Material Movement	—	—	—	—	—	—	0.29	0.29	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.24	1.66	< 0.005	0.01	—	0.01	0.01	—	0.01	—	253	253	0.01	< 0.005	—	253
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	0.08	1.47	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	339	339	0.01	0.01	1.15	344
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.0	26.0	< 0.005	< 0.005	0.06	27.2
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.25	8.25	< 0.005	< 0.005	0.02	8.67
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.10	1.24	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	310	310	0.01	0.01	0.03	315
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.0	26.0	< 0.005	< 0.005	< 0.005	27.2
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.25	8.25	< 0.005	< 0.005	< 0.005	8.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	62.6	62.6	< 0.005	< 0.005	0.10	63.5
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.19	5.19	< 0.005	< 0.005	< 0.005	5.43

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.65	1.65	< 0.005	< 0.005	< 0.005	1.73
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.02	10.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.86	0.86	< 0.005	< 0.005	< 0.005	0.90
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.29

3.5. Linear, Grading & Excavation (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.83	3.22	26.2	36.3	0.07	1.07	—	1.07	0.99	—	0.99	—	7,644	7,644	0.31	0.06	—	7,670
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.83	3.22	26.2	36.3	0.07	1.07	—	1.07	0.99	—	0.99	—	7,644	7,644	0.31	0.06	—	7,670
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.16	0.16	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.90	0.76	6.15	8.53	0.02	0.25	—	0.25	0.23	—	0.23	—	1,795	1,795	0.07	0.01	—	1,801
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.16	0.14	1.12	1.56	< 0.005	0.05	—	0.05	0.04	—	0.04	—	297	297	0.01	< 0.005	—	298
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.07	1.38	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	333	333	0.01	< 0.005	1.04	335
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.3	25.3	< 0.005	< 0.005	0.05	26.5
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.04	8.04	< 0.005	< 0.005	0.01	8.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.10	1.17	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	305	305	0.01	0.01	0.03	309

Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.4	25.4	< 0.005	< 0.005	< 0.005	26.5
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.04	8.04	< 0.005	< 0.005	< 0.005	8.44
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	72.4	72.4	< 0.005	< 0.005	0.11	73.4
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.95	5.95	< 0.005	< 0.005	0.01	6.22
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.89	1.89	< 0.005	< 0.005	< 0.005	1.98
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.99	0.99	< 0.005	< 0.005	< 0.005	1.03
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.33

3.6. Linear, Grading & Excavation (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	0.76	6.73	45.6	0.07	0.14	—	0.14	0.14	—	0.14	—	7,644	7,644	0.31	0.06	—	7,670
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.76	0.76	6.73	45.6	0.07	0.14	—	0.14	0.14	—	0.14	—	7,644	7,644	0.31	0.06	—	7,670
Dust From Material Movement	—	—	—	—	—	—	1.45	1.45	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	1.58	10.7	0.02	0.03	—	0.03	0.03	—	0.03	—	1,795	1,795	0.07	0.01	—	1,801
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.29	1.95	< 0.005	0.01	—	0.01	0.01	—	0.01	—	297	297	0.01	< 0.005	—	298
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.07	1.38	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	333	333	0.01	< 0.005	1.04	335
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.3	25.3	< 0.005	< 0.005	0.05	26.5

Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.04	8.04	< 0.005	< 0.005	0.01	8.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	0.10	1.17	0.00	0.00	0.33	0.33	0.00	0.08	0.08	—	305	305	0.01	0.01	0.03	309
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.4	25.4	< 0.005	< 0.005	< 0.005	26.5
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.04	8.04	< 0.005	< 0.005	< 0.005	8.44
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	72.4	72.4	< 0.005	< 0.005	0.11	73.4
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.95	5.95	< 0.005	< 0.005	0.01	6.22
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.89	1.89	< 0.005	< 0.005	< 0.005	1.98
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.02	12.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.99	0.99	< 0.005	< 0.005	< 0.005	1.03
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.33

3.7. Linear, Drainage, Utilities, & Sub-Grade (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.00	1.68	14.2	19.6	0.04	0.52	—	0.52	0.48	—	0.48	—	4,088	4,088	0.17	0.03	—	4,102
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	2.00	1.68	14.2	19.6	0.04	0.52	—	0.52	0.48	—	0.48	—	4,088	4,088	0.17	0.03	—	4,102
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.76	0.64	5.43	7.46	0.02	0.20	—	0.20	0.18	—	0.18	—	1,557	1,557	0.06	0.01	—	1,562
Dust From Material Movement	—	—	—	—	—	—	0.24	0.24	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.14	0.12	0.99	1.36	< 0.005	0.04	—	0.04	0.03	—	0.03	—	258	258	0.01	< 0.005	—	259
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	0.95	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	229	229	< 0.005	< 0.005	0.72	230
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	0.94	0.47	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	777	777	0.06	0.13	1.42	817
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.80	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	210	210	0.01	0.01	0.02	213
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	0.99	0.47	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	777	777	0.06	0.13	0.04	816
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.30	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	80.7	80.7	< 0.005	< 0.005	0.12	81.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.37	0.18	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	296	296	0.02	0.05	0.23	311
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	49.0	49.0	< 0.005	0.01	0.04	51.5

3.8. Linear, Drainage, Utilities, & Sub-Grade (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.78	0.70	4.54	24.5	0.04	0.16	—	0.16	0.15	—	0.15	—	4,088	4,088	0.17	0.03	—	4,102
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.78	0.70	4.54	24.5	0.04	0.16	—	0.16	0.15	—	0.15	—	4,088	4,088	0.17	0.03	—	4,102
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	0.27	1.73	9.33	0.02	0.06	—	0.06	0.06	—	0.06	—	1,557	1,557	0.06	0.01	—	1,562
Dust From Material Movement	—	—	—	—	—	—	0.24	0.24	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.32	1.70	< 0.005	0.01	—	0.01	0.01	—	0.01	—	258	258	0.01	< 0.005	—	259

Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	0.95	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	229	229	< 0.005	< 0.005	0.72	230
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	0.94	0.47	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	777	777	0.06	0.13	1.42	817
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.80	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	210	210	0.01	0.01	0.02	213
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	0.99	0.47	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	777	777	0.06	0.13	0.04	816
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.30	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	80.7	80.7	< 0.005	< 0.005	0.12	81.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.37	0.18	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	296	296	0.02	0.05	0.23	311
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	0.02	13.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	49.0	49.0	< 0.005	0.01	0.04	51.5

3.9. Linear, Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	0.75	7.04	11.7	0.02	0.24	—	0.24	0.22	—	0.22	—	1,768	1,768	0.07	0.01	—	1,774
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.70	1.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	176	176	0.01	< 0.005	—	177
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.21	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.2	29.2	< 0.005	< 0.005	—	29.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.06	0.06	0.05	0.58	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	152	152	< 0.005	0.01	0.01	155
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	0.99	0.47	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	777	777	0.06	0.13	0.04	816
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.4	15.4	< 0.005	< 0.005	0.02	15.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.5	77.5	0.01	0.01	0.06	81.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.55	2.55	< 0.005	< 0.005	< 0.005	2.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.01	13.5

3.10. Linear, Paving (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	2.06	12.4	0.02	0.03	—	0.03	0.03	—	0.03	—	1,768	1,768	0.07	0.01	—	1,774
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.02	0.02	0.21	1.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	176	176	0.01	< 0.005	—	177
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.2	29.2	< 0.005	< 0.005	—	29.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.58	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	152	152	< 0.005	0.01	0.01	155
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	0.02	0.99	0.47	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	777	777	0.06	0.13	0.04	816
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.4	15.4	< 0.005	< 0.005	0.02	15.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.5	77.5	0.01	0.01	0.06	81.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.55	2.55	< 0.005	< 0.005	< 0.005	2.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.8	12.8	< 0.005	< 0.005	0.01	13.5

3.11. Linear, Paving (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.73	6.88	11.7	0.02	0.22	—	0.22	0.20	—	0.20	—	1,767	1,767	0.07	0.01	—	1,773
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.43	0.73	< 0.005	0.01	—	0.01	0.01	—	0.01	—	111	111	< 0.005	< 0.005	—	111
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.3	18.3	< 0.005	< 0.005	—	18.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.55	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	150	150	< 0.005	0.01	0.01	152
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	0.02	0.96	0.46	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	756	756	0.05	0.12	0.03	793
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.48	9.48	< 0.005	< 0.005	0.01	9.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.3	47.3	< 0.005	0.01	0.04	49.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.57	1.57	< 0.005	< 0.005	< 0.005	1.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.83	7.83	< 0.005	< 0.005	0.01	8.23

3.12. Linear, Paving (2029) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.18	2.06	12.4	0.02	0.03	—	0.03	0.03	—	0.03	—	1,767	1,767	0.07	0.01	—	1,773
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.13	0.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	111	111	< 0.005	< 0.005	—	111
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.3	18.3	< 0.005	< 0.005	—	18.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.55	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	150	150	< 0.005	0.01	0.01	152
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	0.02	0.96	0.46	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	756	756	0.05	0.12	0.03	793
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.48	9.48	< 0.005	< 0.005	0.01	9.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	47.3	47.3	< 0.005	0.01	0.04	49.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.57	1.57	< 0.005	< 0.005	< 0.005	1.59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.83	7.83	< 0.005	< 0.005	0.01	8.23

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Grubbing & Land Clearing	Linear, Grubbing & Land Clearing	7/26/2027	9/20/2027	5.00	40.0	—
Linear, Grading & Excavation	Linear, Grading & Excavation	9/21/2027	4/29/2028	5.00	158	—
Linear, Drainage, Utilities, & Sub-Grade	Linear, Drainage, Utilities, & Sub-Grade	4/30/2028	11/10/2028	5.00	139	—
Linear, Paving	Linear, Paving	11/11/2028	2/1/2029	5.00	59.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Average	2.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36

Linear, Grading & Excavation	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Average	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Back hoes	Diesel	Average	3.00	8.00	84.0	0.37
Linear, Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Back hoes	Diesel	Average	3.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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Linear, Grubbing & Land Clearing	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Linear, Grubbing & Land Clearing	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Linear, Grubbing & Land Clearing	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grading & Excavation	Crawler Tractors	Diesel	Tier 4 Final	1.00	8.00	87.0	0.43
Linear, Grading & Excavation	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Linear, Grading & Excavation	Graders	Diesel	Tier 4 Final	2.00	8.00	148	0.41
Linear, Grading & Excavation	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Linear, Grading & Excavation	Rubber Tired Loaders	Diesel	Tier 4 Final	1.00	8.00	150	0.36
Linear, Grading & Excavation	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Linear, Grading & Excavation	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Grading & Excavation	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	Diesel	Tier 4 Final	1.00	8.00	96.0	0.40

Linear, Drainage, Utilities, & Sub-Grade	Scrapers	Diesel	Tier 4 Final	1.00	8.00	423	0.48
Linear, Drainage, Utilities, & Sub-Grade	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Linear, Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Linear, Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Linear, Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Linear, Paving	Signal Boards	Electric	Average	1.00	8.00	6.00	0.82
Linear, Paving	Tractors/Loaders/Back hoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	10.0	11.7	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.40	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	40.0	11.7	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.40	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.12	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—

Linear, Drainage, Utilities, & Sub-Grade	Worker	27.5	11.7	LDA,LDT1,LDT2
Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.40	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	11.6	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	20.0	11.7	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.40	HHDT,MHDT
Linear, Paving	Hauling	11.6	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Linear, Grubbing & Land Clearing	—	—	—	—
Linear, Grubbing & Land Clearing	Worker	10.0	11.7	LDA,LDT1,LDT2
Linear, Grubbing & Land Clearing	Vendor	0.00	8.40	HHDT,MHDT
Linear, Grubbing & Land Clearing	Hauling	0.00	20.0	HHDT
Linear, Grubbing & Land Clearing	Onsite truck	—	—	HHDT
Linear, Grading & Excavation	—	—	—	—
Linear, Grading & Excavation	Worker	40.0	11.7	LDA,LDT1,LDT2
Linear, Grading & Excavation	Vendor	1.00	8.40	HHDT,MHDT
Linear, Grading & Excavation	Hauling	0.12	20.0	HHDT
Linear, Grading & Excavation	Onsite truck	—	—	HHDT
Linear, Drainage, Utilities, & Sub-Grade	—	—	—	—
Linear, Drainage, Utilities, & Sub-Grade	Worker	27.5	11.7	LDA,LDT1,LDT2

Linear, Drainage, Utilities, & Sub-Grade	Vendor	0.00	8.40	HHDT,MHDT
Linear, Drainage, Utilities, & Sub-Grade	Hauling	11.6	20.0	HHDT
Linear, Drainage, Utilities, & Sub-Grade	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	20.0	11.7	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	8.40	HHDT,MHDT
Linear, Paving	Hauling	11.6	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
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Linear, Grubbing & Land Clearing	—	—	7.60	0.00	—
Linear, Grading & Excavation	75.0	75.0	7.60	0.00	—
Linear, Drainage, Utilities, & Sub-Grade	—	—	7.60	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Road Widening	7.60	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	58.7	204	0.03	< 0.005
2028	88.1	204	0.03	< 0.005
2029	29.4	204	0.03	< 0.005

Average Daily (lbs/day)

				ROG	NOx	CO	PM10T	PM2.5T	CO ₂ e
2027					0.74	6.02	8.04	0.64	278.15
	Linear, Grubbing & Land Clearing	7/26/2027	9/20/2027	40	0.260	2.112	2.823	0.226	97.597
	Linear, Grading & Excavation	9/21/2027	12/31/2027	74	0.481	3.907	5.222	0.419	180.555
				114	0.74	6.02	8.04	0.64	278.15
2028					1.54	12.80	18.02	1.34	680.79
	Linear, Grading & Excavation	1/1/2028	4/29/2028	88	0.513	4.267	6.005	0.447	226.929
	Linear, Drainage, Utilities, & Sub-Gra	4/30/2028	11/10/2028	139	0.810	6.740	9.486	0.706	358.445
	Linear, Paving	11/11/2028	12/31/2028	37	0.216	1.794	2.525	0.188	95.413
				264	1.54	12.80	18.02	1.34	680.79
2029									
	Linear, Paving	1/1/2029	2-1-20229	22	0.050	0.492	0.795	0.038	28.21
Total (tons)				0.4253	3.524538	4.901183	0.369398	0.160807	987.14832
Average Workday Emissions (lbs/day)				2.15	17.80	24.75	1.87	0.81	658.10

Appendix D – Operational Roadway Input Assumptions and CT-EMFAC2021 Output

Daily VMT by Speed Bin %

Daily Regional VMT - All Periods

From " CCTA_Model_AQInput_antioch_XXXX_XX_XXXXXXXX.xlsx" "VMT_Ant " tab

Daily VMT (Project Influence Area)										
Speed Bin	2020 Base Year		2030 Opening Year				2050 RTP/Design Year			
	Existing	%	NoBuild	%	Build	%	NoBuild	%	Build	%
<5	1,278	0.067%	1,269	0.061%	1,277	0.061%	10,764	0.424%	10,753	0.424%
10	565	0.030%	2,409	0.116%	2,387	0.115%	21,352	0.842%	21,844	0.861%
15	2,464	0.129%	4,054	0.195%	2,799	0.135%	25,303	0.997%	21,917	0.864%
20	106,079	5.561%	125,154	6.021%	126,100	6.067%	225,405	8.884%	224,740	8.860%
25	43,898	2.301%	55,664	2.678%	54,261	2.611%	144,709	5.703%	149,866	5.908%
30	224,770	11.783%	278,230	13.385%	278,853	13.417%	322,667	12.717%	321,310	12.667%
35	270,340	14.171%	300,532	14.458%	301,276	14.495%	349,201	13.763%	354,152	13.961%
40	284,970	14.938%	286,440	13.780%	286,752	13.797%	442,487	17.439%	437,106	17.232%
45	112,548	5.900%	73,733	3.547%	73,739	3.548%	60,915	2.401%	60,823	2.398%
50	55,481	2.908%	84,535	4.067%	84,574	4.069%	139,092	5.482%	138,712	5.468%
55	111,119	5.825%	144,997	6.975%	145,030	6.978%	208,427	8.215%	225,203	8.878%
60	274,230	14.375%	314,724	15.141%	314,619	15.137%	246,739	9.724%	238,707	9.410%
65	419,905	22.012%	406,933	19.577%	406,768	19.571%	340,244	13.410%	331,519	13.069%
70		0.000%		0.000%		0.000%		0.000%		0.000%
>70		0.00%		0.000%		0.00%		0.00%		0.000%
TOTAL	1,907,646	100.00%	2,078,675	100%	2,078,433	100%	2,537,306	100%	2,536,652	100%
Change			171,029		-243		629,659		-653	
Truck %	1.22		1.23		1.23		1.43		1.43	
			171,029		170,786		629,659		629,006	

File Name: L Street - 2020 - Baseyear.EF
 CT-EMFAC2021 Version: 1.0.2.0
 Run Date: 6/10/2025 11:45:39 AM
 Area: Contra Costa (SF)
 Analysis Year: 2020
 Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.006	0.457	0.543
Truck 2	0.006	0.933	0.036
Non-Truck	0.988	0.008	0.969

Road Type: Local Urban
 Silt Loading Factor: CARB 0.32 g/m2
 Precipitation Correction: CARB P = 65 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.010927	0.007155	0.004873	0.003491	0.002650	0.002127	
0.001800	0.001606	0.001514	0.001504	0.001571	0.001699	0.001896	0.002027
0.002027							
PM10	0.011828	0.007735	0.005265	0.003769	0.002859	0.002293	
0.001938	0.001729	0.001628	0.001616	0.001687	0.001824	0.002036	0.002178
0.002178							
NOx	0.289590	0.244287	0.203986	0.178209	0.160008	0.146739	
0.136997	0.130356	0.126553	0.125448	0.127012	0.131327	0.138481	0.142168
0.142168							
CO	2.292076	2.020912	1.798776	1.619641	1.472660	1.348500	
1.242385	1.151538	1.074112	1.009020	0.955912	0.915465	0.889378	0.883024
0.883027							
HC	0.217242	0.140347	0.094342	0.066904	0.050278	0.039793	
0.033093	0.028913	0.026543	0.025614	0.025996	0.027784	0.031232	0.033750
0.033751							
TOG	0.237426	0.153680	0.103155	0.073031	0.054884	0.043446	
0.036124	0.031546	0.028942	0.027911	0.028311	0.030243	0.033981	0.036712
0.036712							
ROG	0.169787	0.110213	0.074092	0.052457	0.039465	0.031276	
0.026030	0.022753	0.020898	0.020183	0.020508	0.021935	0.024682	0.026686
0.026686							
1,3-Butadiene	0.000746	0.000483	0.000328	0.000234	0.000177	0.000140	
0.000117	0.000103	0.000095	0.000092	0.000094	0.000101	0.000114	0.000114
0.000114							
Acetaldehyde	0.002447	0.001656	0.001103	0.000774	0.000585	0.000465	

0.000387	0.000337	0.000307	0.000293	0.000295	0.000313	0.000347	0.000348
0.000348	Acrolein	0.000063	0.000040	0.000028	0.000020	0.000016	0.000012
0.000011	0.000009	0.000009	0.000009	0.000009	0.000010	0.000011	0.000011
0.000011	Benzene	0.008603	0.005597	0.003765	0.002677	0.002009	0.001589
0.001320	0.001154	0.001060	0.001025	0.001042	0.001115	0.001254	0.001254
0.001254	Diesel PM	0.001276	0.001108	0.000846	0.000658	0.000556	0.000493
0.000456	0.000441	0.000449	0.000479	0.000530	0.000581	0.000622	0.000630
0.000630	Ethylbenzene	0.002645	0.001716	0.001157	0.000824	0.000619	0.000490
0.000408	0.000357	0.000329	0.000318	0.000324	0.000347	0.000391	0.000391
0.000391	Formaldehyde	0.005901	0.003962	0.002647	0.001864	0.001408	0.001120
0.000932	0.000812	0.000742	0.000711	0.000717	0.000762	0.000848	0.000849
0.000849	Naphthalene	0.000747	0.000486	0.000326	0.000232	0.000174	0.000137
0.000114	0.000099	0.000091	0.000088	0.000089	0.000096	0.000107	0.000107
0.000107	POM	0.000174	0.000114	0.000077	0.000054	0.000041	0.000032
0.000027	0.000023	0.000021	0.000021	0.000021	0.000022	0.000025	0.000025
0.000025	DEOG	0.009449	0.008357	0.005011	0.003067	0.002351	0.001912
0.001577	0.001327	0.001148	0.001033	0.000977	0.000984	0.001011	0.001015
0.001015	CO2	814.391185	662.122632	541.531985	451.073039	386.162651	343.006730
317.844322	307.133030	307.421681	315.645507	328.039490	341.155384	351.920555	355.365730
355.365730	N2O	0.019999	0.016531	0.014609	0.012997	0.011764	0.010857
0.010215	0.009731	0.009476	0.009390	0.009496	0.009689	0.010191	0.010183
0.010183	CH4	0.034898	0.023711	0.016603	0.012284	0.009561	0.007788
0.006623	0.005878	0.005441	0.005255	0.005297	0.005598	0.006174	0.006589
0.006589	BC	0.002593	0.001671	0.001132	0.000807	0.000607	0.000483
0.000401	0.000350	0.000322	0.000313	0.000320	0.000343	0.000384	0.000386
0.000386							

Fleet Average Fuel Consumption (gallons/veh-mile)

Fuel Type		<= 5 mph		10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph		
Gasoline	0.091560	0.076047	0.061737	0.051250	0.043877	0.039138			
0.036239	0.035077	0.035148	0.036158	0.037665	0.039225	0.040302	0.040012		
0.040012	Diesel	0.002885	0.002737	0.002243	0.001944	0.001734	0.001575		
0.001459	0.001376	0.001324	0.001305	0.001320	0.001363	0.001435	0.001436		
0.001436									

Fleet Average Natural Gas Consumption (diesel-equivalent gallons/veh-mile)

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

Natural Gas	0.000110	0.000109	0.000075	0.000059	0.000050	0.000043	
0.000039	0.000035	0.000032	0.000030	0.000028	0.000028	0.000028	0.000028
0.000028							

Fleet Average Electricity Consumption (kilowatt-hours/veh-mile)

Type	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
Electricity	0.018014	0.012375	0.010500	0.009752	0.009172	0.007620	
0.007773	0.008082	0.008374	0.007996	0.007536	0.007498	0.007814	0.013021
0.013021							

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
HC	1.198378
TOG	1.281221
ROG	1.281221
1,3-Butadiene	0.000000
Benzene	0.018492
Ethylbenzene	0.011970
Naphthalene	0.000000
HFC	0.027213

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002038
PM10	0.008153

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.002904	0.003478	0.004050	0.004618	0.004939	0.005040	
0.005116	0.004626	0.003558	0.002494	0.001810	0.001490	0.001170	0.001170
0.001170							
PM10	0.008298	0.009938	0.011571	0.013195	0.014113	0.014400	
0.014618	0.013218	0.010165	0.007126	0.005173	0.004258	0.003343	0.003343
0.003343							

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.112829
PM10	0.752195

File Name: L Street - 2020 - Baseyear.EM
CT-EMFAC2021 Version: 1.0.2.0
Run Date: 6/10/2025 11:48:52 AM
Area: Contra Costa (SF)
Analysis Year: 2020
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.006	0.457	0.543
Truck 2	0.006	0.933	0.036
Non-Truck	0.988	0.008	0.969

Road Type: Local Urban
Silt Loading Factor: CARB 0.32 g/m2
Precipitation Correction: CARB P = 65 days N = 365 days

Road Length: 1 miles
Volume: 1,907,646 vehicles per hour
Number of Hours: 1 hours
VMT: 1907646 miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.07%
10 mph	0.03%
15 mph	0.13%
20 mph	5.56%
25 mph	2.30%
30 mph	11.78%
35 mph	14.17%
40 mph	14.94%
45 mph	5.90%
50 mph	2.91%
55 mph	5.82%
60 mph	14.38%
65 mph	22.01%
70 mph	0.00%
75 mph	0.00%

Summary of Emissions

	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total
Total	Total					

Pollutant Name (pounds)	(grams) (US tons)	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	
0.252	PM2.5	3,630.0	-	3,887.8	6,196.2	215,237.8	228,951.8	504.752
1.623	PM10	3,905.9	-	15,553.0	17,704.5	1,434,921.8	1,472,085.2	3,245.392
	NOx	263,592.9	-	-	-	263,592.9	581.123	0.291
	CO	2,119,731.5	-	-	-	2,119,731.5	4,673.208	2.337
0.137	HC	64,065.3	60,313.5	-	-	-	124,378.8	274.208
0.148	TOG	69,847.7	64,482.9	-	-	-	134,330.6	296.148
0.127	ROG	50,448.1	64,482.9	-	-	-	114,931.0	253.380
0.001	1,3-Butadiene	228.9	0.0	-	-	-	228.9	0.505
	Acetaldehyde	735.0	-	-	-	735.0	1.620	< 0.001
	Acrolein	21.1	-	-	-	21.1	0.047	< 0.001
0.004	Benzene	2,563.2	930.7	-	-	-	3,493.9	7.703
	Diesel PM	1,014.9	-	-	-	1,014.9	2.237	0.001
0.002	Ethylbenzene	794.1	602.4	-	-	-	1,396.5	3.079
0.002	Formaldehyde	1,778.9	-	-	-	-	1,778.9	3.922
0.001	Naphthalene	220.4	0.0	-	-	-	220.4	0.486
	POM	51.5	-	-	-	51.5	0.113	< 0.001
	DEOG	2,681.9	-	-	-	2,681.9	5.913	0.003
714.318	CO2	648,018,643.5	-	-	-	-	648,018,643.5	1,428,636.466
	N2O	19,520.4	-	-	-	19,520.4	43.035	0.022
	CH4	12,659.5	-	-	-	12,659.5	27.910	0.014
	BC	780.6	-	-	-	780.6	1.721	< 0.001
	HFC	-	1,369.6	-	-	1,369.6	3.019	0.002

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	648.019	648.019
N2O	0.020	5.817
CH4	0.013	0.316
BC	< 0.001	0.359
HFC	0.001	1.959
Total CO2e	-	656.470

Summary of Consumptions

Gasoline	74,094.724	gallons
Diesel	2,778.168	gallons
Natural Gas	66.840	diesel-equivalent gallons
Electricity	15,171.659	kilowatt-hours

=====END=====

File Name: L Street - 2030 - No Build.EF
 CT-EMFAC2021 Version: 1.0.2.0
 Run Date: 6/10/2025 11:56:51 AM
 Area: Contra Costa (SF)
 Analysis Year: 2030
 Season: Annual

Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction
	Across Category	Within Category	Within Category
Truck 1	0.006	0.425	0.495
Truck 2	0.006	0.859	0.041
Non-Truck	0.988	0.005	0.918

Road Type: Local Urban
 Silt Loading Factor: CARB 0.32 g/m2
 Precipitation Correction: CARB P = 65 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.006386	0.004101	0.002764	0.001963	0.001471	0.001164	
0.000973	0.000860	0.000804	0.000796	0.000830	0.000908	0.001037	0.001115
0.001115							
PM10	0.006929	0.004447	0.002996	0.002127	0.001593	0.001260	
0.001052	0.000930	0.000869	0.000859	0.000895	0.000979	0.001118	0.001202
0.001202							
NOx	0.125401	0.101231	0.080566	0.068756	0.060116	0.053541	
0.048590	0.045112	0.043014	0.042243	0.042783	0.044655	0.047894	0.049120
0.049120							
CO	1.199657	1.068564	0.958592	0.868417	0.793077	0.728034	
0.671227	0.621463	0.577863	0.539853	0.506917	0.478989	0.455959	0.446624
0.446624							
HC	0.087839	0.056364	0.037802	0.026862	0.020231	0.016062	
0.013406	0.011748	0.010802	0.010425	0.010557	0.011244	0.012576	0.013547
0.013547							
TOG	0.095502	0.061333	0.041093	0.029162	0.021957	0.017429	
0.014540	0.012734	0.011701	0.011286	0.011424	0.012164	0.013605	0.014654
0.014654							
ROG	0.067687	0.043358	0.029004	0.020470	0.015322	0.012088	
0.010027	0.008745	0.008020	0.007738	0.007859	0.008407	0.009472	0.010245
0.010245							
1,3-Butadiene	0.000315	0.000204	0.000137	0.000097	0.000072	0.000057	
0.000048	0.000042	0.000038	0.000037	0.000038	0.000041	0.000046	0.000046
0.000046							
Acetaldehyde	0.001012	0.000688	0.000455	0.000316	0.000239	0.000191	

0.000158	0.000138	0.000125	0.000118	0.000118	0.000125	0.000138	0.000138
0.000138	Acrolein	0.000031	0.000020	0.000013	0.000010	0.000007	0.000006
0.000005	0.000004	0.000004	0.000004	0.000004	0.000004	0.000005	0.000005
0.000005	Benzene	0.003403	0.002201	0.001476	0.001040	0.000776	0.000613
0.000506	0.000442	0.000405	0.000391	0.000398	0.000426	0.000480	0.000480
0.000480	Diesel PM	0.000371	0.000323	0.000254	0.000203	0.000171	0.000150
0.000139	0.000137	0.000144	0.000159	0.000183	0.000213	0.000248	0.000252
0.000252	Ethylbenzene	0.001063	0.000686	0.000461	0.000325	0.000242	0.000191
0.000158	0.000138	0.000127	0.000123	0.000125	0.000134	0.000151	0.000151
0.000151	Formaldehyde	0.002445	0.001647	0.001092	0.000761	0.000574	0.000458
0.000380	0.000331	0.000300	0.000286	0.000286	0.000303	0.000337	0.000337
0.000337	Naphthalene	0.000289	0.000187	0.000126	0.000089	0.000066	0.000052
0.000043	0.000038	0.000035	0.000033	0.000034	0.000036	0.000041	0.000041
0.000041	POM	0.000077	0.000050	0.000033	0.000023	0.000017	0.000014
0.000011	0.000010	0.000009	0.000009	0.000009	0.000009	0.000011	0.000011
0.000011	DEOG	0.002920	0.002406	0.001477	0.000956	0.000754	0.000629
0.000531	0.000455	0.000398	0.000358	0.000335	0.000342	0.000356	0.000358
0.000358	CO2	640.889858	519.979048	425.091806	354.188333	303.364549	269.558498
249.798077	241.333718	241.469651	247.817413	257.424387	267.614137	275.988958	278.664075
278.664075	N2O	0.011477	0.009810	0.008325	0.007455	0.006771	0.006254
0.005876	0.005602	0.005421	0.005391	0.005418	0.005575	0.005831	0.005809
0.005809	CH4	0.017187	0.011771	0.008299	0.006249	0.004965	0.004129
0.003578	0.003221	0.003006	0.002912	0.002919	0.003050	0.003302	0.003483
0.003483	BC	0.001567	0.001003	0.000676	0.000480	0.000360	0.000286
0.000237	0.000207	0.000189	0.000184	0.000189	0.000203	0.000228	0.000229
0.000229							

Fleet Average Fuel Consumption (gallons/veh-mile)

Fuel Type		<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph	
Gasoline	0.071279	0.058805	0.048255	0.039968	0.034205	0.030797		
0.028427	0.027628	0.027562	0.028432	0.029818	0.030993	0.031846	0.031132	
0.031132	Diesel	0.002064	0.001956	0.001609	0.001406	0.001264	0.001159	
0.001081	0.001027	0.000996	0.000990	0.001008	0.001044	0.001102	0.001103	
0.001103								

Fleet Average Natural Gas Consumption (diesel-equivalent gallons/veh-mile)

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

Natural Gas	0.000228	0.000227	0.000138	0.000100	0.000080	0.000067
0.000058	0.000052	0.000046	0.000044	0.000042	0.000042	0.000042
0.000042						

Fleet Average Electricity Consumption (kilowatt-hours/veh-mile)

Type	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
Electricity	0.058636	0.040185	0.034057	0.031618	0.030398	0.026781	
0.027654	0.027120	0.029282	0.028257	0.026890	0.026986	0.028112	0.041645
0.041645							

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
HC	0.940013
TOG	1.004995
ROG	1.004995
1,3-Butadiene	0.000000
Benzene	0.014505
Ethylbenzene	0.009389
Naphthalene	0.000000
HFC	0.009255

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002036
PM10	0.008146

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.002761	0.003326	0.003889	0.004450	0.004765	0.004857	
0.004926	0.004452	0.003425	0.002403	0.001743	0.001429	0.001116	0.001116
0.001116							
PM10	0.007889	0.009504	0.011113	0.012713	0.013613	0.013877	
0.014073	0.012720	0.009786	0.006865	0.004979	0.004083	0.003187	0.003187
0.003187							

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.112715
PM10	0.751434

File Name: L Street - 2030 - No Build.EM
CT-EMFAC2021 Version: 1.0.2.0
Run Date: 6/10/2025 12:00:01 PM
Area: Contra Costa (SF)
Analysis Year: 2030
Season: Annual

Vehicle Category	VMT Fraction		Diesel VMT Fraction		Gas VMT Fraction	
	Across Category	Within Category	Within Category	Within Category	Within Category	Within Category
Truck 1	0.006	0.425	0.495			
Truck 2	0.006	0.859	0.041			
Non-Truck	0.988	0.005	0.918			

Road Type: Local Urban
Silt Loading Factor: CARB 0.32 g/m2
Precipitation Correction: CARB P = 65 days N = 365 days

Road Length: 1 miles
Volume:2,078,675 vehicles per hour
Number of Hours: 1 hours
VMT: 2078675 miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.06%
10 mph	0.12%
15 mph	0.19%
20 mph	6.02%
25 mph	2.68%
30 mph	13.38%
35 mph	14.46%
40 mph	13.78%
45 mph	3.55%
50 mph	4.07%
55 mph	6.97%
60 mph	15.14%
65 mph	19.58%
70 mph	0.00%
75 mph	0.00%

Summary of Emissions

	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total
Total	Total					

Pollutant Name (pounds)	(grams) (US tons)	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	
0.273	PM2.5	2,174.0	-	4,232.2	6,568.7	234,297.8	247,272.7	545.143
1.764	PM10	2,349.1	-	16,932.9	18,766.2	1,561,987.1	1,600,035.3	3,527.474
	NOx	101,591.1	-	-	-	101,591.1	223.970	0.112
	CO	1,241,132.2	-	-	-	1,241,132.2	2,736.228	1.368
0.090	HC	28,615.5	52,675.6	-	-	-	81,291.1	179.216
0.096	TOG	31,011.1	56,317.0	-	-	-	87,328.0	192.525
0.086	ROG	21,489.1	56,317.0	-	-	-	77,806.0	171.533
0.001	1,3-Butadiene	103.0	0.0	-	-	-	103.0	0.227
	Acetaldehyde	329.6	-	-	-	329.6	0.727	< 0.001
	Acrolein	10.6	-	-	-	10.6	0.023	< 0.001
0.002	Benzene	1,088.2	812.8	-	-	-	1,901.0	4.191
	Diesel PM	378.5	-	-	-	378.5	0.834	< 0.001
0.001	Ethylbenzene	340.7	526.1	-	-	-	866.8	1.911
0.001	Formaldehyde	795.4	-	-	-	-	795.4	1.754
0.001	Naphthalene	92.7	0.0	-	-	-	92.7	0.204
	POM	24.3	-	-	-	24.3	0.054	< 0.001
	DEOG	1,002.7	-	-	-	1,002.7	2.211	0.001
613.779	CO2	556,811,026.4	-	-	-	-	556,811,026.4	1,227,558.104
	N2O	12,260.9	-	-	-	12,260.9	27.031	0.014
	CH4	7,483.5	-	-	-	7,483.5	16.498	0.008
	BC	510.9	-	-	-	510.9	1.126	< 0.001
	HFC	-	518.6	-	-	518.6	1.143	< 0.001

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	556.811	556.811
N2O	0.012	3.654
CH4	0.007	0.187
BC	< 0.001	0.235
HFC	< 0.001	0.742
Total CO2e	-	561.628

Summary of Consumptions

Gasoline	63,831.623	gallons
Diesel	2,281.987	gallons
Natural Gas	112.843	diesel-equivalent gallons
Electricity	57,868.644	kilowatt-hours

=====END=====

File Name: L Street - 2030 - Buildl.EF
 CT-EMFAC2021 Version: 1.0.2.0
 Run Date: 6/10/2025 12:15:21 PM
 Area: Contra Costa (SF)
 Analysis Year: 2030
 Season: Annual

Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction
	Across Category	Within Category	Within Category
Truck 1	0.006	0.425	0.495
Truck 2	0.006	0.859	0.041
Non-Truck	0.988	0.005	0.918

Road Type: Local Urban
 Silt Loading Factor: CARB 0.32 g/m2
 Precipitation Correction: CARB P = 65 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.006386	0.004101	0.002764	0.001963	0.001471	0.001164	
0.000973	0.000860	0.000804	0.000796	0.000830	0.000908	0.001037	0.001115
0.001115							
PM10	0.006929	0.004447	0.002996	0.002127	0.001593	0.001260	
0.001052	0.000930	0.000869	0.000859	0.000895	0.000979	0.001118	0.001202
0.001202							
NOx	0.125401	0.101231	0.080566	0.068756	0.060116	0.053541	
0.048590	0.045112	0.043014	0.042243	0.042783	0.044655	0.047894	0.049120
0.049120							
CO	1.199657	1.068564	0.958592	0.868417	0.793077	0.728034	
0.671227	0.621463	0.577863	0.539853	0.506917	0.478989	0.455959	0.446624
0.446624							
HC	0.087839	0.056364	0.037802	0.026862	0.020231	0.016062	
0.013406	0.011748	0.010802	0.010425	0.010557	0.011244	0.012576	0.013547
0.013547							
TOG	0.095502	0.061333	0.041093	0.029162	0.021957	0.017429	
0.014540	0.012734	0.011701	0.011286	0.011424	0.012164	0.013605	0.014654
0.014654							
ROG	0.067687	0.043358	0.029004	0.020470	0.015322	0.012088	
0.010027	0.008745	0.008020	0.007738	0.007859	0.008407	0.009472	0.010245
0.010245							
1,3-Butadiene	0.000315	0.000204	0.000137	0.000097	0.000072	0.000057	
0.000048	0.000042	0.000038	0.000037	0.000038	0.000041	0.000046	0.000046
0.000046							
Acetaldehyde	0.001012	0.000688	0.000455	0.000316	0.000239	0.000191	

0.000158	0.000138	0.000125	0.000118	0.000118	0.000125	0.000138	0.000138
0.000138	Acrolein	0.000031	0.000020	0.000013	0.000010	0.000007	0.000006
0.000005	0.000004	0.000004	0.000004	0.000004	0.000004	0.000005	0.000005
0.000005	Benzene	0.003403	0.002201	0.001476	0.001040	0.000776	0.000613
0.000506	0.000442	0.000405	0.000391	0.000398	0.000426	0.000480	0.000480
0.000480	Diesel PM	0.000371	0.000323	0.000254	0.000203	0.000171	0.000150
0.000139	0.000137	0.000144	0.000159	0.000183	0.000213	0.000248	0.000252
0.000252	Ethylbenzene	0.001063	0.000686	0.000461	0.000325	0.000242	0.000191
0.000158	0.000138	0.000127	0.000123	0.000125	0.000134	0.000151	0.000151
0.000151	Formaldehyde	0.002445	0.001647	0.001092	0.000761	0.000574	0.000458
0.000380	0.000331	0.000300	0.000286	0.000286	0.000303	0.000337	0.000337
0.000337	Naphthalene	0.000289	0.000187	0.000126	0.000089	0.000066	0.000052
0.000043	0.000038	0.000035	0.000033	0.000034	0.000036	0.000041	0.000041
0.000041	POM	0.000077	0.000050	0.000033	0.000023	0.000017	0.000014
0.000011	0.000010	0.000009	0.000009	0.000009	0.000009	0.000011	0.000011
0.000011	DEOG	0.002920	0.002406	0.001477	0.000956	0.000754	0.000629
0.000531	0.000455	0.000398	0.000358	0.000335	0.000342	0.000356	0.000358
0.000358	CO2	640.889858	519.979048	425.091806	354.188333	303.364549	269.558498
249.798077	241.333718	241.469651	247.817413	257.424387	267.614137	275.988958	278.664075
278.664075	N2O	0.011477	0.009810	0.008325	0.007455	0.006771	0.006254
0.005876	0.005602	0.005421	0.005391	0.005418	0.005575	0.005831	0.005809
0.005809	CH4	0.017187	0.011771	0.008299	0.006249	0.004965	0.004129
0.003578	0.003221	0.003006	0.002912	0.002919	0.003050	0.003302	0.003483
0.003483	BC	0.001567	0.001003	0.000676	0.000480	0.000360	0.000286
0.000237	0.000207	0.000189	0.000184	0.000189	0.000203	0.000228	0.000229
0.000229							

Fleet Average Fuel Consumption (gallons/veh-mile)

Fuel Type		<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph	
Gasoline	0.071279	0.058805	0.048255	0.039968	0.034205	0.030797		
0.028427	0.027628	0.027562	0.028432	0.029818	0.030993	0.031846	0.031132	
0.031132	Diesel	0.002064	0.001956	0.001609	0.001406	0.001264	0.001159	
0.001081	0.001027	0.000996	0.000990	0.001008	0.001044	0.001102	0.001103	
0.001103								

Fleet Average Natural Gas Consumption (diesel-equivalent gallons/veh-mile)

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

Natural Gas	0.000228	0.000227	0.000138	0.000100	0.000080	0.000067
0.000058	0.000052	0.000046	0.000044	0.000042	0.000042	0.000042
0.000042						

Fleet Average Electricity Consumption (kilowatt-hours/veh-mile)

Type	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
Electricity	0.058636	0.040185	0.034057	0.031618	0.030398	0.026781	
0.027654	0.027120	0.029282	0.028257	0.026890	0.026986	0.028112	0.041645
0.041645							

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
HC	0.940013
TOG	1.004995
ROG	1.004995
1,3-Butadiene	0.000000
Benzene	0.014505
Ethylbenzene	0.009389
Naphthalene	0.000000
HFC	0.009255

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002036
PM10	0.008146

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.002761	0.003326	0.003889	0.004450	0.004765	0.004857	
0.004926	0.004452	0.003425	0.002403	0.001743	0.001429	0.001116	0.001116
0.001116							
PM10	0.007889	0.009504	0.011113	0.012713	0.013613	0.013877	
0.014073	0.012720	0.009786	0.006865	0.004979	0.004083	0.003187	0.003187
0.003187							

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.112715
PM10	0.751434

File Name: L Street - 2030 - Buildl.EM
CT-EMFAC2021 Version: 1.0.2.0
Run Date: 6/10/2025 12:17:50 PM
Area: Contra Costa (SF)
Analysis Year: 2030
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.006	0.425	0.495
Truck 2	0.006	0.859	0.041
Non-Truck	0.988	0.005	0.918

Road Type: Local Urban
Silt Loading Factor: CARB 0.32 g/m2
Precipitation Correction: CARB P = 65 days N = 365 days

Road Length: 1 miles
Volume: 2,078,433 vehicles per hour
Number of Hours: 1 hours
VMT: 2078433 miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.06%
10 mph	0.11%
15 mph	0.13%
20 mph	6.07%
25 mph	2.61%
30 mph	13.42%
35 mph	14.49%
40 mph	13.80%
45 mph	3.55%
50 mph	4.07%
55 mph	6.98%
60 mph	15.14%
65 mph	19.57%
70 mph	0.00%
75 mph	0.00%

Summary of Emissions

	Running Exhaust Total	Running Loss	Tire Wear	Brake Wear	Road Dust	Total
Total						

Pollutant Name (pounds)	(grams) (US tons)	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	
0.273	PM2.5	2,171.2	-	4,231.7	6,569.1	234,270.6	247,242.6	545.077
1.764	PM10	2,346.1	-	16,930.9	18,767.5	1,561,805.3	1,599,849.8	3,527.065
	NOx	101,534.3	-	-	-	101,534.3	223.845	0.112
	CO	1,240,611.5	-	-	-	1,240,611.5	2,735.080	1.368
0.089	HC	28,578.0	52,602.1	-	-	-	81,180.1	178.971
0.096	TOG	30,970.2	56,238.4	-	-	-	87,208.6	192.262
0.086	ROG	21,460.0	56,238.4	-	-	-	77,698.4	171.296
0.001	1,3-Butadiene	102.8	0.0	-	-	-	102.8	0.227
	Acetaldehyde	329.1	-	-	-	329.1	0.726	< 0.001
	Acrolein	10.6	-	-	-	10.6	0.023	< 0.001
0.002	Benzene	1,086.7	811.7	-	-	-	1,898.4	4.185
	Diesel PM	378.3	-	-	-	378.3	0.834	< 0.001
0.001	Ethylbenzene	340.2	525.4	-	-	-	865.6	1.908
0.001	Formaldehyde	794.3	-	-	-	-	794.3	1.751
0.001	Naphthalene	92.6	0.0	-	-	-	92.6	0.204
	POM	24.2	-	-	-	24.2	0.053	< 0.001
	DEOG	1,001.2	-	-	-	1,001.2	2.207	0.001
613.448	CO2	556,511,040.2	-	-	-	-	556,511,040.2	1,226,896.747
	N2O	12,256.0	-	-	-	12,256.0	27.020	0.014
	CH4	7,476.0	-	-	-	7,476.0	16.482	0.008
	BC	510.2	-	-	-	510.2	1.125	< 0.001
	HFC	-	517.9	-	-	517.9	1.142	< 0.001

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	556.511	556.511
N2O	0.012	3.652
CH4	0.007	0.187
BC	< 0.001	0.235
HFC	< 0.001	0.741
Total CO2e	-	561.326

Summary of Consumptions

Gasoline	63,797.955	gallons
Diesel	2,280.975	gallons
Natural Gas	112.712	diesel-equivalent gallons
Electricity	57,850.243	kilowatt-hours

=====END=====

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File Name: L Street - 2050 - No Build.EF
CT-EMFAC2021 Version: 1.0.2.0
Run Date: 6/10/2025 12:21:54 PM
Area: Contra Costa (SF)
Analysis Year: 2050
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.006	0.235	0.274
Truck 2	0.008	0.672	0.018
Non-Truck	0.986	0.003	0.893

Road Type:	Local Urban
Silt Loading Factor:	CARB 0.32 g/m2
Precipitation Correction:	CARB P = 65 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.002967	0.001895	0.001276	0.000907	0.000679	0.000538	
0.000453	0.000406	0.000388	0.000394	0.000421	0.000471	0.000547	0.000581
0.000581							
PM10	0.003221	0.002057	0.001383	0.000983	0.000735	0.000582	
0.000490	0.000439	0.000419	0.000425	0.000453	0.000506	0.000588	0.000624
0.000624							
NOx	0.087745	0.068206	0.051698	0.042922	0.036526	0.031502	
0.027644	0.024869	0.023123	0.022374	0.022608	0.023837	0.026073	0.026591
0.026591							
CO	0.908672	0.814583	0.735460	0.669112	0.612393	0.562625	
0.518572	0.479464	0.444682	0.413715	0.386134	0.361728	0.340006	0.330161
0.330161							
HC	0.051701	0.032596	0.021498	0.015042	0.011154	0.008728	
0.007193	0.006240	0.005698	0.005477	0.005544	0.005930	0.006683	0.007226
0.007226							
TOG	0.056117	0.035396	0.023325	0.016306	0.012093	0.009466	
0.007802	0.006768	0.006179	0.005937	0.006010	0.006425	0.007239	0.007824
0.007824							
ROG	0.040187	0.025325	0.016722	0.011675	0.008648	0.006761	
0.005568	0.004830	0.004413	0.004249	0.004313	0.004619	0.005218	0.005646
0.005646							
1,3-Butadiene	0.000196	0.000124	0.000082	0.000057	0.000042	0.000033	
0.000027	0.000024	0.000022	0.000021	0.000021	0.000023	0.000026	0.000026
0.000026							
Acetaldehyde	0.000561	0.000369	0.000240	0.000166	0.000123	0.000098	

0.000081	0.000070	0.000063	0.000061	0.000061	0.000064	0.000072	0.000072
0.000072	Acrolein	0.000021	0.000013	0.000009	0.000006	0.000005	0.000004
0.000003	0.000003	0.000002	0.000002	0.000002	0.000002	0.000003	0.000003
0.000003	Benzene	0.002015	0.001278	0.000842	0.000591	0.000437	0.000344
0.000283	0.000246	0.000224	0.000217	0.000222	0.000238	0.000268	0.000268
0.000268	Diesel PM	0.000116	0.000108	0.000089	0.000076	0.000065	0.000060
0.000061	0.000067	0.000078	0.000096	0.000118	0.000147	0.000180	0.000180
0.000180	Ethylbenzene	0.000639	0.000405	0.000267	0.000188	0.000139	0.000109
0.000090	0.000078	0.000071	0.000069	0.000070	0.000075	0.000085	0.000085
0.000085	Formaldehyde	0.001384	0.000903	0.000588	0.000408	0.000304	0.000241
0.000199	0.000173	0.000156	0.000149	0.000150	0.000160	0.000179	0.000179
0.000179	Naphthalene	0.000169	0.000107	0.000071	0.000050	0.000037	0.000029
0.000024	0.000021	0.000019	0.000018	0.000019	0.000020	0.000023	0.000023
0.000023	POM	0.000042	0.000026	0.000017	0.000012	0.000009	0.000007
0.000006	0.000005	0.000005	0.000004	0.000005	0.000005	0.000005	0.000005
0.000005	DEOG	0.001294	0.001083	0.000612	0.000375	0.000294	0.000247
0.000210	0.000181	0.000159	0.000143	0.000133	0.000141	0.000154	0.000154
0.000154	CO2	545.797638	442.716468	362.152206	301.825652	258.665551	229.958076
213.201281	206.060322	206.230809	211.654421	219.820664	228.449710	235.484761	237.651249
237.651249	N2O	0.008113	0.007187	0.006309	0.005559	0.005086	0.004709
0.004434	0.004238	0.004121	0.004068	0.004105	0.004219	0.004404	0.004377
0.004377	CH4	0.010803	0.007216	0.004946	0.003622	0.002796	0.002261
0.001911	0.001686	0.001552	0.001489	0.001492	0.001575	0.001734	0.001848
0.001848	BC	0.000722	0.000460	0.000309	0.000219	0.000164	0.000130
0.000107	0.000094	0.000085	0.000083	0.000085	0.000091	0.000103	0.000103
0.000103							

Fleet Average Fuel Consumption (gallons/veh-mile)

Fuel Type		<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph	
Gasoline	0.061582	0.050195	0.040847	0.034090	0.029186	0.026420		
0.024358	0.023705	0.023468	0.024434	0.025670	0.026696	0.027412	0.026545	
0.026545	Diesel	0.001544	0.001477	0.001221	0.001071	0.000972	0.000899	
0.000846	0.000809	0.000790	0.000787	0.000802	0.000831	0.000876	0.000877	
0.000877								

Fleet Average Natural Gas Consumption (diesel-equivalent gallons/veh-mile)

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

Natural Gas	0.000081	0.000080	0.000058	0.000046	0.000039	0.000035
0.000031	0.000028	0.000026	0.000025	0.000023	0.000023	0.000023
0.000023						

Fleet Average Electricity Consumption (kilowatt-hours/veh-mile)

Type	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
Electricity	0.088173	0.060909	0.051452	0.047631	0.045600	0.040366	
0.041451	0.041209	0.044959	0.043132	0.041477	0.041648	0.043366	0.059988
0.059988							

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
HC	0.683892
TOG	0.731168
ROG	0.731168
1,3-Butadiene	0.000000
Benzene	0.010553
Ethylbenzene	0.006831
Naphthalene	0.000000
HFC	0.000278

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002046
PM10	0.008184

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.002704	0.003260	0.003813	0.004363	0.004674	0.004766	
0.004826	0.004356	0.003345	0.002340	0.001694	0.001385	0.001077	0.001077
0.001077							
PM10	0.007724	0.009314	0.010894	0.012466	0.013354	0.013619	
0.013788	0.012447	0.009556	0.006685	0.004839	0.003958	0.003077	0.003077
0.003077							

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.114503
PM10	0.763357

File Name: L Street - 2050 - No Build.EM
CT-EMFAC2021 Version: 1.0.2.0
Run Date: 6/10/2025 12:24:38 PM
Area: Contra Costa (SF)
Analysis Year: 2050
Season: Annual

Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction
	Across Category	Within Category	Within Category
Truck 1	0.006	0.235	0.274
Truck 2	0.008	0.672	0.018
Non-Truck	0.986	0.003	0.893

Road Type: Local Urban
Silt Loading Factor: CARB 0.32 g/m2
Precipitation Correction: CARB P = 65 days N = 365 days

Road Length: 1 miles
Volume:2,537,306 vehicles per hour
Number of Hours: 1 hours
VMT: 2537306 miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.43%
10 mph	0.84%
15 mph	1.00%
20 mph	8.88%
25 mph	5.70%
30 mph	12.72%
35 mph	13.76%
40 mph	17.44%
45 mph	2.40%
50 mph	5.48%
55 mph	8.22%
60 mph	9.72%
65 mph	13.41%
70 mph	0.00%
75 mph	0.00%

Summary of Emissions

	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total
Total	Total					

Pollutant Name (pounds)	(grams) (US tons)	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	
0.337	PM2.5	1,387.6	-	5,191.3	8,595.8	290,529.2	305,704.0	673.962
2.187	PM10	1,499.0	-	20,765.3	24,560.3	1,936,870.3	1,983,694.8	4,373.298
	NOx	73,484.1	-	-	-	73,484.1	162.005	0.081
	CO	1,230,103.2	-	-	-	1,230,103.2	2,711.913	1.356
0.084	HC	20,897.3	55,315.6	-	-	-	76,212.9	168.021
0.090	TOG	22,658.3	59,139.5	-	-	-	81,797.7	180.333
0.083	ROG	16,220.8	59,139.5	-	-	-	75,360.3	166.141
0.001	1,3-Butadiene	79.6	0.0	-	-	-	79.6	0.176
	Acetaldehyde	231.5	-	-	-	231.5	0.510	< 0.001
	Acrolein	8.8	-	-	-	8.8	0.019	< 0.001
0.002	Benzene	825.6	853.6	-	-	-	1,679.2	3.702
	Diesel PM	242.9	-	-	-	242.9	0.535	< 0.001
0.001	Ethylbenzene	261.9	552.5	-	-	-	814.4	1.795
0.001	Formaldehyde	570.8	-	-	-	-	570.8	1.258
0.001	Naphthalene	70.0	0.0	-	-	-	70.0	0.154
	POM	16.9	-	-	-	16.9	0.037	< 0.001
	DEOG	557.3	-	-	-	557.3	1.229	< 0.001
654.919	CO2	594,132,247.6	-	-	-	-	594,132,247.6	1,309,837.307
	N2O	11,544.8	-	-	-	11,544.8	25.452	0.013
	CH4	5,351.8	-	-	-	5,351.8	11.799	0.006
	BC	311.4	-	-	-	311.4	0.687	< 0.001
	HFC	-	22.5	-	-	22.5	0.050	< 0.001

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	594.132	594.132
N2O	0.012	3.440
CH4	0.005	0.134
BC	< 0.001	0.143
HFC	< 0.001	0.032
Total CO2e	-	597.882

Summary of Consumptions

Gasoline	68,292.179	gallons
Diesel	2,232.509	gallons
Natural Gas	77.929	diesel-equivalent gallons
Electricity	109,040.272	kilowatt-hours

=====END=====

File Name: L Street - 2050 - Build.EF
 CT-EMFAC2021 Version: 1.0.2.0
 Run Date: 6/10/2025 12:28:00 PM
 Area: Contra Costa (SF)
 Analysis Year: 2050
 Season: Annual

Vehicle Category	VMT Fraction	Diesel VMT Fraction	Gas VMT Fraction
	Across Category	Within Category	Within Category
Truck 1	0.006	0.235	0.274
Truck 2	0.008	0.672	0.018
Non-Truck	0.986	0.003	0.893

Road Type: Local Urban
 Silt Loading Factor: CARB 0.32 g/m2
 Precipitation Correction: CARB P = 65 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.002967	0.001895	0.001276	0.000907	0.000679	0.000538	
0.000453	0.000406	0.000388	0.000394	0.000421	0.000471	0.000547	0.000581
0.000581							
PM10	0.003221	0.002057	0.001383	0.000983	0.000735	0.000582	
0.000490	0.000439	0.000419	0.000425	0.000453	0.000506	0.000588	0.000624
0.000624							
NOx	0.087745	0.068206	0.051698	0.042922	0.036526	0.031502	
0.027644	0.024869	0.023123	0.022374	0.022608	0.023837	0.026073	0.026591
0.026591							
CO	0.908672	0.814583	0.735460	0.669112	0.612393	0.562625	
0.518572	0.479464	0.444682	0.413715	0.386134	0.361728	0.340006	0.330161
0.330161							
HC	0.051701	0.032596	0.021498	0.015042	0.011154	0.008728	
0.007193	0.006240	0.005698	0.005477	0.005544	0.005930	0.006683	0.007226
0.007226							
TOG	0.056117	0.035396	0.023325	0.016306	0.012093	0.009466	
0.007802	0.006768	0.006179	0.005937	0.006010	0.006425	0.007239	0.007824
0.007824							
ROG	0.040187	0.025325	0.016722	0.011675	0.008648	0.006761	
0.005568	0.004830	0.004413	0.004249	0.004313	0.004619	0.005218	0.005646
0.005646							
1,3-Butadiene	0.000196	0.000124	0.000082	0.000057	0.000042	0.000033	
0.000027	0.000024	0.000022	0.000021	0.000021	0.000023	0.000026	0.000026
0.000026							
Acetaldehyde	0.000561	0.000369	0.000240	0.000166	0.000123	0.000098	

0.000081	0.000070	0.000063	0.000061	0.000061	0.000064	0.000072	0.000072
0.000072	Acrolein	0.000021	0.000013	0.000009	0.000006	0.000005	0.000004
0.000003	0.000003	0.000002	0.000002	0.000002	0.000002	0.000003	0.000003
0.000003	Benzene	0.002015	0.001278	0.000842	0.000591	0.000437	0.000344
0.000283	0.000246	0.000224	0.000217	0.000222	0.000238	0.000268	0.000268
0.000268	Diesel PM	0.000116	0.000108	0.000089	0.000076	0.000065	0.000060
0.000061	0.000067	0.000078	0.000096	0.000118	0.000147	0.000180	0.000180
0.000180	Ethylbenzene	0.000639	0.000405	0.000267	0.000188	0.000139	0.000109
0.000090	0.000078	0.000071	0.000069	0.000070	0.000075	0.000085	0.000085
0.000085	Formaldehyde	0.001384	0.000903	0.000588	0.000408	0.000304	0.000241
0.000199	0.000173	0.000156	0.000149	0.000150	0.000160	0.000179	0.000179
0.000179	Naphthalene	0.000169	0.000107	0.000071	0.000050	0.000037	0.000029
0.000024	0.000021	0.000019	0.000018	0.000019	0.000020	0.000023	0.000023
0.000023	POM	0.000042	0.000026	0.000017	0.000012	0.000009	0.000007
0.000006	0.000005	0.000005	0.000004	0.000005	0.000005	0.000005	0.000005
0.000005	DEOG	0.001294	0.001083	0.000612	0.000375	0.000294	0.000247
0.000210	0.000181	0.000159	0.000143	0.000133	0.000141	0.000154	0.000154
0.000154	CO2	545.797638	442.716468	362.152206	301.825652	258.665551	229.958076
213.201281	206.060322	206.230809	211.654421	219.820664	228.449710	235.484761	237.651249
237.651249	N2O	0.008113	0.007187	0.006309	0.005559	0.005086	0.004709
0.004434	0.004238	0.004121	0.004068	0.004105	0.004219	0.004404	0.004377
0.004377	CH4	0.010803	0.007216	0.004946	0.003622	0.002796	0.002261
0.001911	0.001686	0.001552	0.001489	0.001492	0.001575	0.001734	0.001848
0.001848	BC	0.000722	0.000460	0.000309	0.000219	0.000164	0.000130
0.000107	0.000094	0.000085	0.000083	0.000085	0.000091	0.000103	0.000103
0.000103							

Fleet Average Fuel Consumption (gallons/veh-mile)

Fuel Type		<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph	
Gasoline	0.061582	0.050195	0.040847	0.034090	0.029186	0.026420		
0.024358	0.023705	0.023468	0.024434	0.025670	0.026696	0.027412	0.026545	
0.026545	Diesel	0.001544	0.001477	0.001221	0.001071	0.000972	0.000899	
0.000846	0.000809	0.000790	0.000787	0.000802	0.000831	0.000876	0.000877	
0.000877								

Fleet Average Natural Gas Consumption (diesel-equivalent gallons/veh-mile)

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

Natural Gas	0.000081	0.000080	0.000058	0.000046	0.000039	0.000035	
0.000031	0.000028	0.000026	0.000025	0.000023	0.000023	0.000023	0.000023
0.000023							

Fleet Average Electricity Consumption (kilowatt-hours/veh-mile)

Type	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
Electricity	0.088173	0.060909	0.051452	0.047631	0.045600	0.040366	
0.041451	0.041209	0.044959	0.043132	0.041477	0.041648	0.043366	0.059988
0.059988							

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
HC	0.683892
TOG	0.731168
ROG	0.731168
1,3-Butadiene	0.000000
Benzene	0.010553
Ethylbenzene	0.006831
Naphthalene	0.000000
HFC	0.000278

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002046
PM10	0.008184

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph
40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.002704	0.003260	0.003813	0.004363	0.004674	0.004766	
0.004826	0.004356	0.003345	0.002340	0.001694	0.001385	0.001077	0.001077
0.001077							
PM10	0.007724	0.009314	0.010894	0.012466	0.013354	0.013619	
0.013788	0.012447	0.009556	0.006685	0.004839	0.003958	0.003077	0.003077
0.003077							

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.114503
PM10	0.763357

File Name: L Street - 2050 - Build.EM
CT-EMFAC2021 Version: 1.0.2.0
Run Date: 6/10/2025 12:30:10 PM
Area: Contra Costa (SF)
Analysis Year: 2050
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.006	0.235	0.274
Truck 2	0.008	0.672	0.018
Non-Truck	0.986	0.003	0.893

Road Type: Local Urban
Silt Loading Factor: CARB 0.32 g/m2
Precipitation Correction: CARB P = 65 days N = 365 days

Road Length: 1 miles
Volume: 2,536,652 vehicles per hour
Number of Hours: 1 hours
VMT: 2536652 miles

VMT Distribution by Speed Bin (mph):

<= 5 mph	0.42%
10 mph	0.86%
15 mph	0.86%
20 mph	8.86%
25 mph	5.91%
30 mph	12.67%
35 mph	13.96%
40 mph	17.23%
45 mph	2.40%
50 mph	5.47%
55 mph	8.88%
60 mph	9.41%
65 mph	13.07%
70 mph	0.00%
75 mph	0.00%

Summary of Emissions

	Running Exhaust	Running Loss	Tire Wear	Brake Wear	Road Dust	Total
Total	Total					

	Pollutant Name (pounds)	(grams) (US tons)	(grams)	(grams)	(grams)	(grams)	(grams)	(grams)	
0.337	PM2.5	1,384.1	-	5,190.0	8,606.6	290,454.3	305,634.9	673.810	
2.186	PM10	1,495.2	-	20,760.0	24,590.9	1,936,371.0	1,983,217.0	4,372.245	
	NOx	73,395.0	-	-	-	73,395.0	161.808	0.081	
	CO	1,230,225.7	-	-	-	1,230,225.7	2,712.183	1.356	
0.084	HC	20,850.1	55,230.6	-	-	-	76,080.7	167.729	
0.090	TOG	22,607.1	59,048.6	-	-	-	81,655.7	180.020	
0.083	ROG	16,183.8	59,048.6	-	-	-	75,232.4	165.859	
0.001	1,3-Butadiene	79.4	0.0	-	-	-	79.4	0.175	<
	Acetaldehyde	231.0	-	-	-	231.0	0.509	< 0.001	
	Acrolein	8.8	-	-	-	8.8	0.019	< 0.001	
0.002	Benzene	823.8	852.3	-	-	-	1,676.0	3.695	
	Diesel PM	241.9	-	-	-	241.9	0.533	< 0.001	
0.001	Ethylbenzene	261.3	551.7	-	-	-	813.0	1.792	<
0.001	Formaldehyde	569.6	-	-	-	-	569.6	1.256	<
0.001	Naphthalene	69.8	0.0	-	-	-	69.8	0.154	<
	POM	16.8	-	-	-	16.8	0.037	< 0.001	
	DEOG	556.2	-	-	-	556.2	1.226	< 0.001	
654.217	CO2	593,495,307.6	-	-	-	-	593,495,307.6	1,308,433.094	
	N2O	11,535.8	-	-	-	11,535.8	25.432	0.013	
	CH4	5,341.9	-	-	-	5,341.9	11.777	0.006	
	BC	310.7	-	-	-	310.7	0.685	< 0.001	
	HFC	-	22.5	-	-	22.5	0.049	< 0.001	

Summary of GHG Emissions

Pollutant Name	Emissions (metric tons)	CO2e (metric tons)
CO2	593.495	593.495
N2O	0.012	3.438
CH4	0.005	0.134
BC	< 0.001	0.143
HFC	< 0.001	0.032
Total CO2e	-	597.242

Summary of Consumptions

Gasoline	68,218.546	gallons
Diesel	2,230.569	gallons
Natural Gas	77.871	diesel-equivalent gallons
Electricity	108,978.238	kilowatt-hours

END

2020 Existing

Pollutant Name	Total (Grams)	Total (Tons)	Total (Pounds)	Exhaust (Grams)	Non-Exhaust (Grams)	PM TOTAL (Tons)
PM2.5	228,951.80	0.25	504.7523176	3,630.00	225,321.80	0.25
PM10	1,472,085.20	1.62	3245.392333	3,905.90	1,468,179.30	1.62
NOx	263,592.90	0.29	581.1228703			
CO	2,119,731.50	2.34	4673.208017			
HC	124,378.80	0.14	274.2083162			
TOG	134,330.60	0.15	296.1482796			
ROG	114,931.00	0.13	253.3794826			
1,3-Butadiene	228.90	0.00	0.504638118			
Acetaldehyde	735.00	0.00	1.620397627			
Acrolein	21.10	0.00	0.046517537			
Benzene	3,493.90	0.00	7.702730978			
Diesel PM	1,014.90	0.00	2.237471499			
Ethylbenzene	1,396.50	0.00	3.078755491			
Formaldehyde	1,778.90	0.00	3.921803182			
Naphthalene	220.40	0.00	0.485898826			
POM	51.50	0.00	0.113538065			
DEOG	2,681.90	0.00	5.91257741			
CO2	648,018,643.50	714.32	1428636.561			
N2O	19,520.40	0.02	43.03511543			
CH4	12,659.50	0.01	27.90942008			
BC	780.60	0.00	1.720928419			
HFC	1,369.60	0.00	3.019451143			

Pollutant Name	Total (Grams)	Total (US Tons)	Total (Pounds)	Exhaust (Grams)	Non-Exhaust (Grams)	Total (Tons)
PM2.5	247,272.70	0.272571	545.1429882	2,174.00	245,098.70	0.27
PM10	1,600,035.30	1.763737	3527.474018	2,349.10	1,597,686.20	1.76
NOx	101,591.10	0.111985	223.9700372			0.111985
CO	1,241,132.20	1.368114	2736.228125			1.368114
HC	81,291.10	0.089608	179.216198	28,615.50	52,675.60	0.089608099
TOG	87,328.00	0.096263	192.5252843	31,011.10	56,317.00	0.096262752
ROG	77,806.00	0.085766	171.5328677	21,489.10	56,317.00	0.085767
1,3-Butadiene	103.00	0.000114	0.22707613	103.00	0	0.000114
Acetaldehyde	329.60	0.000363	0.726643616	329.60	-	0.000363
Acrolein	10.60	0.000012	0.023369	10.60	-	0.000012
Benzene	1,901.00	0.002095	4.190987604	1,088.20	812.80	0.002095
Diesel PM	378.50	0.000417	0.834449662			0.000417
Ethylbenzene	866.80	0.000955	1.910966889	340.70	526.10	0.000955
Formaldehyde	795.40	0.000877	1.753556833	795.40	-	0.000877
Naphthalene	92.70	0.000102	0.204368517	92.70	0.00	0.000102
POM	24.30	0.000027	0.05357233	24.30	-	0.000027
DEOG	1,002.70	0.001105	2.210575103	1,002.70	-	0.001105
CO2	556,811,026.40	613.779092	1227558.185			613.7790924
N2O	12,260.90	0.013515	27.0306575			0.013515
CH4	7,483.50	0.008249	16.49829339			0.008249
BC	510.90	0.000563	1.126341698			0.000563
HFC	518.60	0.000572	1.143317292			0.000572

Pollutant Name	Total (Grams)	Total (US Tons)	Total (Pounds)	Exhaust (Grams)	Non-Exhaust (Grams)	Total (Tons)
PM2.5	247,242.60	0.272538	545.076629	2,171.20	245,071.40	0.27
PM10	1,599,849.80	1.763533	3527.065061	2,346.10	1,597,503.70	1.76
NOx	101,534.30	0.111922	223.8448147			0.111922
CO	1,240,611.50	1.367540	2735.080178			1.367540
HC	81,180.10	0.089486	178.9714849	28,578.00	52,602.10	0.089485742
TOG	87,208.60	0.096131	192.2620524	30,970.20	56,238.40	0.096131026
ROG	77,698.40	0.085648	171.2956503	21,460.00	56,238.40	0.085648
1,3-Butadiene	102.80	0.000113	0.226635206	102.80	0	0.000113
Acetaldehyde	329.10	0.000363	0.725541305	329.10	-	0.000363
Acrolein	10.60	0.000012	0.023369	10.60	-	0.000012
Benzene	1,898.40	0.002093	4.185255585	1,086.70	811.70	0.002093
Diesel PM	378.30	0.000417	0.834008738			0.000417
Ethylbenzene	865.60	0.000954	1.908321341	340.20	525.40	0.000954
Formaldehyde	794.30	0.000876	1.751131749	794.30	-	0.000876
Naphthalene	92.60	0.000102	0.204148055	92.60	0.00	0.000102
POM	24.20	0.000027	0.053351867	24.20	-	0.000027
DEOG	1,001.20	0.001104	2.207268169	1,001.20	-	0.001104
CO2	556,511,040.20	613.448414	1226896.829			613.4484143
N2O	12,256.00	0.013510	27.01985485			0.013510
CH4	7,476.00	0.008241	16.48175872			0.008241
BC	510.20	0.000562	1.124798462			0.000562
HFC	517.90	0.000571	1.141774056			0.000571

2050 No Build

Pollutant Name	Total (Grams)	Total (US Tons)	Total (Pounds)	Exhaust (Grams)	Non-Exhaust (Grams)	Total (Tons)
PM2.5	305,704.00	0.336981	673.961954	1,387.60	304,316.30	0.34
PM10	1,983,694.80	2.186649	4373.298431	1,499.00	1,982,195.90	2.19
NOx	73,484.10	0.081002	162.0047092			0.081002
CO	1,230,103.20	1.355957	2711.913342			1.355957
HC	76,212.90	0.084010	168.0206834	20,897.30	55,315.60	0.084010342
TOG	81,797.70	0.090167	180.3330598	22,658.30	59,139.50	0.09016664
ROG	75,360.30	0.083071	166.1410222	16,220.80	59,139.50	0.083071
1,3-Butadiene	79.60	0.000088	0.175487961	79.60	0	0.000088
Acetaldehyde	231.50	0.000255	0.510370137	231.50	-	0.000255
Acrolein	8.80	0.000010	0.019400679	8.80	-	0.000010
Benzene	1,679.20	0.001851	3.702002307	825.60	853.60	0.001851
Diesel PM	242.90	0.000268	0.535502835			0.000268
Ethylbenzene	814.40	0.000898	1.795444663	261.90	552.50	0.000898
Formaldehyde	570.80	0.000629	1.258398593	570.80	-	0.000629
Naphthalene	70.00	0.000077	0.154323584	70.00	0.00	0.000077
POM	16.90	0.000019	0.037258122			0.000019
DEOG	557.30	0.000614	1.228636187			0.000614
CO2	594,132,247.60	654.918697	1309837.393			654.9186967
N2O	11,544.80	0.012726	25.45192724			0.012726
CH4	5,351.80	0.005899	11.79869935			0.005899
BC	311.40	0.000343	0.686519484			0.000343
HFC	22.50	0.000025	0.049604009			0.000025

Pollutant Name	Total (Grams)	Total (US Tons)	Total (Pounds)	Exhaust (Grams)	Non-Exhaust (Grams)	Total (Tons)
PM2.5	305,634.90	0.336905	673.8096146	1,384.10	304,250.90	0.34
PM10	1,983,217.00	2.186123	4372.245062	1,495.20	1,981,721.90	2.19
NOx	73,395.00	0.080904	161.8082773			0.080904
CO	1,230,225.70	1.356092	2712.183408			1.356092
HC	76,080.70	0.083865	167.7292323	20,850.10	55,230.60	0.083864616
TOG	81,655.70	0.090010	180.0200034	22,607.10	59,048.60	0.090010002
ROG	75,232.40	0.082930	165.8590509	16,183.80	59,048.60	0.082930
1,3-Butadiene	79.40	0.000088	0.175047036	79.40	0.00	0.000088
Acetaldehyde	231.00	0.000255	0.509267826	231.00	-	0.000255
Acrolein	8.80	0.000010	0.019400679	8.80	-	0.000010
Benzene	1,676.00	0.001847	3.694947514	823.80	852.30	0.001848
Diesel PM	241.90	0.000267	0.533298212			0.000267
Ethylbenzene	813.00	0.000896	1.792358192	261.30	551.70	0.000896
Formaldehyde	569.60	0.000628	1.255753045	569.60	-	0.000628
Naphthalene	69.80	0.000077	0.153882659	69.80	0.00	0.000077
POM	16.80	0.000019	0.03703766			0.000019
DEOG	556.20	0.000613	1.226211102			0.000613
CO2	593,495,307.60	654.216591	1308433.181			654.2165905
N2O	11,535.80	0.012716	25.43208564			0.012716
CH4	5,341.90	0.005888	11.77687358			0.005888
BC	310.70	0.000342	0.684976249			0.000342
HFC	22.50	0.000025	0.049604009			0.000025

Total Emissions							Total Emissions								
General		2020 Existing	2030 No Build	2030 Build	2050 No Build	2050 Build		General		2020 Existing	2030 No Build	2030 Build	2050 No Build	2050 Build	
	PM _{2.5}	0.252	0.273	0.273	0.337	0.337	tons/day		PM _{2.5}	504.8	545.1	545.1	674.0	673.8	pounds/day
	PM ₁₀	1.623	1.764	1.764	2.187	2.186	tons/day		PM ₁₀	3,245.4	3,527.5	3,527.1	4,373.3	4,372.2	pounds/day
	NO _x	0.291	0.112	0.112	0.081	0.081	tons/day		NO _x	581.1	224.0	223.8	162.0	161.8	pounds/day
	CO	2.337	1.368	1.368	1.356	1.356	tons/day		CO	4,673.2	2,736.2	2,735.1	2,711.9	2,712.2	pounds/day
	ROG	0.127	0.086	0.086	0.083	0.083	tons/day		ROG	253.4	171.5	171.3	166.1	165.9	pounds/day

Appendix E – CO EPA Letter



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

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 period². 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)

transportation conformity requirements no longer apply for the CO NAAQS for Federal Highway Administration / Federal Transit Association projects as defined in 40 CFR 93.101. Even though the conformity obligation for CO has ended, the terms of the maintenance plans remain in effect and all measures and requirements contained in the plans apply until the state submits, and the EPA approves, a revision to the state plan⁴. Such a State Implementation Plan revision would have to comply with the anti-backsliding requirements of CAA section 110(l), and if applicable, CAA section 193, if the intent of the revision is to remove a control measure or to reduce its stringency.

If you have any questions about the transportation conformity requirements, please contact me at (415) 972-3183 or Karina O'Connor of my staff at (775) 434-8176.

Sincerely,



Elizabeth J. Adams
Acting Director, Air Division

cc: Rodeny Langstaff, Caltrans
Nesamani Kalandiyur, California Air Resources Board
Tasha Clemons, Federal Highway Administration
Stew Sonnenberg, Federal Highway Administration
Christina Leach, Federal Highway Administration
Ted Matley, Federal Transit Administration
Ahron Hakimi, Kern Council of Governments
Jon Clark, Butte County Association of Governments
Steve Heminger, Metropolitan Transportation Commission
James Corless, Sacramento Area Council of Governments
Kim Kawanda, San Diego Association of Governments
Tony Boren, Fresno Council of Governments
Rosa De Leon Park, Stanislaus Council of Governments
Andrew Chesley, San Joaquin Council of Governments
Joanne Marchetta, Tahoe Regional Planning Association

⁴ See *General Motors Corp. v. United States*, 496 U.S. 530 (1990)

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Final Audit Report

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