Los Angeles County
Metropolitan Transportation Authority

West Santa Ana Branch Transit Corridor

Final Air Quality Impact Analysis Report

Metro

WEST SANTA ANA BRANCH TRANSIT CORRIDOR PROJECT

Final Air Quality Impact Analysis Report

Prepared for:

Metro

Los Angeles County
Metropolitan Transportation Authority

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
µm	Micrometer
AA	Alternatives Analysis
AADT	average annual daily traffic
AAQS	Ambient Air Quality Standards
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
Basin	South Coast Air Basin
BMP	best management practices
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emission Estimator Model
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officer's Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNG	compressed natural gas
CO	carbon monoxide
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EMFAC	CARB Emission Factor Model
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
LA	Los Angeles
lbs/day	pounds per day
LOS	level-of-service
LPA	Locally Preferred Alternative
LRT	light rail transit
LRTP	Long Range Transportation Plan
LRV	light rail vehicle

Acronym	Definition
LST	Localized Significance Threshold
MATES-V	Multiple Air Toxics Exposure Study V
Metro	Los Angeles County Metropolitan Transportation Authority
mph	miles per hour
MSAT	Mobile Source Air Toxics
MSF	maintenance and storage facility
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
nm	nanometer
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
O_3	ozone
OPR	California Office of Planning and Research
Pb	lead
PEROW	Pacific Electric Right-of-Way
PM	particulate matter
PM_{10}	respirable particulate matter of diameter less than 10 microns
$PM_{2.5}$	fine particulate matter of diameter less than 2.5 microns
POAQC	Project of Air Quality Concern
ppm	parts per million
Project	West Santa Ana Branch Transit Corridor Project
ROG	reactive organic gases
ROW	right-of-way
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO_2	sulfur dioxide

Acronym	Definition
SO_X	sulfur oxides
SRA	Source Receptor Areas
TAC	Toxic Air Contaminants
TCWG	Transportation Conformity Working Group
TPSS	traction power substation
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compounds
WSAB	West Santa Ana Branch

1 INTRODUCTION

1.1 Study Background

The West Santa Ana Branch (WSAB) Transit Corridor (Project) is a proposed light rail transit (LRT) line. In January 2022, the Los Angeles County Metropolitan Transportation Authority (Metro) Board of Directors identified the Locally Preferred Alternative (LPA), which will extend approximately 14.5 miles from the northern terminus in the City of Los Angeles/Florence-Firestone community of Los Angeles (LA) County to the southern terminus in the City of Artesia, traversing densely populated, low-income, and heavily transit-dependent communities. The Project will provide reliable, fixed-guideway transit service that will increase mobility and connectivity for historically underserved, transit-dependent, and environmental justice communities; reduce travel times on local and regional transportation networks; and accommodate substantial future employment and population growth.

1.2 Alternatives Evaluation, Screening, and Selection Process

A wide range of potential alternatives have been considered and screened through the alternatives analysis processes. In March 2010, the Southern California Association of Governments (SCAG) initiated the Pacific Electric Right-of-Way (PEROW)/WSAB Alternatives Analysis (AA) Study (SCAG 2013) in coordination with the relevant cities, the Orangeline Development Authority (renamed to Eco-Rapid Transit, which has since been dissolved), the Gateway Cities Council of Governments, Metro, the Orange County Transportation Authority, and the owners of the right-of-way (ROW)—Union Pacific Railroad (UPRR), BNSF Railway, and the Ports of Los Angeles and Long Beach. The AA Study evaluated a wide variety of transit connections and modes for a broader 34-mile corridor from Union Station in downtown Los Angeles to the City of Santa Ana in Orange County. In February 2013, SCAG completed the PEROW/WSAB Corridor Alternatives Analysis Report[1] and recommended two LRT alternatives for further study: West Bank 3 and the East Bank.

Following completion of the AA, Metro completed the *West Santa Ana Branch Transit Corridor Project Technical Refinement Study* (Metro 2015) in 2015 focusing on the design and feasibility of five key issue areas along the 19-mile portion of the WSAB Transit Corridor within LA County:

- Access to Union Station in downtown Los Angeles
- Northern Section options
- Huntington Park Alignment and Stations
- New C (Green) Line Station
- Southern Terminus at Pioneer Station in Artesia

In September 2016, Metro initiated the WSAB Transit Corridor Environmental Study (Environmental Study) with the goal of environmentally clearing the Project under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

[1] Initial concepts evaluated in the SCAG report included transit connections and modes for the 34-mile corridor from Union Station in downtown Los Angeles to the City of Santa Ana. Modes included low-speed magnetic levitation (maglev) heavy rail, light rail, and bus rapid transit.

Metro issued a Notice of Preparation (NOP) on May 25, 2017, with a revised NOP issued on June 14, 2017, extending the comment period to 60 days. In June 2017, Metro held public scoping meetings in the Cities of Bellflower, Los Angeles, South Gate, and Huntington Park. Metro provided project updates and information to stakeholders with the intent to receive comments and questions through a comment period that ended in August 2017. A total of 1,122 comments were received during the public scoping period from May through August 2017. The comments focused on concerns regarding the Northern Alignment options, with specific concerns related to potential impacts to Alameda Street with an aerial alignment. Given potential visual and construction issues raised through public scoping, additional Northern Alignment concepts were evaluated.

In February 2018, the Metro Board of Directors approved further study of the alignment in the Northern Section due to community input during the 2017 scoping meetings. A second alternatives screening process was initiated to evaluate the original four Northern Alignment options and four new Northern Alignment concepts. The *Final Northern Alignment Alternatives and Concepts Updated Screening Report* was completed in May 2018 (Metro 2018a). The alternatives were further refined and, based on the findings of the second screening analysis and the input gathered from the public outreach meetings, the Metro Board of Directors approved Alternatives E and G for further evaluation.

On July 11, 2018, Metro issued a revised and recirculated CEQA NOP, thereby initiating a scoping comment period. The purpose of the revised NOP was to inform the public of the Metro Board's decision to carry forward Alternatives E and G into the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR). During the scoping period, one agency and three public scoping meetings were held in the Cities of Los Angeles, Cudahy, and Bellflower. The meetings provided project updates and information to stakeholders with the intent to receive comments and questions to support the environmental process. The comment period for scoping ended on August 24, 2018; more than 250 comments were received.

Following the July 2018 scoping period, a number of project refinements were made to address comments received, including additional grade separations, removing certain stations with low ridership, and removing the Bloomfield extension option. The Metro Board adopted these project refinements at its November 2018 meeting.

1.3 Draft Environmental Impact Statement/Environmental Impact Report

The Draft EIS/EIR and corresponding technical studies included evaluation of a No Build Alternative, four Build Alternatives, two station design options, and two site options for a maintenance and storage facility (MSF):

- Alternative 1: Los Angeles Union Station to Pioneer Station
  - Design Option 1: Los Angeles Union Station – Metropolitan Water District
  - Design Option 2: Addition of Little Tokyo Station
- Alternative 2: 7th St/Metro Center to Pioneer Station
- Alternative 3: Slauson/A Line (Blue) to Pioneer Station
- Alternative 4: I-105/C Line (Green) to Pioneer Station

- Paramount MSF site option
- Bellflower MSF site option

Figure 1-1 illustrates the Build Alternatives evaluated in the Draft EIS/EIR.

Figure 1-1. Draft EIS/EIR Build Alternatives

Source: Metro 2020

The Draft EIS/EIR was released for public review and comment in July 2021 for 45 days, which was then extended to a 60-day public review period through September 28, 2021, to provide additional time for the public to respond. Notices of the Draft EIS/EIR release were done in accordance with CEQA and NEPA regulations and included two rounds of notices to announce details of the release of the Draft EIS/EIR, as well as to provide information on the public hearings and comment methods. The Notice of Availability was distributed to 261 agencies via USB drives, which included an electronic copy of the Draft EIS/EIR.

During the 60-day public review period, Metro hosted four virtual public hearings, four virtual community information sessions, and over 19 pop-up booths for in-person engagement at locations throughout the project corridor. In addition, Metro held approximately 20 briefings to key stakeholders, elected officials, corridor cities, and other agencies. In total, approximately 450 submissions were received during the public review and comment period. In January 2022, the Metro Board of Directors identified Alternative 3 as the LPA. The LPA extends from a northern terminus at the Slauson/A Line Station located in the City of Los Angeles/Florence-Firestone unincorporated area of LA County to a southern terminus at the Pioneer Station located in Artesia for a total of 14.5 miles. With identification of the LPA, the Metro Board also identified the MSF site option located in the City of Bellflower as a component of the LPA.

1.4 General Background

The California Health and Safety Code defines air pollution as any discharge, release, or other propagation into the atmosphere, and includes, but is not limited to, smoke, charred paper, dust, soot, grime, carbon, fumes, gases, odors, particulate matter, acids, or any combination thereof. Sources of air pollution can be classified as stationary sources (e.g., industrial processes, generators), mobile sources (e.g., automobiles, trucks) or area sources (e.g., residential water heaters).

Criteria air pollutants are pollutants for which the federal and state governments have established ambient air quality standards (AAQS) to protect public health. The federal and state standards have been set at concentrations designed to prevent environmental exposures that would be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Criteria air pollutants that are regulated by the federal and state governments include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 10 microns or less in diameter (PM_{10}), fine particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and lead (Pb). The properties and associated health effects of exposure to these pollutants are discussed below; also provided are descriptions of ultrafine particulate matter (ultrafine PM), diesel PM, and toxic air contaminants (TACs) as pollutants of air quality concern for which air quality standards have not been specifically established.

CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions

are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of human health, CO competes with oxygen—often replacing it in the blood—thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

O_3 is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG)—which include volatile organic compounds (VOC) and nitrogen oxides (NO_X)—react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant directly emitted to the atmosphere; it is a secondary pollutant formed by complex interactions involving two or more chemical compounds. Emissions of ROG and NO_X that drive atmospheric O_3 formation are primarily attributed to automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation. Ideal conditions for O_3 occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and clear skies. Automobile travel serves as the greatest source of ozone-producing gases. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, restricted breathing, increased susceptibility to infections, inflammation of lung tissue, and some immunological changes.

NO_2, like O_3, is formed in the atmosphere through a chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM_{10} (discussed below). High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase of bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm).

PM comprises very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. PM also forms when gases, emitted from industries and motor vehicles, undergo chemical reactions in the atmosphere. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter classified by particle size. PM_{10} is about 1/7th the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. $PM_{2.5}$ is roughly 1/28th the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X and VOC.

Ultrafine PM emissions form during engine combustion and in the atmosphere immediately after leaving exhaust pipes as emitted gases. Ultrafine PM emissions then condense and rapidly dilute and cool. Internal combustion engines have been identified as significant sources of ultrafine PM. A significant proportion of diesel emission particles have diameters smaller than 100 nanometer (nm) or 0.1 micrometer (µm). Particles emitted from gasoline-powered engines are generally less than 80 nm (0.08 µm) in diameter. Particles from engines fueled by compressed natural gas (CNG) are smaller than from diesel emissions, with the majority between 20 nm and 60 nm (0.02 µm – 0.06 µm). In laboratory toxicity studies, a greater inflammatory and oxidative stress response has been elicited from ultrafine particles

compared to larger particles at comparable mass doses. Oxidative stress is a term to describe cell, tissue, or organ damage caused by reactive oxygen species. After inhalation, ultrafine particles may penetrate rapidly into lung tissue, and some portions may be translocated to other organs of the body. Additionally, ultrafine particles have been found to penetrate cells and subcellular organelles. In cell cultures exposed to ambient particles, ultrafine particles have been found in mitochondria where they induced structural damage.

$PM_{2.5}$ poses greater risks to human health than large particulate matter. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{10} and $PM_{2.5}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates, can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage throughout the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

SO_2 is a colorless, pungent gas that forms primarily through the combustion of sulfur-containing fossil fuels. Main sources of SO_2 emissions are coal and oil used in power plants and industries. Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, atmospheric SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also harm plant leaves and erode iron and steel. Sulfur oxides (SO_X) refer to any of several compounds of sulfur and oxygen, the most important of which is SO_2.

Pb in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline combustion, the manufacture of batteries, paint, ink, ceramics, and ammunition, and secondary lead smelting facilities. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall prevalence of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become the emission sources of greater concern. Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

TACs are generally defined as those contaminants that are known or suspected to cause serious health problems but do not have a corresponding ambient air quality standard. These air pollutants may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors such as the concentration of the chemical and its toxicity, meteorological conditions at the time of release, and the terrain all influence whether the emissions could be hazardous to human health. TACs are emitted by a variety of industrial

processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. TACs can exist as PM_{10} and $PM_{2.5}$ or as vapors (gases), and include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

Diesel exhaust is composed of two phases, gas and particle, both of which contribute to human health risk upon exposure. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde, and polycyclic aromatic hydrocarbons. The particle phase is also composed of many different types of particles by size or composition. Fine and ultrafine diesel particulates are of the greatest health concern and may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals, and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines—the on-road diesel engines of trucks, buses, and cars, and the off-road diesel engines that include locomotives, marine vessels, and heavy-duty equipment. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

Diesel exhaust causes health effects from both short-term (acute) exposures and long-term (chronic) exposures. The nature and severity of health effects depends upon several factors, including the dose and duration of exposure. Individuals also react differently to different levels of exposure. There is limited information on exposure to diesel PM specifically, but there is substantial evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects. Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat, and lungs, as well as some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic inhalation exposure to diesel PM in experimental animal studies has shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

1.5 Methodology

The Affected Area for air quality is located within the LA County portion of the South Coast Air Basin (Basin). The Basin represents the Affected Area for air at the regional scale because all sources of emissions associated with construction and operations would be located within it, and the attainment status of the LA County portion is most representative of regional air quality conditions. The assessment of potential air quality impacts associated with the LPA considers both direct and indirect sources of air pollutant emissions during temporary construction activities and future operation. Under NEPA and CEQA, air quality impacts are typically characterized by estimates of air pollutant emissions within the Affected Area for air quality that are analyzed on either daily or annual timescales in terms of pounds per day (lbs/day) or tons per year (tons/year) of pollutants emitted, respectively.

1.5.1 Updates to the Methodology Since Public Release of the Draft EIS/EIR

This report has been revised based on comments received on the Draft EIS/EIR and to reflect identification of the LPA, including refinements to the LPA. A general overview of the updates is described below that indicates whether the updates were made as a result of comments received or LPA design refinements.

Specifically, comments were received regarding the versions of the California Emissions Estimator Model (CalEEMod) published by the California Air Pollution Control Officer's Association (CAPCOA) and the California Air Resources Board (CARB) EMission FACtor (EMFAC) mobile source emissions inventory model used to complete the air quality analysis for the Draft EIS/EIR. The Draft EIS/EIR used CalEEMod Version 2016.3.2 and EMFAC2017 to estimate pollutant emissions during construction and operation. The analysis for the Final EIS/EIR is updated using versions CalEEMod 2020.4.0 (CAPCOA 2021) and EMFAC2021 (CARB 2022) of these modeling tools. CalEEMod Version 2022.1 is currently available through a web platform but is still in final development and not available for use in the Final EIS/EIR analysis. CalEEMod 2020.4.0 is used to estimate operational emissions at the MSF, as well as in the construction analysis that is documented in detail in Section 7 of this report. EMFAC2021 is used to estimate the daily emissions generated by regional on-road vehicle travel for existing conditions, the No Build Alternative in 2042, and the LPA in 2042.

Comments were received related to recent state regulations requiring the elimination of sales of new fossil-fuel-powered vehicles statewide by the year 2035 (codified under the CARB Advanced Clear Cars II Regulations – Resolution 22-12 [CARB 2022]), and whether these regulatory developments were accounted for in the Draft EIS/EIR analysis. The operational on-road mobile source emissions analysis provided in the Draft EIS/EIR used the EMFAC2017 version of the CARB mobile source emissions inventory application to estimate operational mobile source air pollutant emissions. This version of the EMFAC tool was released prior to adoption of the Advanced Clean Cars II Regulation and did not account for the new accelerated timeline for phasing out sales of new vehicles powered by fossil fuels.

The Final EIS/EIR analysis uses the EMFAC2021 version of the application, which accounts for the implementation of the Advanced Clear Cars II Regulation. EMFAC2021 is used to estimate the daily emissions generated by regional on-road vehicle travel for existing conditions, the No Build Alternative in 2042, and the LPA in 2042. This adjustment within the EMFAC database results in greater reductions in emissions on aggregate average throughout the on-road vehicle fleet between 2017 and 2042. Therefore, compared to existing conditions, the reduction in criteria pollutant and ozone precursor emissions associated with changes in on-road vehicle travel is greater in the Final EIS/EIR analysis than the reduction provided in the Draft EIS/EIR. However, the emissions reduction for the LPA is of lesser magnitude when compared to the No Build Alternative in 2042, as the emissions analyzed for the No Build Alternative also account for implementation of the Advanced Clean Cars II Regulations.

Design refinements to the LPA include the development of an updated conceptual construction schedule that outlines the forecasted phase and activity durations that will be involved in constructing the LPA alignment, parking facilities, the MSF, and other ancillary components. The updated schedule indicates that construction activities are anticipated to begin in 2024, while the preliminary conceptual schedule used in the Draft EIS/EIR analyses forecasted construction to start in 2022. The emission factors within the CalEEMod database progressively decrease the further into the future the modeling year is assigned, as the model accounts for turnover of the regional on-road vehicle and off-road equipment fleets over time due to the market penetration of cleaner-burning engines and phasing out of older units. Thus, construction activity modeled in the scenario year of 2024 will result in lower emissions than the same construction activity modeled in the scenario year of 2022.

The updated conceptual construction schedule also indicates that the overall duration of LPA construction—approximately eight years—will be longer than the schedule used in preparing the Draft EIS/EIR analyses that assumed a six-year duration. The reasons for the change in the construction schedule are described the *West Santa Ana Branch Transit Corridor Project Construction Methods Report* (Metro 2024). As part of these refinements, construction of the MSF is reduced from three years to two years. Overall, the pushback and extension of the construction schedule results in lower magnitudes of maximum daily emissions during construction of the LPA alignment, stations, and parking facilities—as well as the MSF—relative to emissions presented in the Draft EIS/EIR.

1.5.2 CEQA Baseline and Streamlining for Sustainable Transportation Projects

Definition of the baseline year under CEQA has been the subject of several state appellate court and Supreme Court cases, and the preferred presentation of impacts analyses for projects with extended construction periods and opening years considerably set back from the Existing Conditions has evolved over time. Spurred by Senate Bill (SB) 743—originally adopted in 2013 and discussed further in Section 3.2, State Regulatory Framework—the CEQA Guidelines were updated in 2018 to incorporate VMT as the preferred metric for analyzing transportation impacts under CEQA. In response to the updated CEQA Guidelines, the Office of Planning and Research (OPR) published a *Technical Advisory on Evaluating Transportation Impacts in CEQA* in December 2018 (OPR 2018), and the California Department of Transportation (Caltrans) has published draft guidance for analyzing transportation impacts for state highway system projects under CEQA that is expected to be finalized in 2020. The OPR guidance relates directly to the Project, while the draft Caltrans guidance provides insight as to the direction Caltrans is taking with assessing CEQA impacts from long-range transportation projects.

Generally, LRT projects are understood to improve regional connectivity and air quality through induced changes to mobility patterns spurred by the provision of an alternative mode of transportation that replaces and reduces vehicle trips. The OPR guidance recommends streamlining CEQA analyses of potential impacts to transportation and transportation-related emissions for transit and active transportation projects that are widely recognized to reduce on-road VMT and associated vehicle emissions. The OPR recommendation is based on programmatic review of public transit and active transportation projects, which consistently demonstrate reductions in pollutant emissions from on-road vehicles.

The determination of potentially significant operational air quality impacts is streamlined for the LPA, as it will not introduce a new substantial permanent source of air pollutant emissions into the Affected Area and will induce changes to regional transportation patterns that will decrease VMT and associated air pollutant emissions. For informational disclosure, direct and indirect emissions attributed to operation of the MSF are quantified and presented in the Existing Conditions year of 2017, as the MSF would be an essential component of the LPA and will not be developed independently of the LPA. Consistent with the Caltrans guidance, a holistic presentation of operational MSF emissions in combination with induced changes to regional transportation emissions are presented in the horizon baseline year of 2042 for informational disclosure.

The LPA is located in the Los Angeles County portion of the Basin, which is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD has established guidance for assessing air quality impacts under CEQA that recommends an

analysis of construction and operational emissions at both regional and localized scales. Regional emissions refer to all emissions that would be produced within the SCAQMD jurisdiction—the Affected Area of the LPA—by sources located on and off the project site. Localized emissions refer exclusively to those emissions generated by sources located on the project site. Both the construction and operational analyses address LPA air pollutant emissions at the regional and localized levels. The following discussions provide an overview of the sources of LPA emissions that are accounted for in the air quality impacts assessment.

Construction of the LPA is anticipated to take up to eight years, spanning from the fourth quarter of 2024 to the third quarter of 2032, with daily activities varying throughout the schedule duration and along the alignment. There is flexibility in the preliminary construction schedule, such that there may be periods during which various components of the LPA are under construction throughout the 14.5-mile alignment. Additionally, some segments may be constructed in phases with activities occurring progressively from south to north along the alignment. The air quality analysis for construction of the LPA accounted for the maximum amount of construction activities that may be ongoing at any given time throughout the eight-year period. Operational emissions will commence in 2035 following the completion of construction and systems testing.

1.5.3 Operational Activity Emissions

The OPR recommends streamlining the emissions impact analysis for transit and active transportation projects that displace vehicle trips and reduce on-road VMT; therefore, operational emissions are quantified and disclosed for informational purposes. Operation of the LPA will introduce new direct and indirect sources of operational air pollutant emissions associated with the MSF (i.e., vehicle trips, fugitive/area sources, energy consumption), which is an essential component of the LPA. Using the preliminary MSF site plan, estimates of MSF operational emissions were produced using CalEEMod in the analysis years of 2017 and 2042. It is anticipated that the MSF will generate up to approximately 250 daily vehicle trips between Metro employees and commercial deliveries. The emissions associated with MSF operations were estimated in 2017 and 2042 and are discussed in the context of SCAQMD Air Quality Significance Thresholds for typical land use developments projects under CEQA.

In addition to operational MSF emissions, operation of the LPA will displace on-road vehicle trips and travel, inducing changes to regional transportation patterns and associated emissions. Changes to regional transportation patterns resulting from the LPA are quantified for informational disclosure using VMT produced by the regional transportation model. Datasets of daily VMT within the Affected Area were provided by the transportation engineering team for Existing Conditions in 2017, with implementation of the LPA if operational in 2017, the 2042 No Build Alternative, and 2042 with implementation of the LPA. The daily VMT are divided into speed bins that show the distribution of vehicle travel in 5 mile per hour (mph) increments. Table 1.1 presents a summary of the daily VMT for the 2017 scenarios, and Table 1.2 presents a summary of the daily VMT for the 2042 scenarios. If operational in 2017, the LPA will reduce daily VMT within the Affected Area by approximately 0.016 percent relative to Existing Conditions. By 2042, the LPA will reduce daily VMT within the Affected Area by approximately 0.022 percent relative to the No Build Alternative. Emissions generated by regional VMT within the Affected Area were quantified and disclosed using the CARB EMFAC model for the 2042 scenarios.

Mobile source air pollutant emissions from on-road vehicle traffic under the No Build Alternative, LPA, and design option in 2042 were quantified using the CARB EMFAC2021 model and are disclosed for informational purposes to demonstrate the long-term benefits associated with the LPA. The model is built upon the statewide mobile source emissions inventory and produces emission rates in units of grams of pollutant emitted per VMT based on the year of analysis, regional location, vehicle fleet mix, local meteorology, and speed of travel. Emission rates were produced for the SCAG region in 2042 corresponding to the speed bins presented in Table 1.1 and Table 1.2.

Table 1.1. Affected Area Daily Vehicle Miles Traveled – 2017 Existing Scenarios

Speed Range (mph)	Existing Conditions	Existing + Locally Preferred Alternative
0-5	2,925,006	2,924,597
5-10	5,252,940	5,245,489
10-15	13,759,521	13,715,106
15-20	29,405,409	29,510,250
20-25	62,189,909	62,022,759
25-30	67,226,815	67,573,243
30-35	59,226,864	58,873,089
35-40	36,971,117	36,979,119
40-45	22,813,405	22,776,688
45-50	16,937,617	16,951,438
50-55	16,868,433	16,947,536
55-60	16,152,280	16,129,597
60-65	21,987,684	22,051,930
65-70	35,691,030	35,592,063
70-75	55,649,717	55,693,001
75-80	188,076	188,070
Total (Daily)	**463,245,820**	**463,173,975**
Change vs. Existing Conditions	**--**	**(71,845)**
% Change vs. Existing Condition	**--**	**(0.016%)**

Source: WSP 2020
Note: mph = miles per hour, (#) = Negative Value

To estimate daily emissions under each scenario, the daily VMT in each speed bin was multiplied by the corresponding emission factor for each pollutant, and then the total emissions across all speed bins were summed. The emission factors used in the demonstrative analysis apply to exhaust emissions per VMT, with the exception of particulate matter emission rates that account for brake wear, tire wear, and resuspended road dust. Regional VMT emissions modeling files are provided in Appendix A.

Table 1.2. Affected Area Daily Vehicle Miles Traveled – 2042 Scenarios

Speed Range (mph)	No Build Alternative (2042)	Locally Preferred Alternative (2042)
0-5	8,161,300	8,120,095
5-10	22,192,831	22,245,691
10-15	37,570,046	37,558,820
15-20	58,002,358	57,936,698
20-25	85,809,742	86,039,526
25-30	87,812,528	87,751,214
30-35	69,039,178	68,783,376
35-40	45,115,846	45,312,052
40-45	20,004,278	19,936,347
45-50	16,888,941	17,054,865
50-55	15,149,076	14,888,433
55-60	20,835,805	20,854,238
60-65	28,725,713	28,572,364
65-70	48,972,338	49,191,189
70-75	41,911,351	41,815,668
75-80	138,580	138,464
Total (Daily)	**606,329,911**	**606,199,041**
Change vs. No Build	—	**(130,870)**
% Change vs. No Build	—	**(0.022%)**
Change vs. Existing Conditions	**143,084,090**	**142,953,220**
% Change vs. Existing Conditions	**30.89%**	**30.86%**

Source: WSP 2020
Note: mph = miles per hour, (#) = Negative Value

1.5.4 CEQA Thresholds of Significance for Pollutant Emissions

The SCAQMD is charged with regulatory jurisdiction over air quality in the Basin and has developed Air Quality Significance Thresholds and analysis methodologies in the SCAQMD CEQA Air Quality Handbook to guide air quality impact assessments for CEQA purposes. As described above, air pollutant emissions from land use development projects are evaluated on both regional and localized scales. Regional-scale Air Quality Significance Thresholds developed by the SCAQMD are shown in Table 1.3. Maximum daily air pollutant emissions during construction of the Project are compared to the Air Quality Significance Thresholds to determine the potential for significant environmental impacts related to air quality.

Table 1.3. SCAQMD Air Quality Significance Thresholds – Regional Mass Daily Thresholds

Pollutant	Construction (Pounds/Day)	Operation (Pounds/Day)
Volatile Organic Compounds (VOC)	75	55
Nitrogen Oxides (NO_X)	100	55
Carbon Monoxide (CO)	550	550
Sulfur Oxides (SO_X)	150	150
Respirable Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Lead (Pb)	3	3

Source: SCAQMD 2019

In addition to regional significance thresholds, SCAQMD developed specific CEQA localized significance thresholds (LSTs) that apply to only sources of emissions situated on the project site. According to the SCAQMD, localized emissions at project sites would result in a significant air quality impact if air pollutant concentrations exceed the threshold values presented in Table 1.4. Since the Basin is in nonattainment for PM_{10} and $PM_{2.5}$ under the California standards, the threshold is established as an incremental "allowable change" in concentration resulting from project implementation. Therefore, background concentration is irrelevant.

Table 1.4. SCAQMD Air Quality Significance Thresholds – Localized Significance Thresholds

Pollutants and Averaging Times	Construction	Operation
Nitrogen Dioxide (NO_2) – Annual Average	0.03 ppm (CAAQS)	0.03 ppm (CAAQS)
Nitrogen Dioxide (NO_2) – 1-Hour Average	0.18 ppm (CAAQS)	0.18 ppm (CAAQS)
Carbon Monoxide (CO) – 8-Hour Average	9.0 ppm (CAAQS)	9.0 ppm (CAAQS)
Carbon Monoxide (CO) – 1-Hour Average	20 ppm (CAAQS)	20 ppm (CAAQS)
Sulfur Dioxide (SO_2) – 24-Hour Average	0.04 ppm (CAAQS)	0.04 ppm (CAAQS)
Sulfur Dioxide (SO_2) – 1-Hour Average	0.075 ppm (NAAQS)	0.075 ppm (NAAQS)
Respirable Particulate Matter (PM_{10}) – Annual Average[1]	1.0 µg/m^3	1.0 µg/m^3
Respirable Particulate Matter (PM_{10}) – 24-Hour Average[1]	10.4 µg/m^3	2.5 µg/m^3
Fine Particulate Matter ($PM_{2.5}$) – 24-Hour Average[1]	10.4 µg/m^3	2.5 µg/m^3

Source: SCAQMD, 2019.
Note: [1] Threshold is based on SCAQMD Rule 403.
µg/m^3 = micrograms per cubic meter air; CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Sta

The SCAQMD devised regionally specific Mass Rate Look-Up Tables based on the project Source Receptor Area (SRA), project site size, and proximity of sensitive receptors to the Project. The Mass Rate Look-Up Tables are provided in Appendix C of the *SCAQMD Final Localized Significance Threshold Methodology* and represent maximum allowable daily emissions from sources situated on the project site that will not result in AAQS being exceeded at sensitive receptor locations. Applicable LST values are referenced for the Project under the appropriate impact criteria discussions. The LPA transects portions of SRA 1 – Central Los Angeles County, SRA 4 – South Coastal Los Angeles County, SRA 5 – Southeast Los Angeles County, and SRA 12

– South Central Los Angeles County. The LPA will not introduce a new substantial stationary source of air pollutant emissions into the Affected Area. Therefore, the localized emissions analysis focuses on construction only (Table 1.5).

Table 1.5. SCAQMD Localized Significance Thresholds – Construction

Source Receptor Area	Site Size (Acres)	Receptor Distance (m)	Threshold (lbs/day)			
			CO	NO_X	PM_{10}	$PM_{2.5}$
1 (Central LA County)	≤1	25	680	74	5	3
		50	882	74	15	5
		100	1,259	82	33	10
		200	2,406	106	70	24
		500	7,911	168	179	102
	2	25	1,048	108	8	5
		50	1,368	106	25	7
		100	1,799	110	43	12
		200	3,016	126	80	28
		500	8,637	179	190	110
	5	25	1,861	161	16	8
		50	2,331	157	50	11
		100	3,030	165	69	18
		200	4,547	173	107	36
		500	10,666	212	219	126
4 (South Coastal LA County)	≤1	25	585	57	4	3
		50	789	58	13	5
		100	1,180	68	29	10
		200	2,296	90	61	26
		500	7,558	142	158	93
	2	25	842	82	7	5
		50	1,158	80	21	7
		100	1,611	87	37	13
		200	2,869	106	70	30
		500	8,253	151	167	101
	5	25	1,530	123	14	8
		50	1,982	118	42	10
		100	2,613	126	58	18
		200	4,184	141	92	39
		500	10,198	179	191	120

Source Receptor Area	Site Size (Acres)	Receptor Distance (m)	Threshold (lbs/day)			
			CO	NO_X	PM_{10}	$PM_{2.5}$
5 (Southeast LA County)	≤1	25	571	80	4	3
		50	735	81	13	4
		100	1,088	94	30	8
		200	2,104	123	66	19
		500	6,854	192	173	86
	2	25	681	114	7	4
		50	1,082	111	21	6
		100	1,496	121	39	10
		200	2,625	145	74	22
		500	7,500	205	182	92
	5	25	1,480	172	14	7
		50	1,855	165	42	10
		100	2,437	176	60	15
		200	3,867	194	95	30
		500	9,312	244	203	103
12 (South Central LA County)	≤1	25	231	46	4	3
		50	342	46	12	4
		100	632	54	26	7
		200	1,545	70	54	17
		500	5,452	109	139	70
	2	25	346	65	7	4
		50	515	64	20	6
		100	841	69	34	9
		200	1,817	82	62	19
		500	5,962	117	146	74
	5	25	630	98	13	7
		50	879	84	41	10
		100	1,368	101	55	15
		200	2,514	111	83	27
		500	7,389	139	166	86

Source: SCAQMD 2009
Notes: LA = Los Angeles; SRA = Source Receptor Area; lbs/day = pounds per day; m = meters; CO = carbon monoxide; NO_X = nitrogen oxide; PM_{10} = particulate matter less than 10 microns; $PM_{2.5}$ = particulate matter less than 2.5 microns

The localized emissions analysis for construction determined the applicable LST values based on SRA, receptor proximity, and maximum daily ground area disturbance for each site analyzed.

Additionally, the SCAQMD states that a project would generate significant emissions of TACs if exposures to a sensitive receptor exceeds a Maximum Incremental Cancer Risk of 10 in one million, a Cancer Burden of 0.5 excess cancer cases, or a Chronic or Acute Hazard Index of 1.0. No specific threshold has been established for assessing potential impacts from odors.

2 PROJECT DESCRIPTION

This section describes the No Build Alternative and the LPA studied in the WSAB Transit Corridor Final EIS/EIR, including station locations, and the MSF. The LPA was developed through a comprehensive alternatives analysis process and meets the purpose and need of the Project.

The No Build Alternative and LPA are generally defined as follows:

- **No Build Alternative:** Reflects the transportation network in the 2042 horizon year without the LPA. The No Build Alternative includes the existing transportation network along with planned transportation improvements that have been committed to and identified in the constrained *Metro 2009 Long Range Transportation Plan* (2009 LRTP) (Metro 2009) and SCAG's *2016-2040* RTP/SCS (SCAG 2016), as well as additional projects funded by Measure M that would be completed by 2042.
- **LPA:** The LPA consists of a 14.5-mile LRT line that will extend from the northern terminus in the City of Los Angeles/Florence-Firestone community of LA County to a southern terminus in the City of Artesia.

Figure 2-1 illustrates the LPA. The northern terminus of the LPA will be located just south of the intersection of Long Beach Avenue and Slauson Avenue, connecting to the current Slauson/A Line Station. South of Slauson Avenue, the LPA will follow the UPRR-owned La Habra Branch[2] ROW east along Randolph Street. At the Ports-owned San Pedro Subdivision ROW, the LPA will turn southeast to follow the San Pedro Subdivision ROW and then transition to the PEROW south of the I-105 freeway. The LPA will then follow the Metro-owned PEROW to the southern terminus at the Pioneer Station in Artesia. Figure 2-2 depicts the alignment sections that will require freight track relocation. The LPA will be grade separated where warranted, as indicated on Figure 2-1.

[2] The La Habra Branch may also be referred to as the La Habra Subdivision. La Habra Branch is used within this document.

Figure 2-1. Locally Preferred Alternative Alignment by Grade

Source: WSP and TAHA 2023

Figure 2-2. Existing Rail Right-of-Way Ownership

Source: WSP and TAHA 2023

2.1 No Build Alternative

For the NEPA evaluation, the No Build Alternative is evaluated in the context of the existing transportation facilities in the project corridor (the corridor extends approximately 2 miles from each side of the four alternatives evaluated in the Draft EIS/EIR) and other capital transportation improvements and/or transit and highway operational enhancements that are reasonably foreseeable. Because the No Build Alternative provides the background transportation network against which the LPA's impacts are identified and evaluated, the No Build Alternative does not include the Project.

The No Build Alternative reflects the transportation network in 2042 and includes the existing transportation network along with planned transportation improvements that have been committed to and identified in the constrained Metro 2009 LRTP and the SCAG 2016 RTP/SCS, as well as additional projects funded by Measure M, a sales tax initiative approved by voters in November 2016. The No Build Alternative includes Measure M projects that are scheduled to be completed by 2042.

The required environmental baseline socioeconomic growth projections, including the reasonably foreseeable transportation network in 2042, were established in July 2017 when the preparation of the Draft EIS/EIR began. The SCAG 2016-2040 RTP/SCS was the adopted current regional growth forecast at the time the Draft EIS/EIR baseline was established. Specifically, the baseline year 2017 and future year 2042 population, housing, and employment are derived from the Transportation Analysis Zone-level estimates from the SCAG 2016-2040 RTP/SCS.

Table 2.1 lists the existing transportation network and planned improvements included as part of the No Build Alternative based on the Metro 2009 LRTP and SCAG 2016 RTP/SCS.

Table 2.1. No Build Alternative – Existing Transportation Network and Planned Improvements

Project	To / From	Location Relative to Study Area
Rail (Existing)		
Metro Rail System (LRT and Heavy Rail Transit)	Various locations	Within Study Area
Metrolink (Southern California Regional Rail Authority) System	Various locations	Within Study Area
Rail (Under Construction/Planned)[1]		
Metro Westside D Line Extension	Wilshire/Western to Westwood/VA Hospital	Outside Study Area
Metro C Line Extension[2] to Torrance	96th Street Station to Torrance	Outside Study Area
Metro C Line Extension	Norwalk to Expo/Crenshaw	Outside Study Area
Metro East-West Line/Regional Connector/Eastside Phase 2	Santa Monica to Lambert Road Santa Monica to Peck Road	Within Study Area
Metro North-South Line/Regional Connector/Foothill Extension to Claremont Phase 2B	Long Beach to Claremont	Within Study Area
Metro Sepulveda Transit Corridor	Metro G Line to Metro E Line	Outside Study Area

Project	To / From	Location Relative to Study Area
Metro East San Fernando Valley Transit Corridor	Sylmar to Metro G Line	Outside Study Area
Los Angeles World Airport Automated People Mover	96th Street Station to LAX Terminals	Outside Study Area
Metrolink Capital Improvement Projects	Various projects	Within Study Area
California High-Speed Rail	Burbank to LA LA to Anaheim	Within Study Area
Link US[3]	LAUS	Within Study Area
Bus (Existing)		
Metro Bus System (including BRT, Express, and local)	Various locations	Within Study Area
Municipality Bus System[4]	Various locations	Within Study Area
Bus (Under Construction/Planned)		
Metro G Line (BRT)	Del Mar (Pasadena) to Chatsworth Del Mar (Pasadena) to Canoga Canoga to Chatsworth	Outside Study Area
Vermont Transit Corridor (BRT)	120th Street to Sunset Boulevard	Outside Study Area
North San Fernando Valley BRT	Chatsworth to North Hollywood	Outside Study Area
North Hollywood to Pasadena	North Hollywood to Pasadena	Outside Study Area
Highway (Existing)		
Highway System	Various locations	Within Study Area
Highway (Under Construction/Planned)		
High Desert Multi-Purpose Corridor	SR-14 to SR-18	Outside Study Area
I-5 North Capacity Enhancements	SR-14 to Lake Hughes Road	Outside Study Area
SR-71 Gap Closure	I-10 to Rio Rancho Road	Outside Study Area
Sepulveda Pass Express Lane	I-10 to US-101	Outside Study Area
SR-57/SR-60 Interchange Improvements	SR-57/SR-60	Outside Study Area
I-710 South Corridor Project (Phases 1 and 2)	Ports of Long Beach and LA to SR-60	Within Study Area
I-105 Express Lane	I-405 to I-605	Within Study Area
I-5 Corridor Improvements	I-605 to I-710	Outside Study Area

Source: Metro 2018, WSP 2019

Notes: [1] Where extensions are proposed for existing Metro rail lines, the origin/destination is defined for the operating scheme of the entire rail line following completion of the proposed extensions and not just the extension itself.

[2] The Metro C Line extension to Torrance includes new construction from Redondo Beach to Torrance; however, the line will operate from Torrance to 96th Street.

[3] Link US rail walk times included only.

[4] The municipality bus network system is based on service patterns for Bellflower Bus, Cerritos on Wheels, Cudahy Area Rapid Transit, Get Around Town Express, Huntington Park Express, La Campana, Long Beach Transit, Los Angeles Department of Transportation, Norwalk Transit System, and the Orange County Transportation Authority.

BRT = bus rapid transit; LA = Los Angeles; LAUS = Los Angeles Union Station; LAX = Los Angeles International Airport; LRT = light rail transit; SR = State Route; VA = Veterans Affairs

2.2 Locally Preferred Alternative

2.2.1 Refinements to the Locally Preferred Alternative

The LPA evaluated in this report is Alternative 3 from the Draft EIS/EIR with refinements to address stakeholder coordination and comments on the Draft EIS/EIR. Refinements to the LPA include the following:

- Shift the Slauson/A Line aerial station platform south and add a second set of vertical circulation and pedestrian circulation elements between the Slauson/A Line Station and the existing A Line Station. Additionally, a set of stairs was added between the A Line station and street level.
- Swap the location of the freight and LRT tracks within the La Habra Branch ROW compared to the Draft EIS/EIR design. Freight tracks will be located on the north side of the ROW and LRT tracks on the south side to accommodate potential freight connectivity to an existing industrial track on the north side of the ROW.
- Open or close at-grade crossings and implement left-turn restrictions over the LRT tracks in the City of Huntington Park:
  - Open crossings previously proposed for closure at Albany Street and Rugby Boulevard
  - Close crossings previously proposed to remain open at Malabar Street and Arbutus Avenue
  - Implement left-turn restrictions at Santa Fe Avenue, Pacific Boulevard, Miles Avenue, and State Street
- Modify roadway design at the southeast corner of Florence Avenue and California Avenue to avoid partial acquisition of infrastructure related to a water well.
- Redesign a freight spur track connection north of Rayo Avenue on the west side of the freight tracks to avoid impacts to a spur track.
- Close the private at-grade crossing at Miller Way. The private business will be displaced by the Project.
- Extend the LRT viaduct north of Imperial Highway to avoid impacts to a spur track and full acquisition of a property.
- Reconfigure the I-105/C Line Station parking facility by removing dedicated transit parking on the west side of the freight tracks and expanding the parking facility on the east side of the freight tracks to the north; also add a new driveway entrance to the parking facility at Century Boulevard.
- Eliminate demolition and reconstruction of the Arthur Avenue and Façade Avenue bridges; modify Façade Avenue to an emergency exit only from the I-105/C Line infill station (rather than a station entrance and exit).
- Modify the replacement freight bridge at I-105 to a four-span structure, consistent with the current bridge, rather than the previously proposed two-span structure.
- Replace the proposed pedestrian undercrossing with a pedestrian bridge at Paramount High School that will span the entire rail ROW.
- Realign the MSF site entrance on Somerset Boulevard to align with Bayou Avenue to allow for a signalized pedestrian crossing of Somerset Boulevard.
- Add protected left turn and a traffic signal on Clark Avenue at Los Angeles Street to accommodate dedicated turning movements to the community.

- Modify alignment of the LRT tracks and soundwall at the Bellflower Mobile Home Park to minimize parking loss and provide replacement parking elsewhere on the property to maintain the existing number of parking spaces.
- Redesign retaining walls on the southeast side of the 183rd Street/Gridley Road crossing from retained fill to columns.
- Incorporate the Artesia Historic District Recreation Trails as an existing, rather than future, condition in the Final EIS/EIR plan set.
- Add a design option that will close 186th Street but keep 187th Street open to traffic in the City of Artesia, and turn Corby Avenue into a cul-de-sac with an access driveway for the existing business.
- Modify the entrance to the Pioneer Station parking structure to align with Solana Place and shift structure north to provide alley egress resulting in an additional level on the Pioneer parking structure to maintain the number of parking spaces identified in the Draft EIS/EIR.
- Extend the median located north of the LRT tracks at the Pioneer Boulevard grade crossing to prohibit left turns from a shopping center driveway along the east side.
- Incorporate Mitigation Measures NOI-4 (Crossing Signal Bell Shrouds) and NOI-5 (Gate-Down-Bell-Stop Variance), recommended in the Draft EIS/EIR to further reduce noise at grade crossings, as Project Measure NOI PM-1 and NOI PM-2 in the Final EIS/EIR to be implemented as part of the LPA.
- Add Project Measure VA PM-8 (Residential Screening for Aerial Structures), which requires privacy screening along portions of the aerial structure adjacent to the rear of residential properties in the Cities of Paramount, Bellflower, and Cerritos if the soundwall in those locations will not be sufficiently tall to provide similar privacy screening.
- Add Project Measures BIO PM-1 (Invasive Plant Species Best Management Practices) and BIO PM-2 (Prohibition of Invasive Plant Species in Landscape Plans) to provide options to minimize the spread of invasive species during construction and prohibit the inclusion of invasive species in landscape plans; add Project Measure BIO PM-3 (LA Metro Tree Policy) to require adherence to LA Metro Tree Policy, adopted by Metro in October 2022.
- Add Project Measure CR PM-1 (Secretary of the Interior Standards Design Review), which requires review and approval of the design of the new LRT bridge and C Line station that will be constructed within the Century Freeway-Transitway Historic District and extension of the Union Pacific LA River Rail Bridge's existing concrete piers by a professional who meets the Secretary of the Interior's Professional Qualification Standards in architectural history, history, or architecture.

Refinements also included the following modifications to construction laydown/staging areas:

- Relocate the construction laydown area near State Street and Randolph Street to east of State Street in the railroad ROW.
- Relocate the laydown area at the southeast corner of Imperial Highway and Garfield Place to north of Imperial Highway within the San Pedro Subdivision ROW.
- Locate a construction laydown/staging area on the east side of the ROW between Rayo Avenue and Southern Avenue.

Additionally, refinements included changes to traction power substations (TPSS) site locations:

- Relocate TPSS Site 14 from the northwest corner of Randolph Street and State Street to the east within railroad ROW.
- Eliminate optional TPSS Sites 16E and 12E in the City of Huntington Park.
- Add Optional TPSS Site 7E within the reconfigured parking facility east of the tracks at the I-105/C Line Station parking facility.
- Relocate the proposed TPSS Site 2 from the northwest side of the intersection of 183rd Street/Gridley Road to the southeast side.

2.2.2 Alignment Configuration

This section summarizes the LPA alignment. The general characteristics of the LPA are summarized in Table 2.2. Figure 2-3 illustrates the freeway crossings along the alignment. Additionally, the LPA will require relocation of existing freight rail tracks within the ROW to maintain existing operations where freight tracks will be in a shared corridor with the LRT tracks. Figure 2-2 depicts the alignment sections that will require freight track relocation.

Table 2.2. Summary of LPA Components

Component	Quantity
Alignment length	14.5 miles
Length of at-grade and aerial	12.1 miles at-grade; 2.4 miles aerial[1]
Station configurations	9 along WSAB alignment, 1 at-grade infill station along C Line 3 aerial; 6 at-grade
Parking facilities	5 total: 4 surface lots and 1 parking structure (approximately 2,800 spaces)
At-grade crossings	30
Elevated street crossings	15
Freight crossings	6
Freeway crossings	4 (1 aerial/overcrossing at I-105; 3 freeway undercrossings[2] at I-710, I-605, SR 91)
Freight realignment	8.7 miles
River crossings	3 (Rio Hondo, LA River and San Gabriel)
TPSS facilities	17
Maintenance and Storage Facility site	1 (City of Bellflower)

Source: WSP 2023
Notes: [1] Alignment configuration measurements count retained fill embankments as at-grade.
[2] The light rail tracks crossing beneath freeway structures.
LA = Los Angeles; TPSS = traction power substation; WSAB = West Santa Ana Branch

Figure 2-3. Freeway Crossings

Source: WSP 2023

The total alignment length of the LPA will be approximately 14.5 miles, consisting of approximately 12.1 miles of at-grade and 2.4 miles of aerial alignment. The LPA will include nine new LRT stations along the WSAB alignment, of which six will be at-grade and three will be aerial. Additionally, the Project will add one new infill station along the C Line at I-105 to allow transfers between the WSAB alignment and the C Line. Five of the stations will include parking facilities, providing a total of approximately 2,800 dedicated transit parking spaces. Four of the parking facilities will be surface lots and the fifth will be a parking structure. The alignment will include 30 at-grade crossings, 4 freeway crossings (3 freeway undercrossings and 1 aerial freeway crossing), 3 river crossings, 15 aerial road crossings, and 6 freight crossings. The following further describes the LPA along the alignment.

Northern terminus (City of Los Angeles/Florence-Firestone community of LA County): The northern terminus of the LPA will begin at the Slauson/A Line Station, which will serve as a transfer point to the Metro A Line. Transfers between the Slauson/A Line Station and the existing Metro A Line will be accommodated via two pedestrian bridges between the two station platforms. The pedestrian bridges will be located at the southern and northern ends of the platforms and will be accessed by stairs, escalators, and/or elevators. Stairs, escalators, and/or elevators will also connect with the street level on the north side of the station, while stairs will connect with the street level on the south side of the station. An additional set of stairs will be added to the existing A Line Station providing access to street level. Tail tracks[3] accommodating layover storage for a three-car train will extend approximately 1,000 feet north from the station.

La Habra Branch ROW[4] (City of Huntington Park): South of the Slauson/A Line Station, the alignment will turn east along the existing UPRR owned La Habra Branch ROW in the median of Randolph Street. The alignment will be on the south side of the La Habra Branch ROW, and the freight tracks will be realigned but remain in the northern portion of the ROW. The alignment will transition to an at-grade configuration west of Alameda Street and will proceed east along the Randolph Street median. Wilmington Avenue, Regent Street, and Malabar Street will be closed to traffic crossing the ROW, altering the intersection design to a right-in, right-out configuration. The Pacific/Randolph Station will be located just east of Pacific Boulevard. From the Pacific/Randolph Station, the alignment will continue east at-grade. Arbutus Avenue and Rita Avenue will be closed to traffic crossing the ROW, altering the intersection design to a right-in, right-out configuration.

San Pedro Subdivision ROW (Cities of Huntington Park, Bell, Cudahy, South Gate, Downey, and Paramount): At the San Pedro Subdivision ROW, the alignment will transition to an aerial configuration and turn south to cross over Randolph Street and the freight tracks, returning to an at-grade configuration north of Gage Avenue. The alignment will be located on the east side of the existing San Pedro Subdivision ROW freight tracks, and the existing track(s) will be relocated to the west side of the ROW. The alignment will continue at-grade within the San Pedro Subdivision ROW to the at-grade Florence/Salt Lake Station south of Florence Avenue.

[3] Tail tracks are additional tracks that extend beyond the end of the mainline tracks and can be used for temporarily parking, storing, or reversing the direction of trains. While the tracks are designed to allow for layover if needed, trains will not sit at the end of the line.

[4] The La Habra Branch may also be referred to as the La Habra Subdivision. La Habra Branch is used within this document.

The alignment will continue southeast from the at-grade Florence/Salt Lake Station within the San Pedro Subdivision ROW, crossing Otis Avenue, Santa Ana Street, and Ardine Street at-grade. The alignment will be located on the east side of the existing San Pedro Subdivision freight tracks, and the existing tracks will be relocated to the west side of the ROW. South of Ardine Street, the alignment will transition to an aerial structure to cross over the existing UPRR tracks and Atlantic Avenue. The Firestone Station will be located on an aerial structure between Atlantic Avenue and Firestone Boulevard. The Firestone Station will include a dedicated transit parking facility providing approximately 600 parking spaces with a vehicle underpass under the freight tracks to access the parking facility.

The alignment will then cross over Firestone Boulevard and transition back to an at-grade configuration prior to crossing Rayo Avenue at-grade. The alignment will continue south along the San Pedro Subdivision ROW, crossing Southern Avenue at-grade and continuing at-grade until it transitions to an aerial configuration to cross over the LA River. The LRT bridge will be constructed next to the existing freight bridge. South of the LA River, the alignment will transition to an at-grade configuration, then passing under the I-710 freeway through a new box tunnel structure. The alignment will then return to an aerial structure to cross over the Rio Hondo Channel. South of the Rio Hondo Channel, the alignment will transition to an aerial structure to cross over a realigned spur track, Imperial Highway and Garfield Avenue. South of Garfield Avenue, the alignment will transition to an at-grade configuration and serve the Gardendale Station north of Gardendale Street.

From the Gardendale Station, the alignment will continue south in an at-grade configuration, crossing Gardendale Street and Main Street to serve the I-105/C Line Station, which will be located at-grade north of Century Boulevard. The I-105/C Line Station will include a dedicated transit parking facility providing approximately 340 to 360 parking spaces, depending on the location of the TPSS. The alignment will continue at-grade, crossing Century Boulevard, then will cross over the I-105 freeway in an aerial configuration within the existing San Pedro Subdivision ROW bridge footprint. A new Metro C Line Station will be constructed in the median of the I-105 freeway. The I-105/C Line Station will be connected to the new infill C Line Station in the middle of the freeway via a pedestrian walkway on the new LRT bridge. Vertical pedestrian access will be provided from the LRT bridge to the new C Line Station platform via stairs, escalators, and/or elevators. Emergency egress from the C Line Station will also be provided at Façade Avenue via stairs and elevators. To accommodate construction of the new station platform, the existing Metro C Line tracks will be widened and, as part of the I-105 Express Lanes Project, the I-105 lanes will be reconfigured.

PEROW (Cities of Paramount, Bellflower, Cerritos, and Artesia): South of the I-105 freeway, the alignment will continue at-grade within the San Pedro Subdivision ROW. In order to maintain freight operations and allow for freight train crossings, the alignment will transition to an aerial configuration as it turns southeast and enter the PEROW. The existing freight track will cross beneath the aerial alignment and align on the north side of the PEROW east of the San Pedro Subdivision ROW. The Paramount/Rosecrans Station will be located in an aerial configuration west of Paramount Boulevard and north of Rosecrans Avenue. The existing freight track will be relocated to the northeast side of the alignment adjacent to the viaduct structure. The Paramount/Rosecrans Station will include a dedicated transit parking facility providing approximately 490 parking spaces located south of the alignment between Los Angeles Department of Water and Power property and Rosecrans Avenue.

The alignment will continue southeast in an aerial configuration over the Paramount Boulevard/Rosecrans Avenue intersection and descend to an at-grade configuration. The alignment will return to an aerial configuration to cross over Downey Avenue descending back to an at-grade configuration north of Somerset Boulevard. The existing Paramount High School pedestrian bridge will be reconstructed over the LPA and freight tracks to maintain the connection between Paramount High School and the athletics fields. One of the adjacent freight storage tracks at the World Energy facility will be relocated to accommodate the new LRT tracks and maintain storage capacity. There are no active freight tracks south of the World Energy facility (Somerset Boulevard).

The alignment will cross Somerset Boulevard at-grade. South of Somerset Boulevard, the at-grade alignment will parallel the existing Bellflower Bike Trail that is currently aligned on the south side of the PEROW. The alignment will continue at-grade crossing Lakewood Boulevard, Clark Avenue, and Alondra Boulevard. The at-grade Bellflower Station will be located west of Bellflower Boulevard. The Bellflower Station will include a dedicated transit parking facility providing approximately 260 parking spaces.

East of Bellflower Boulevard, the Bellflower Bike Trail will be realigned to the south side of the PEROW to accommodate an existing historic building located near the southeast corner of Bellflower Boulevard and the PEROW. The realigned bike trail will then match the existing bike trail east of the historic building near Bellflower Boulevard. The LRT alignment will continue southeast within the PEROW and transition to an aerial configuration near Cornuta Avenue, crossing over Flower Street and Woodruff Avenue. The alignment will return to an at-grade configuration south of Woodruff Avenue. South of Woodruff Avenue, the Bellflower Bike Trail will be realigned along the north side of the PEROW. Continuing southeast, the LRT alignment will cross under the SR-91 freeway in an existing undercrossing. The alignment will cross over the San Gabriel River on a new bridge, replacing the existing abandoned freight bridge. South of the San Gabriel River, the alignment will transition back to an at-grade configuration before crossing Artesia Boulevard at-grade.

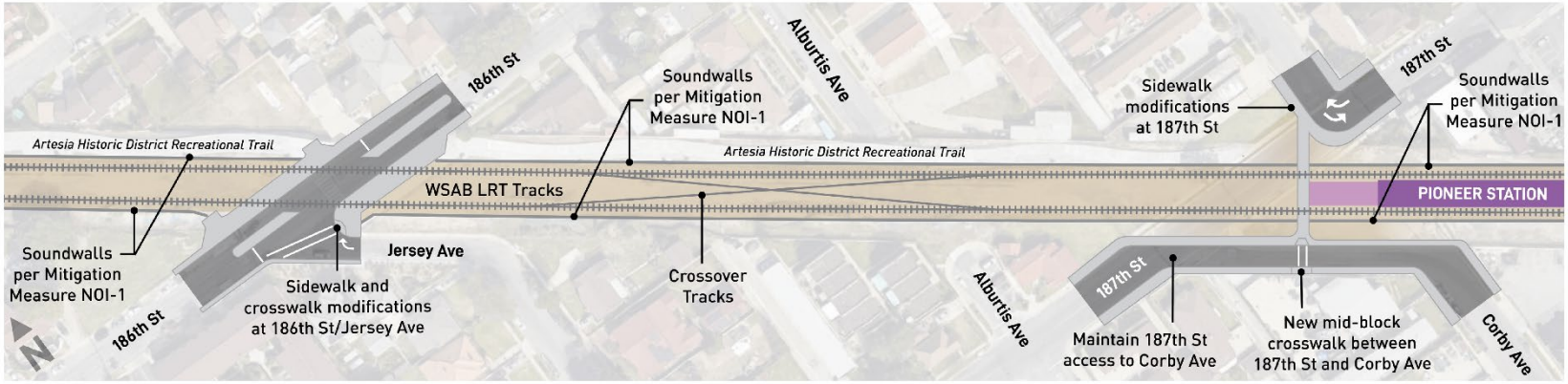
East of Artesia Boulevard, the alignment will cross beneath the I-605 freeway in an existing underpass. Southeast of the underpass, the alignment will continue at-grade, crossing Studebaker Road. North of Gridley Road, the alignment will transition to an aerial configuration to cross over 183rd Street and Gridley Road. The alignment will return to an at-grade configuration and cross 186th Street and 187th Street at-grade. The alignment will then pass through the Pioneer Station on the north side of Pioneer Boulevard at-grade. The Pioneer Station will include a dedicated transit parking facility providing approximately 1,100 parking spaces. Tail tracks accommodating layover storage for a three-car train will extend approximately 1,000 feet south from the station, crossing Pioneer Boulevard and terminating north of South Street.

2.2.3 Design Option – Close 186th Street

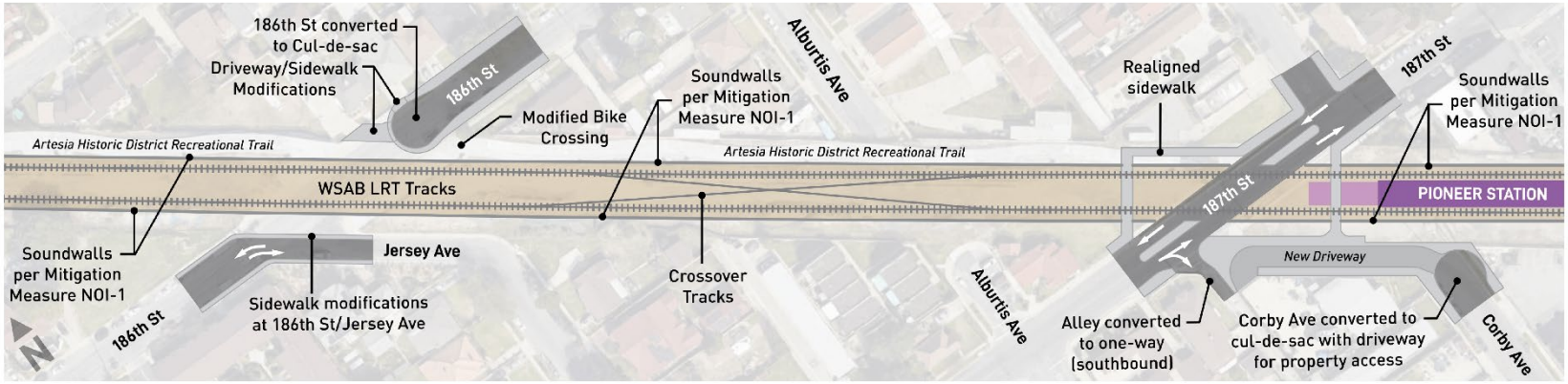
The LPA includes one design option:

- **Design Option:** Close 186th Street – The design option would close 186th Street but keep 187th Street open to traffic in the City of Artesia. Corby Avenue would become a cul-de-sac with an access driveway for the existing business (Figure 2-4).

Figure 2-4. Locally Preferred Alternative and Design Option: Close 186th Street



Locally Preferred Alternative



Design Option 1: Close 186th Street

Source: Cityworks Design and WSP 2023

2.2.4 Maintenance and Storage Facility

Generally, each LRT project requires an MSF facility to provide daily servicing and cleaning, inspection and repairs, and storage of light rail vehicles (LRVs). Activities may take place in the MSF throughout the day and night depending upon train schedules, workload, and the maintenance requirements.

In January 2022, the Metro Board identified the Bellflower MSF as the WSAB Project's MSF site. The MSF site is located in the City of Bellflower and is bounded by a mobile home community and industrial facilities to the west, Somerset Boulevard and apartment complexes to the north, residential homes to the east, and the PEROW and Bellflower Bike Trail to the south. Access to the site will be via a signalized driveway at Somerset Boulevard and Bayou Avenue (Figure 2-5). In total, the MSF site is approximately 21 acres and could accommodate up to 80 LRVs to serve the Project's operations plan.

The MSF will have storage tracks, each with sufficient length to store three-car train sets and a maintenance-of-way vehicle storage. The facility will include a main shop building with administrative offices, a cleaning platform, a TPSS, employee parking, a vehicle wash facility, a paint and body shop, and other facilities as needed. The east and west yard leads (i.e., the tracks leading from the mainline to the facility) will have sufficient length for a three-car train set.

Figure 2-5. Maintenance and Storage Facility Site

Source: WSP and TAHA 2023

3 REGULATORY FRAMEWORK

3.1 Federal

The federal Clean Air Act (CAA) governs air quality at the national level and the United States Environmental Protection Agency (USEPA) is responsible for enforcing the regulations provided in the CAA. Under the CAA, the USEPA is authorized to establish National Ambient Air Quality Standards (NAAQS) that set protective limits on concentrations of air pollutants in ambient air. Enforcement of the NAAQS is required under the 1977 CAA and subsequent amendments. The USEPA also regulates emission sources that are under the exclusive authority of the federal government, such as aircrafts, ships, and certain types of locomotives. The USEPA has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California.

As required by the CAA, NAAQS were established for the seven criteria air pollutants: CO, O_3, NO_2, PM_{10}, $PM_{2.5}$, SO_2, and Pb. These pollutants are common byproducts of human activities and have been documented through scientific research to cause adverse health effects. The CAA grants the USEPA authority to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been met on a regional scale. The NAAQS are summarized in Table 3.1. As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

3.2 State

Air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). The CCAA is administered by the CARB at the state level and by the Air Quality Management District at the regional and local levels. The CCAA requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest feasible date. The CAAQS are summarized in Table 3.1.

The CARB, a department of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, designates the CAAQS, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The CARB also establishes emissions standards for motor vehicles sold in California, consumer products (i.e., hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

Table 3.1. State and National Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS	NAAQS
Ozone (O_3)	1-Hour	0.09 ppm (180 µg/m^3)	--
	8-Hour	0.07 ppm (137 µg/m^3)	0.07 ppm (137 µg/m^3)
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)
	8-Hour	9.0 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)
Nitrogen Dioxide (NO_2)	1-Hour	0.18 ppm (339 µg/m^3)	0.10 ppm (188 µg/m^3)
	Annual Average	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)
Sulfur Dioxide (SO_2)	1-Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)
	24-Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (180 µg/m^3)
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	150 µg/m^3
	Annual Average	20 µg/m^3	--
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	--	35 µg/m^3
	Annual Average	12 µg/m^3	12 µg/m^3
Lead (Pb)	30-Day Average	1.5 µg/m^3	--
	3-Month Average	--	0.15 µg/m^3
Visibility Reducing Particles	8-Hour	extinct 0.23 per kilometer	No National Standard
Sulfates	24-Hour	25 µg/m^3	No National Standard
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	No National Standard
Vinyl Chloride	24-Hour	0.01 ppm (26 µg/m^3)	No National Standard

Source: CARB, 2018.
Note: µg/m^3 = microgram per cubic meter; CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards

The CARB's statewide comprehensive air toxics program was established in the early 1980s. The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics. Under the Toxic Air Contaminant Identification and Control Act, the CARB is required to prioritize the identification and control of air toxics emissions. In selecting substances for review, the CARB must consider criteria relating to the risk of harm to public health, such as the amount or potential amount of emissions, manner of and exposure to usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community. The Toxic Air Contaminant Identification and Control Act also requires CARB to use available information gathered from the Air Toxics Hot Spots Information and Assessment Act to include in the prioritization of compounds.

The CARB classified particulate emissions from diesel-fueled engines (diesel PM) as TACs in August 1998. Following the identification process, the CARB was required by law to determine if there was a need for further control, which led to the risk management phase of the program. For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction

plan. With the assistance of the Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines.

The Diesel Advisory Committee approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase. During the control measure phase, specific statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

3.3 Regional

3.3.1 Southern California Association of Governments

While Southern California is a leader in reducing emissions and ambient levels of air pollutants are improving, the SCAG region continues to have the worst air quality in the nation (SCAQMD 2017). The SCAG region encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles. On April 7, 2016, SCAG adopted the 2016-2040 RTP/SCS, which includes policies that promote actions to help the region confront congestion and mobility issues and consequently improve air quality (SCAG 2016). The SCAG RTP/SCS contains forecasts of projected growth in housing, residents, and employees that are developed through collaboration with local municipal planning departments. These growth forecasts are used in the development of the Motor Vehicle Emissions Budgets for the regional SCAQMD Air Quality Management Plan (AQMP), which is the regional air quality plan that demonstrates a timeline for attaining the NAAQS.

On September 3, 2020, SCAG approved the 2020-2045 RTP/SCS (Connect SoCal). As with the 2016-2040 RTP/SCS, Connect SoCal includes a strong commitment to reduce emissions from transportation sources to comply with SB 375 and aims to integrate land use and transportation planning in High Quality Transit Areas. Connect SoCal was prepared through a collaborative, continuous, and comprehensive process by SCAG and it serves as an update to the 2016-2040 RTP/SCS. It outlines more than $638 billion in transportation system investments through 2045. Major themes of Connect SoCal that are relevant to the LPA include integrating strategies for land use and transportation, striving for sustainability, protecting and preserving the existing transportation infrastructure, increasing capacity through improved system management, and giving people more transportation choice.

3.3.2 South Coast Air Quality Management District

The SCAQMD was created to coordinate air quality planning efforts throughout Southern California. The SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and ensuring that new, modified, or relocated stationary sources do not create net emission increases.

The SCAQMD monitors air quality within the project area. The SCAQMD has jurisdiction over an area of 10,743 square miles, consisting of the Basin and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The Basin is a subregion of the SCAQMD's jurisdiction and covers an area of 6,745 square miles, including all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel Mountains, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources to meet state and federal ambient air quality standards. The agency has fulfilled this requirement by preparing a series of AQMPs. The 2016 AQMP was adopted by the Governing Board of the SCAQMD on March 3, 2017, and was the most recent AQMP adopted prior to publication of the Draft EIS/EIR. The 2016 AQMP was prepared to comply with the state and federal CAAs and amendments, to accommodate growth, to reduce the high levels of pollutants in the Basin, to meet state and federal AAQS, and to minimize the fiscal impact that pollution control measures have on local economies.

Following the release of the Draft EIS/EIR, on December 2, 2022, the SCAQMD Governing Board adopted a new AQMP—the Final 2022 AQMP. The 2022 AQMP was prepared to comply with the state and federal CAAs and amendments, to accommodate growth, to reduce the high levels of pollutants in the Basin, to meet state and federal AAQS, and to minimize the fiscal impact that pollution control measures have on local economies. The 2022 AQMP represents a thorough analysis of existing and potential regulatory control options; includes available, proven, and cost-effective strategies; and seeks to achieve multiple goals in partnerships with other entities promoting efficiencies in energy use, transportation, and goods movement. The document incorporates projections of regional growth from the 2020–2045 RTP/SCS pertaining to population, housing, employment, and vehicle travel within the Basin into its prescriptive approach for reducing regional air pollution.

The 2022 AQMP includes both stationary and mobile source strategies to address the challenge of reducing NO_X emissions sufficiently to achieve attainment of the O_3 NAAQS (SCAQMD 2022). The 2022 AQMP focuses on delineating NAAQS attainment dates for the 2015 eight-hour O_3 standard, which must be achieved by 2037 following the USEPA's designation of the Basin as an "Extreme" nonattainment area in 2018. Extreme nonattainment areas have a 20-year horizon to demonstrate how emissions reductions can be achieved to meet the air quality standard. The 2022 AQMP acknowledged that the most significant air quality challenge in the Basin is the reduction of NO_X emissions, which must be reduced by 67 percent beyond what would be achieved with current regulatory programs. The 2022 AQMP builds on previous AQMPs and includes a variety of new strategies such as regulation, accelerated deployment of cleaner technologies (e.g., zero emissions technologies, when cost effective and feasible, and low-NO_X technologies in other applications) as available, best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other measures to achieve the 2015 eight-hour O_3 standard.

The SCAQMD has a long and successful history of reducing air toxics and criteria emissions in the Basin. SCAQMD has an extensive control program, including traditional and innovative rules and policies. These policies can be viewed in the SCAQMD's Air Toxics Control Plan for the Next Ten Years (2000). To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study V (MATES-V), conducted by the SCAQMD during the monitoring period 2018–2019 and published in August 2021. The

monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling simulation in which the SCAQMD estimated the excess risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data.

Results of the MATES-V analyses determined that the excess ambient cancer risk in the greater Los Angeles region from carcinogenic air pollutants ranges from about 350 to 1,100 in a million, and along the LPA ranges between 400 to 700 per million. About 90 percent of the risk is attributed to emissions associated with mobile sources, with the remainder attributed to toxics emitted from stationary sources, which include large industrial operations, such as refineries and metal processing facilities, as well as smaller businesses such as gas stations and chrome plating. According to the MATES-V data visualizer, approximately 70 percent of the ambient excess cancer risk is attributed to diesel PM exposure. At a regional scale, the Los Angeles County ambient average inhalation-pathway population-weighted cancer risk decreased from approximately 1,015 per million in MATES-IV (2012–2013) to 462 per million in MATES-V (2018–2019), a reduction of 54 percent in less than a decade.

Furthermore, all projects in the SCAQMD jurisdiction are subject to SCAQMD rules and regulations, including, but not limited to the following:

Rule 401 Visible Emissions – This rule prohibits an air discharge that results in a plume that is as dark as or darker than what is designated as No. 1 Ringelmann Chart by the United States Bureau of Mines for an aggregate of three minutes in any one hour.

Rule 402 Nuisance – This rule prohibits the discharge of "such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of people or the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

Rule 403 Fugitive Dust – This rule requires that future projects reduce the amount of particulate matter entrained in the ambient air as a result of fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions from any active operation, open storage pile, or disturbed surface area.

Rule 1113 Architectural Coatings – This rule limits VOC in architectural coatings used in the SCAQMD jurisdiction. These limits are application-specific and are updated as availability of low-VOC products expands.

Rule 1168 Adhesive and Sealant Applications – This rule reduces emissions of VOCs and eliminates emissions of chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene from the application of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers.

Regulation XIII New Source Review – This regulation contains Rules 1300 through 1325, which sets forth pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the NAAQS, and that future growth within SCAQMD is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors.

3.3.3 Los Angeles County Metropolitan Transportation Authority

Metro recently implemented several policies and plans aimed at improving systemwide sustainability and minimizing detrimental air quality and climate change impacts from operations and new projects, collectively overseen by the Countywide Sustainability Planning Program. These plans and policies constitute the framework for the Metro Climate Action and Adaptation Plan, which is Metro's foundation for its Sustainability Implementation Plan. Strategies for achieving the objectives set forth in the Metro Climate Action and Adaptation Plan were analyzed in the Metro Energy and Resource Report. The Metro policies and plans that most directly apply to reducing emissions of air pollutants that would result from implementation of the Project include the Construction Demolition Debris Recycling and Reuse Policy, Environmental Policy, and the Green Construction Policy, all of which are incorporated into the Metro Countywide Sustainability Planning Policy and Implementation Plan.

Metro published its Construction and Demolition Debris Recycling and Reuse Policy (GEN 51) to encourage responsible practices that will enhance reliance on recyclable and recycled products and reduce environmental impacts from waste disposal in landfills. The policy dictates that Metro must give preference to recyclable and recycled products in the selection of construction materials to the maximum extent feasible during design and construction of proposed projects, as well as mandating that Metro shall not use any landfill or recycling facility that does not present and maintain acceptable documentation indicating their legitimacy for disposal or diversion purposes. Construction debris or wastes that cannot be recycled or reused on site shall be manifested, transported, and disposed to the most appropriate facility. Metro shall ensure that any material used in the design or construction of all structures would not adversely affect the performance, safety, or the environment of the transportation system.

Metro's Environmental Policy was prepared to provide guidance in identifying potential environmental impacts generated by: development activities and developing mitigation measures to address those impacts; operating and maintaining Metro vehicles and facilities to minimize negative impacts on the environment; reducing consumption of natural resources; and reducing and/or diverting the amount of solid waste going to landfills. Metro is committed to planning and constructing projects and operating and maintaining facilities and vehicles in a manner that will protect human health and the environment.

Strategies outlined in the Environmental Policy to reduce air quality impacts include, but are not limited to: compliance with all environmental, federal, state, and local laws and regulations; restoration of the environment by providing mitigation, corrective action, and monitoring to ensure that environmental commitments are implemented; avoidance of environmental degradation by minimizing releases to air, water, and land; prevention of pollution and conservation of resources by reducing waste and reusing materials; and ensuring that the planning, design, construction, and operation of facilities and services consider environmental protection and sustainable features.

Metro adopted the Green Construction Policy in 2011 to reduce environmental impacts from construction activities associated with Metro projects. The policy provides requirements for identifying and mitigating air emission impacts on human health, the environment, and the climate of on-road and off-road construction equipment and generators used in construction and development activities; implementing appropriate best management practices (BMPs) to

complement equipment mitigations; and implementing strategies to ensure compliance with applicable rules and regulations.

The Green Construction Policy includes requirements for off-road construction equipment to meet Tier 4 off-road emission standards where feasible or be outfitted with Best Available Control Technology (BACT) devices certified by CARB; on-road heavy-duty diesel trucks or equipment with a gross vehicle weight rating of 19,500 pounds or greater to comply with USEPA 2007 on-road emission standards for PM and NO_X; and for the utilization of grid-based electric power at any construction site where feasible.

BMPs in the Green Construction Policy include, but are not limited to: maintaining equipment according to manufacturer's specifications; restricting idling of construction equipment and on-road heavy-duty trucks to a maximum of five minutes when not in use; use of diesel particulate traps or BACT as feasible; configuration of haul routes to conform to local requirements to minimize traversing through congested streets, near sensitive receptor areas, and during peak traffic periods; and limiting traffic speeds on unpaved roads to less than 15 mph.

The Moving Beyond Sustainability Strategic Plan, adopted in September 2020, outlines a comprehensive sustainability strategy for the next decade to make Metro facilities greener, reduce air pollution and trash from construction, and reduce smog and greenhouse gases across LA County. Goals of the strategic plans include transitioning from compressed natural buses to a 100 percent electric bus fleet by 2030; tripling Metro's on-site renewable energy generation by 2030, reducing total greenhouse gas emissions by 79 percent and reducing total nitrogen oxides emissions by 54 percent; and reducing potable water use by 22 percent compared to the Business-as-Usual scenario. The goals also focus on achieving a 50 percent landfill diversion rate for operational waste and achieving LEED Silver certification for all new facilities over 10,000 square feet.

3.4 Local

3.4.1 City of Los Angeles

The principal objective of the Air Quality Element of the Los Angeles General Plan is to aid the region in attaining the state and federal ambient air quality standards while continuing economic growth and improvement in the quality of life afforded to city residents. The Air Quality Element also documents how the city will implement local programs contained in the General Plan. Goals, objectives, and policies of the Air Quality Element applicable to the LPA are listed in Table 3.2.

Table 3.2. City of Los Angeles General Plan – Relevant Air Quality Goals, Objectives, and Policies

Goal/Objective/Policy	Description
Goal 1	Good air quality and mobility in an environment of continued population growth and healthy economic structure.
Objective 1.1	It is the objective of the City of Los Angeles to reduce air pollutants consistent with the regional AQMP, increase traffic mobility, and sustain economic growth.
Objective 1.3	It is the objective of the City of Los Angeles to reduce particulate air pollutants emanating from unpaved areas, parking lots, and construction sites.
Policy 1.3.1	Minimize particulate matter emissions from construction sites.
Goal 3	Efficient management of transportation facilities and system infrastructure using cost effective system management and innovative demand management techniques.
Objective 3.2	It is the objective of the City of Los Angeles to reduce vehicular traffic during peak periods.
Policy 3.2.1	Manage traffic congestion during peak periods.
Goal 4	Minimize impact of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality.
Objective 4.1	It is the objective of the City of Los Angeles to include the regional attainment of ambient air quality standards as a primary consideration in land use planning.
Policy 4.1.1	Coordinate with all appropriate regional agencies the implementation of strategies for the integration of land use, transportation, and air quality policies.
Objective 4.2	It is the objective of the City of Los Angeles to reduce vehicle trips and vehicle miles traveled associated with land use patterns.
Policy 4.2.1	Revise the City's General Plan/Community Plans to achieve a more compact, efficient urban form and to promote more transit-orientated development and mixed-use development.
Policy 4.2.2	Improve accessibility for the City's residents to places of employment, shopping centers and other establishments.
Policy 4.2.3	Ensure that new development is compatible with pedestrians, bicycles, transit, and alternative fuel vehicles.
Policy 4.2.5	Emphasize trip reduction, alternative transit and congestion management measures for discretionary projects.

Source: City of Los Angeles, *Air Quality Element of the General Plan*, November 24, 1992.
Note: AQMP = Air Quality Management Plan

3.4.2 City of Vernon

The City of Vernon General Plan was adopted in 2007 and most recently amended in 2015. The Resources Element of the General Plan acknowledges that reducing VMT is a key approach to reducing air pollutant emissions and improving air quality. Table 3.3 briefly summarizes the policies of the Resources Element pertaining to air quality that are relevant to the LPA.

Table 3.3. City of Vernon General Plan – Relevant Air Quality Goals and Policies

Goal/Objective/Policy	Description
Goal R-2	Contribute to the continued gradual improvement of air quality in the South Coast Air Basin.
Policy R-2.1	Coordinate and cooperate with the SCAQMD and SCAG in efforts to implement the regional AQMP.
Policy R-2.2	Encourage and facilitate the use of public transportation to reduce emissions associated with automobile use.
Policy R-2.5	Consult with the Gateway Cities Council of Governments, regional planning agencies, and surrounding municipalities to coordinate land use, circulation, and infrastructure improvement projects.

Source: City of Vernon, *General Plan*, amended April 2015
Notes; AQMP = Air Quality Management Plan; SCAG = Southern California Association of Governments; SCAQMD = South Coast Air Quality Management District

3.4.3 City of Huntington Park

The City of Huntington Park published a General Plan in 1992, which contained an Open Space and Conservation Element that addressed air quality issues and considerations. The Open Space and Conservation Element established the goal of reducing air pollution through land use, transportation, and energy planning. Table 3.4 identifies the policies within the General Plan that relate to the LPA.

Table 3.4. City of Huntington Park General Plan – Relevant Air Quality Goals and Policies

Goal/Objective/Policy	Description
Goal 1.0 (Air Quality)	Reduce air pollution through land use, transportation, and energy use planning.
Policy 1.1	Endorse regional and local air quality and transportation management plans in order to reduce air pollution emissions and vehicular trips.
Policy 1.7	Encourage the improvement of existing, and the development of new, shuttle and transit systems to reduce vehicular trips and air pollution.
Goal 4.0 (Public Transportation)	To support the use of the public transportation system to provide mobility to all City residents and encourage use of public transportation as an alternate to automobile travel.
Policy 4.4	Ensure accessibility of elderly and disabled persons to public transportation.
Policy 4.6	Encourage employers to reduce vehicular trips by offering employees incentives such as reduced rate transit passes.

Source: City of Huntington Park, *General Plan*, February 1992

3.4.4 Los Angeles County

The Los Angeles County General Plan 2035, adopted in October 2015, provides the policy framework and establishes the long-range vision for how and where the unincorporated areas of the county will grow. The Los Angeles County General Plan 2035 includes the Air Quality Element. Goal AQ-2 is applicable to the LPA and focuses on the reduction of air pollution and mobile source emissions through coordinated land use, transportation, and air quality planning.

3.4.5 City of Bell

The City of Bell published an updated General Plan in 2010; however, no updates to the Air Quality discussion within the Open Space/Conservation/Recreation Element were made since its original publication in 1996. The document acknowledges that the City of Bell is largely residential, and that local sources of air pollution consist mainly of vehicle trips to and from the city. The City of Bell adheres to SCAQMD and state regulations pertaining to air pollutant emissions and energy efficiency standards but does not have any city-specific regulations.

3.4.6 City of Cudahy

The City of Cudahy adopted its General Plan in 2010. The Cudahy General Plan contains a section dedicated to the Air Quality Element. The Air Quality Element identified the following challenges that the city faces in propagating efforts to improve air quality: Person Work Trip Reduction, Truck Programs, Parking Management, Growth Management, Energy Consumption, Particulate Emissions, Building and Operational Emissions, Intergovernmental Cooperation, Public Education, and City Programs. Table 3.5 summarizes the goals and policies outlined in the Air Quality Element that are designed to reduce emissions within the City of Cudahy, as consistent with the AQMP, and are directly relevant to the LPA.

Table 3.5. City of Cudahy General Plan – Relevant Air Quality Goals and Policies

Goal/Objective/Policy	Description
AQ Element Goal 1	The City of Cudahy will reduce automobile use.
AQ Element Policy 1.2	The City of Cudahy will support trip-reduction programs.
AQ Element Policy 1.5	The City of Cudahy will encourage development of a Transportation Management Association in Cudahy to serve public and private employees.
AQ Element Goal 3	The City of Cudahy will reduce vehicle emissions through greater use of public transportation.
AQ Element Policy 3.1	The City of Cudahy will enhance transit performance and availability and make the local transit system user-friendly by providing safe, attractive places to wait.
AQ Element Policy 3.2	The City of Cudahy will facilitate connections of the Cudahy Area Rapid Transit (CART) to regional transit.
AQ Element Policy 3.3	The City of Cudahy will ensure that information on public transit is readily available to Cudahy residents and employees.

Goal/Objective/Policy	Description
AQ Element Policy 3.4	The City of Cudahy will ensure that new development incorporates features that facilitate transit.
AQ Element Goal 8	The City of Cudahy will reduce fugitive dust emissions.
AQ Element Policy 8.1	The City of Cudahy will require all feasible fugitive dust reduction techniques be utilized during construction activities.

Source: City of Cudahy, *General Plan Air Quality Element*, September 2010

3.4.7 City of South Gate

The City of South Gate published its General Plan 2035 in 2009 to serve as a roadmap for guiding development within the city over the ensuing 25 years. The General Plan 2035 includes a Healthy Community Element that addresses air quality challenges and outlines approaches to reduce emissions. The approaches incorporate policies that are evaluated in the Community Design and Mobility Elements of the General Plan as well. Table 3.6 summarizes the objectives, goals, and policies that are pertinent to implementation of the LPA.

Table 3.6. City of South Gate General Plan – Relevant Air Quality Goals, Objectives, and Policies

Goal/Objective/Policy	Description
Goal HC 7	High levels of air quality and improved respiratory health throughout the City.
Objective HC 7.1	Establish land use patterns that reduce driving, enhance air quality, and improve respiratory health.
P.1	Strategies in the Community Design Element that reduce driving rates and improve air quality through land use and urban design will be implemented by the City and other responsible parties. These strategies include transit-oriented development, compact development, and an appropriate mix of land uses.
Objective HC 7.2	Encourage and enable transportation behavior that improves air quality and respiratory health.
P.1	The City will implement strategies in the Mobility Element that improve air quality through transportation. These include multi-modal transit, reduction of VMT through Transportation Demand Management (TDM), and improved bicycle and pedestrian facilities.
P.6	The City will collaborate with transportation agencies, utilities, and developers to minimize fugitive dust from construction and maintenance activities.
P.8	Promote and support transit improvements or facilities that are powered by electricity, alternative fuels, or that meet or exceed low emissions vehicle standards.
Objective HC 7.5	Promote measures that will be effective in reducing emissions during construction activities.
P.1	Ensure that construction activities follow SCAQMD rules and regulations.
P.2	All construction equipment for public and private projects will also comply with CARB vehicle standards.

Goal/Objective/Policy	Description
P.3	Project proponents will be required to prepare and implement a Construction Management Plan which will include Best Available Control Measures among others.
Goal ME 2	Provide a multi-modal transportation environment in the City that provides transportation choices.
Objective ME 2.2	Improve local and regional transit service.
P.1	Work with Metro to improve the coverage of transit service in South Gate, by providing transit routes that more directly serve residential neighborhoods.
P.2	Encourage Metro to enhance regional transit connections in South Gate through additional routes and increased service frequency.
P.7	Encourage and support all potential rail transit serving the City.
P.8	Actively promote the use of transit within the City.

Source: City of South Gate, *General Plan 2035*, December 2009

3.4.8 City of Downey

The City of Downey prepared its Vision 2025 General Plan in 2005. The Conservation Chapter of the General Plan contains a subsection dedicated to air quality issues and challenges faced by the city. Table 3.7 provides an overview of the goals, policies, and programs outlined in the General Plan that are relevant to the LPA.

Table 3.7. City of Downey General Plan – Relevant Air Quality Goals, Policies, and Programs

Goal/Objective/Policy	Description
Goal 4.5	Encourage activities that improve air quality.
Policy 4.5.1	Pursue every available means and opportunity to reduce air particulates and pollutants within the city and region.
Program 4.5.1.1	Coordinate with other agencies, including transit agencies and regional agencies, in their efforts to implement the regional AQMP and otherwise improve air quality.
Program 4.5.1.4	Encourage alternative modes of travel to vehicle use.
Policy 4.5.2	Improve air quality through land use decisions.
Program 4.5.2.2	Reduce the number and length of vehicle trips by promoting the provision of services needed by residents locally.

Source: City of Downey, *General Plan – Conservation Chapter*, January 2005

3.4.9 City of Paramount

No specific air quality plans or regulations have been published or adopted by the City of Paramount.

3.4.10 City of Bellflower

No specific air quality plans or regulations have been published or adopted by the City of Bellflower.

3.4.11 City of Artesia

The City of Artesia updated its General Plan in 2014, and a portion of the document is devoted to air quality and climate change. The Air Quality and Climate Change Sub-Element is intended to aid the City of Artesia in protecting public health and welfare by implementing the measures that allow the region to attain the AAQS. The Sub-Element describes the stationary, point, and mobile sources of air pollutant emissions within the City of Artesia and outlines Community Goals, Policies, and Action items to reduce emissions. The relevant goals, policies, and action items are shown in Table 3.8.

Table 3.8. City of Artesia General Plan – Relevant Air Quality Goals, Policies, and Actions

Goal/ Objective/Policy	Description
Community Goal AQ 1	City air resources are protected and upgraded to promote consistent attainment of regional air quality standards.
Community Policy AQ 1.1	Work with community and regional partners to reduce the number of unhealthy air quality days per year based on an established baseline.
Policy Action AQ 1.1.1	Promote and participate in cooperative efforts with agencies and communities in the South Coast Air Basin to achieve clean air.
Policy Action AQ 1.1.2	Continue to implement the provisions of the Transportation Demand Management Ordinance.
Community Policy AQ 1.2	Increase awareness and participation throughout the community in efforts to reduce air pollution and enhance air quality.
Policy Action AQ 1.2.1	Promote and encourage ridesharing activities within the community.
Policy Action AQ 1.2.2	Encourage, publicly recognize, and reward innovative approaches that improve air quality.
Community Policy AQ 1.3	Strive to reduce particulate matter emissions from paved and unpaved roads, parking lots, and building construction.
Policy Action AQ 1.3.1	Continue to enforce procedures that control dust from building demolition, grading, and construction activities.
Policy Action AQ 1.3.2	Support programs that reduce emissions from building materials and methods that generate excessive pollutants through incentives and/or regulations.
Community Goal AQ 2	The City's greenhouse gas and toxic air contaminant emissions are reduced.
Community Policy AQ 2.1	Encourage and, where feasible, mandate the implementation of best practices towards reducing greenhouse gas emissions.
Policy Action AQ 2.1.1	Encourage alternate modes of transportation, including but not limited to light rail, vanpooling, carpooling, pedestrian walkways, and bicycling.
Policy Action AQ 2.1.2	Encourage alternative commute patterns.
Policy Action AQ 2.1.5	Coordinate efforts to increase pedestrian activity through improvements that make walking more safe, convenient, and enjoyable, including sidewalks, accessibility ramps, benches, traffic-calming measures, landscaping, and convenient and safe transit stops.
Policy Action AQ 2.1.6	Coordinate with regional agencies to provide convenient access to commuter-rail and other transit opportunities.

Source: City of Artesia, General Plan Air Quality and Climate Change Sub-Element, 2014

3.4.12 City of Cerritos

The City of Cerritos prepared a General Plan in 2004 that contains an Air Quality Element. In addition to providing a background discussion on the air quality setting and regulatory framework, the Air Quality Element outlines planning factors, goals, and policies to address air pollution within the city. Table 3.9 presents the goals and policies that are relevant to the LPA.

Table 3.9. City of Cerritos General Plan – Relevant Air Quality Goals and Policies

Goal/Objective/Policy	Description
Goal AQ-1	Reduce air pollution through proper land use and regulatory planning.
Policy AQ-1.1	Cooperate with the SCAQMD, Gateway Cities Council of Governments, and the SCAG in their effort to implement provisions of the region's Air Quality Management Plan.
Policy AQ-1.2	Cooperate and participate in regional air quality management plans, programs, and enforcement measures.
Policy AQ-1.3	Reduce air pollutant emissions by mitigating air quality impacts associated with development projects to the greatest extent feasible.
Goal AQ-2	Improve air quality by reducing the amount of vehicular emissions in Cerritos.
Policy AQ-2.2	Encourage employer rideshare and transit incentives programs by local businesses within the community.
Goal AQ-3	Reduce particulate emissions to the greatest extent feasible.
Policy AQ-3.1	Adopt incentives, regulations, and/or procedures to minimize particulate emissions from grading operations and building construction.
Goal AQ-4	Reduce emissions through reduced energy consumption.
Policy AQ-4.2	Promote local recycling of wastes and the use of recycled materials.
Goal CIR-8	Strive to achieve a public transportation system that serves the needs of the community, is accessible to all and is a viable alternative to the single occupant vehicle.
Policy CIR-8.2	Promote an increase in the use of public transit and para-transit services.
Policy CIR-8.4	Review new developments to include accommodations for Transportation Demand Management (TDM) programs, including public transportation and parking management.
Policy CIR-8.5	Integrate transit routes and stops into highway, pedestrian, and bicycle circulation network.
Policy CIR-8.6	Participate in local and regional transit system/commuter-rail/TDM planning and implementation activities to improve connections between the systems and ease of use of systems.

Source: City of Cerritos, *General Plan,* January 2004
Notes: SCAG = Southern California Association of Governments; SCAQMD = South Coast Air Quality Management District

4 AFFECTED ENVIRONMENT/EXISTING CONDITIONS

4.1 Regional Air Quality Conditions

The CAA grants the USEPA authority to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether representative pollutant concentrations within the area have consistently been measured below the NAAQS. The Basin represents the Affected Area at the regional scale because all sources of emissions associated with construction and operations would be located within it, and the designation status of the LA County portion is most representative of regional air quality conditions. The USEPA has classified the LA County portion of the Basin as a nonattainment area for O_3, $PM_{2.5}$ and Pb and a maintenance area for PM_{10} and CO. The Los Angeles County portion of the Basin has been designated in attainment of the NO_2 NAAQS since 1998 and attainment of the SO_2 NAAQS since the 1990 Clean Air Act Amendments. Table 4.1 presents the federal attainment status of the LA County portion of the Basin for each of the criteria pollutant standards.

Table 4.1. National and State Attainment Status for Criteria Pollutant Standards – Los Angeles County

Pollutant	Averaging Time	NAAQS Status	CAAQS Status
Ozone (O_3)	1-Hour	Revoked – Not Applicable	Nonattainment
	8-Hour	Nonattainment (Extreme)	Nonattainment
Carbon Monoxide (CO)	1-Hour	Attainment (Maintenance)	Attainment
	8-Hour	Attainment (Maintenance)	Attainment
Nitrogen Dioxide (NO_2)	1-Hour	Unclassifiable/Attainment	Attainment
	Annual Average	Attainment (Maintenance)	Attainment
Sulfur Dioxide (SO_2)	1-Hour	Unclassifiable/Attainment	Attainment
	24-Hour	Unclassifiable/Attainment	Attainment
Respirable Particulate Matter (PM_{10})	24-Hour	Attainment (Maintenance)	Nonattainment
	Annual Average	No Federal Standard	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	Nonattainment (Serious)	No State Standard
	Annual Average	Nonattainment (Moderate)	Nonattainment
Lead (Pb)	30-Day Average	No Federal Standard	Attainment
	3-Month Average	Nonattainment (Partial)	Attainment

Source: SCAQMD, 2022
Notes: CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as nonattainment. The LA County portion of the Basin is designated as a CAAQS nonattainment area for O_3, $PM_{2.5}$ and PM_{10}. LA

County is in attainment of the CAAQS for sulfates and hydrogen sulfide, although it is not presented in Table 4.1.

4.2 Local Air Quality Conditions

The attainment status designations are based on concentrations of air pollutants measured at air monitoring sites throughout the Basin. The SCAQMD divides the Basin into 38 SRAs, the boundaries of which were determined by the proximity to the nearest air monitoring station and local topography and meteorological patterns. The SCAQMD operates a total of 43 air monitoring sites that are used to characterize air quality within the 38 SRAs. The LPA transects portions of SRA 1 (Central Los Angeles County), SRA 12 (South Central Los Angeles County), SRA 5 (Southeast Los Angeles County), and SRA 4 (South Coastal Los Angeles County) from north to south. The following discussions address pollutant concentrations measured at stations along the LPA alignment.

The northern terminus of the LPA at the Slauson/A Line Station site will span across the boundary between SRA 1 (Central Los Angeles County)—which includes all of downtown Los Angeles and extends southward to Slauson Avenue and eastward to I-710—and SRA 12 (South Central Los Angeles County). Air quality conditions in SRA 1 are characterized by concentrations of air pollutants measured at the Los Angeles – North Main Street (LA-NMS) monitoring site located in downtown Los Angeles. The LA-NMS site actively measures and records concentrations of O_3, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$.

Table 4.2 displays the air quality data recorded at the LA-NMS monitoring site between 2015 and 2019. Concentrations of O_3, PM_{10}, and $PM_{2.5}$ measured at the LA-NMS site exceeded applicable state and federal AAQS in each year from 2015 to 2019. Concentrations of CO, NO_2, and SO_2 remained below the applicable air quality standards. The air monitoring data are demonstrative of the nonattainment status designations for LA County.

South of the Slauson/A Line Station, the LPA alignment is predominantly within SRA 12 (South Central Los Angeles County), SRA 5 (Southeast Los Angeles County), and SRA 4 (South Coastal Los Angeles County). SRA 12 extends southward from Slauson Avenue to SR-91 and is bordered by I-110 on the western edge and I-710 on the eastern edge. SRA 12 encompasses portions of the Cities of Huntington Park, Bell, Cudahy, South Gate, and Downey. Air quality conditions in SRA 12 are characterized by concentrations of air pollutants measured at the Compton monitoring site at 700 N. Bullis Road, which measures and records concentrations of O_3, CO, NO_2, and $PM_{2.5}$. Table 4.3 displays the air quality data recorded at the LA-NMS monitoring site between 2015 and 2019. During the three-year period, concentrations of O_3 and $PM_{2.5}$ exceeded the air quality standards on numerous occasions, reflecting the nonattainment designations for the area.

SRA 5 (Southeast Los Angeles County) is bounded by I-710 on the west, Whittier Boulevard (SR-72) on the north and northeast, the LA County line on the east and southeast, and SR-91 on the south. There are no active monitoring stations within SRA 5 operated by SCAQMD, CARB, or USEPA. Existing ambient air quality conditions within the portion of SRA 5 transected by the LPA are best characterized by the concentrations of pollutants measured at the Compton monitoring station displayed in Table 4.3. Within SRA 5, segments of the LPA will be situated between approximately 2.4 to 5.8 miles from the Compton monitoring station, and the topography and land use patterns along the LPA alignment in SRA 5 will be generally consistent with those surrounding the Compton monitoring station. The proximity

of the Compton station and lack of topographical features that would disrupt local meteorological patterns make the data obtained there a reasonable characterization of ambient air quality conditions along the LPA within SRA 5.

Table 4.2. SRA 1 – Los Angeles: North Main Street Station Monitoring Data (2015 – 2019)

Pollutant	Metric	Maximum Concentrations and Frequencies of Exceeded Standards				
		2015	2016	2017	2018	2019
Ozone (O_3)	Maximum 1-Hour Concentration	0.104	0.103	0.116	0.098	0.093
	Days >0.09 ppm (CAAQS)	2	2	6	2	1
	Maximum 8-Hour Concentration	0.074	0.078	0.086	0.073	0.080
	Days >0.070 ppm (NAAQS/CAAQS)	6	4	16	4	2
Carbon Monoxide (CO)	Maximum 1-Hour Concentration	3.2	1.9	N/A	2.0	2.0
	Days >20 ppm (CAAQS)	0	0	0	0	0
	Maximum 8-Hour Concentration	1.8	1.4	N/A	1.7	1.6
	Days >9.0 ppm (NAAQS/CAAQS)	0	0	0	0	0
Nitrogen Dioxide (NO_2)	Maximum 1-Hour Concentration	0.079	0.065	0.081	0.070	0.070
	Days > 0.10 ppm (NAAQS)	0	0	0	0	0
	Annual Average	0.022	0.021	0.020	0.018	0.018
	>0.030 ppm (CAAQS)	No	No	No	No	No
Sulfur Dioxide (SO_2)	Maximum 1-Hour Concentration	0.013	0.013	N/A	0.018	0.010
	Days >0.075 ppm (NAAQS)	0	0	0	0	0
	Maximum 24-Hour Concentration	N/A	N/A	N/A	N/A	N/A
	Days >0.040 ppm (CAAQS)	0	0	0	0	0
Respirable Particulate Matter (PM_{10})	Maximum 24-Hour Concentration	88.0	67.0	96.2	81.2	93.9
	Days >50 µg/m^3 (CAAQS)	26	18	40	31	15
	Annual Average Concentration	33.1	32.4	N/A	34.0	25.4
	>20 µg/m^3 (CAAQS)	Yes	Yes	-	Yes	Yes
Fine Particulate Matter ($PM_{2.5}$)	Maximum 24-Hour Concentration	56.4	44.4	54.9	61.4	43.5
	Days >35 µg/m^3 (NAAQS)	7	2	6	6	1
	Annual Average Concentration	12.4	11.8	16.3	12.8	10.9
	>12 µg/m^3 (NAAQS/CAAQS)	Yes	No	Yes	Yes	No

Source: CARB 2018

Notes: CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; N/A = not available; ppm = parts per million; µg/m^3 = microgram per cubic meter

Table 4.3. SRA 12 and SRA 5 – Compton Station Monitoring Data (2015 – 2019)

Pollutant	Metric	Maximum Concentrations and Frequencies of Exceeded Standards				
		2015	2016	2017	2018	2019
Ozone (O_3)	Maximum 1-Hour Concentration	0.091	0.098	0.092	0.075	0.100
	Days >0.09 ppm (CAAQS)	1	1	1	0	1
	Maximum 8-Hour Concentration	0.072	0.071	0.076	0.063	0.079
	Days >0.070 ppm (NAAQS/CAAQS)	1	1	6	0	1
Carbon Monoxide (CO)	Maximum 1-Hour Concentration	4.4	4.4	N/A	4.7	3.8
	Days >20 ppm (CAAQS)	No	No	0	0	0
	Maximum 8-Hour Concentration	3.3	3.9	N/A	3.5	3.2
	Days >9.0 ppm (NAAQS/CAAQS)	0	0	0	0	0
Nitrogen Dioxide (NO_2)	Maximum 1-Hour Concentration	0.074	0.064	0.099	0.068	0.070
	Days >0.10 ppm (NAAQS)	0	0	0	0	0
	Annual Average	0.017	0.016	0.016	0.015	0.014
	>0.030 ppm (CAAQS)	No	No	No	No	No
Fine Particulate Matter ($PM_{2.5}$)	Maximum 24-Hour Concentration	41.3	36.4	66.7	43.0	39.5
	Days >35 µg/m^3 (NAAQS)	3	3	5	1	1
	Annual Average Concentration	11.8	11.1	13.2	13.0	10.9
	>12 µg/m^3 (NAAQS/CAAQS)	No	No	Yes	Yes	No

Source: SCAQMD 2016, 2017, 2018, 2019, 2020
Note: CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; N/A = not available; ppm = parts per million; µg/m^3 = microgram per cubic meter

Air quality conditions in SRA 4 (South Coastal Los Angeles County) are characterized by concentrations of air pollutants measured at three monitoring sites in the greater Long Beach area:

- Long Beach – Hudson (LB-H): Located at 2425 Webster Street, approximately 8.5 miles southwest of the Pioneer Station southern terminus; continuously recorded O3, CO, NO2, SO2, and PM10 concentrations between 2013 and 2015 (decommissioned in 2015)
- Long Beach North (LBN): Located at 3648 N. Long Beach Boulevard, approximately 6.3 miles west-southwest of the Pioneer Station southern terminus; monitored concentrations of PM2.5 since 2014
- Long Beach – I-710 Near Road (LB-NR): Located at 5895 Long Beach Boulevard, approximately 6.2 miles west of the Pioneer Station southern terminus; monitored NO_2 and $PM_{2.5}$ since being activated in 2015 (replaced LB-H monitoring site)

Table 4.4 summarizes the air quality data recorded at the nearest SRA 4 active site to the Affected Area for each pollutant between 2015 and 2019. The monitoring stations recorded several concentrations of O_3, PM_{10}, and $PM_{2.5}$ exceeding applicable air quality standards during this timeframe, with particulate matter being the primary pollutant of concern for the area. The air monitoring data are consistent with the nonattainment status designations for the LA County portion of the Basin.

Table 4.4. SRA 4 – South Coastal Los Angeles County Stations Monitoring Data (2015 – 2019)

Pollutant	Metric	Maximum Concentrations and Frequencies of Exceeded Standards				
		2015	2016	2017	2018	2019
Ozone (O_3)	Maximum 1-Hour Concentration	0.104	0.079	0.082	0.074	0.074
	Days > 0.09 ppm (CAAQS)	2	0	0	0	0
	Maximum 8-Hour Concentration)	0.074	0.059	0.069	0.063	0.064
	Days > 0.070 ppm (NAAQS/CAAQS)	6	0	0	0	0
Carbon Monoxide (CO)	Maximum 1-Hour Concentration	3.3	3.3	N/A	4.7	3.0
	Days > 20 ppm (CAAQS)	0	0	0	0	0
	Maximum 8-Hour Concentration	2.2	2.2	N/A	2.1	2.1
	Days > 9.0 ppm (NAAQS/CAAQS)	0	0	0	0	0
Nitrogen Dioxide (NO_2)	Maximum 1-Hour Concentration	0.095	0.076	0.116	0.085	0.072
	Days > 0.10 ppm (NAAQS)	0	0	1	0	0
	Annual Average	0.020	0.019	0.025	0.017	0.016
	> 0.030 ppm (CAAQS)	No	No	No	No	No
Sulfur Dioxide (SO_2)	Maximum 1-Hour Concentration	0.038	0.018	N/A	0.011	0.009
	Days > 0.075 ppm (NAAQS)	0	0	0	0	0
	Maximum 24-Hour Concentration	N/A	N/A	N/A	N/A	N/A
	Days > 0.040 ppm (CAAQS)	0	0	0	0	0
Respirable Particulate Matter (PM_{10})	Maximum 24-Hour Concentration	80.0	75.0	N/A	84.0	60.0
	Days > 50 µg/m³ (CAAQS)	6	8	-	4	3
	Annual Average Concentration	31.5	32.0	N/A	32.3	26.9
	> 20 µg/m³ (CAAQS)	Yes	Yes	-	Yes	Yes
Fine Particulate Matter ($PM_{2.5}$)	Maximum 24-Hour Concentration	48.8	29.4	85.4	47.1	36.7
	Days > 35 µg/m³ (NAAQS)	7	0	8	2	1
	Annual Average Concentration	12.9	12.0	12.8	11.2	11.0
	> 12 µg/m³ (NAAQS/CAAQS)	Yes	Yes	Yes	No	No

Source: SCAQMD 2018, 2019, 2020, 2021
Note: CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; N/A = not available; ppm = parts per million; µg/m³ = microgram per cubic meter

5 ENVIRONMENTAL CONSEQUENCES/ENVIRONMENTAL IMPACTS

5.1 No Build Alternative

The No Build Alternative includes regional projects identified in the 2016-2040 RTP/SCS, Metro's 2009 LRTP, and Measure M. These projects include the Metro East-West Line/Regional Connector/Eastside Phase 2, California High-Speed Rail, Metro North-South Line/Regional Connector, I-710 South Corridor, I-105 Express Lane, I-605 Corridor "Hot Spot" improvements, and improvements to the Metro bus system and local municipality bus systems. The No Build Alternative also includes local transportation-related projects, including Link Union Station (Link US), Active Transportation Rail to Rail/River Corridor, Los Angeles Union Station Forecourt and Esplanade Improvement, I-710 Corridor Bike Path, and Cesar Chavez Bus Stop Improvements projects. Under the No Build Alternative, projects identified in the 2016-2040 RTP/SCS, Metro's 2009 LRTP, and Measure M, as well as local projects, would continue to be built [5]

The operational air quality benefits resulting from the transportation mode shift attributed to the LPA would not materialize, and population growth within the region would increase VMT on the existing roadway network relative to Existing Conditions. On-road motor vehicle emissions would continue to be controlled by mandatory emissions standards set by the USEPA and the CARB.

5.1.1 Criteria Pollutant and Ozone Precursor Emissions

The No Build Alternative would not include LPA facilities or infrastructure that would increase criteria pollutant or ozone precursor emissions. The No Build Alternative accounts for general population growth that would lead to increased vehicle use and associated pollutant emissions, as well as planned transportation projects throughout the region that would be completed by 2042. Without the LPA, daily VMT in the region would increase from approximately 463.25 million VMT (2017) to approximately 606.33 million VMT (2042). Table 5.1 shows regional air pollutant emissions associated with on-road VMT under Existing Conditions in 2017 and the No Build Alternative in 2042 based on the regional VMT.

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[5] At the time the notice of intent and notice of preparation were issued for the Draft EIS/EIR in 2017, the SCAG 2016-2040 RTP/SCS was in place and provided the regional growth forecasts at the time the Draft EIS/EIR baseline was established. Connect SoCal (2020-2045 RTP/SCS) was adopted by SCAG on September 3, 2020, after the Draft EIS/EIR modeling and relevant analyses were completed. After circulation of the Draft EIS/EIR, the West Santa Ana Branch Transit Corridor Project Final RTP/SCS Study was prepared and it presented a comparison of differences between the SCAG 2016-2040 RTP/SCS and the Connect SoCal regional forecast (e.g., population, housing, and employment). This comparison was used to determine whether differences in the growth forecasts would alter the planning and travel demand modeling assumptions included in the Draft EIS/EIR. A review was also performed on applicable Connect SoCal policies to determine whether there were major differences to those evaluated in the Draft EIS/EIR.

Based on the conclusions presented in the West Santa Ana Branch Transit Corridor Project Final RTP/SCS Study, updated analysis using Connect SoCal's growth forecast as baseline data was not conducted because the results and findings would not be substantially different than what was presented in the Draft EIS/EIR. Therefore, the horizon year for the Final EIS/EIR remains unchanged from the Draft EIS/EIR. Specifically, the comparison of the 2016-2040 RTP/SCS and Connect SoCal forecast data by TAZ for Los Angeles County and the Study Area concluded that the difference in the base year 2017 and forecasted growth for future year 2042 for population, housing, and employment for Los Angeles County and the Study Area is 2 percent or less and that the assumptions presented in the Draft EIS/EIR remain applicable and will not alter Metro's planning assumptions. In addition, Connect SoCal's guiding polices are substantially consistent with those of the 2016-2040 RTP/SCS, and the underlying principles are still relevant for the Project as a proposed regional transit system.

Table 5.1. Daily Operational Emissions—Existing Conditions (2017) and No Build Alternative (2042)

Scenario	Emissions (lbs/day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Existing (2017)	62,663	419,790	1,749,768	4,303	85,518	22,511
No Build Alternative (2042)	14,257	100,851	746,111	3,888	104,667	21,948
Net Change	**(48,406)**	**(318,940)**	**(1,003,658)**	**(416)**	**19,149**	**(563)**
Percent Change	(77%)	(76%)	(57%)	(9%)	22%	(2%)

Source: TAHA 2023
Notes: The differences between the daily emissions shown in this table compared to the corresponding table in the Draft EIS/EIR (Table 4.5.9) is attributable to the use of the most recent CARB EMFAC (EMFAC2021) in this Final EIS/EIR compared to the data derived from EMFAC2017 in the Draft EIS/EIR.
lbs./day = pounds per day; CO = carbon monoxide; NO_x = nitrogen oxide; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns; ROG = reactive organic gases; SO_x = sulfur oxides; ( ) = decrease

The comparison to Existing Conditions is shown for general information as NEPA assessments typically determine the potential for adverse effects by comparing impacts within the design or horizon year between the No Build Alternative and the LPA. Emission reductions between the Existing Conditions operational year of 2017 and the No Build Alternative horizon year of 2042 are attributed to alternative-fueled passenger vehicles (i.e., electric and natural gas) added to the vehicle fleet, continued improvements in fuel efficiency, and the phasing out of older vehicles over time. For example, the CARB EMFAC mobile source emissions inventory estimated that approximately 1 percent of all light- and medium-duty VMT within Los Angeles County were powered by electricity in 2017, and that proportion is forecasted to rise to 9.4 percent in 2042. The incremental increases in particulate matter emissions relative to Existing Conditions are solely attributed to ambient regional population growth spurring additional regional VMT and associated road dust and break and tire wear. As regional air quality continues to improve in the future, the deposition of dust on roads will be reduced.

5.1.2 Mobile Source Air Toxics

Federal and state regulations for vehicle engines and fuels will cause overall Mobile Source Air Toxics (MSAT) emissions to decline significantly over the next several decades. An analysis of national trends with the USEPA MOVES model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050, and VMT is projected to increase by over 100 percent.

The No Build Alternative would reduce emissions relative to the Existing Conditions due to the addition of alternative-fueled passenger vehicles (i.e., electric and natural gas) to the vehicle fleet and continued improvements in fuel efficiency. These conditions are supported by CARB in the publication of EMFAC2021. The No Build Alternative would not reduce regional VMT as is the case with the LPA. Nonetheless, the No Build Alternative would not result in an adverse effect related to operational emissions.

5.2 Locally Preferred Alternative

Implementation of the LPA will introduce a new LRT alignment that will provide an alternative mode of transportation to passenger vehicle trips. The NEPA analysis of potentially adverse air quality effects from operation of the LPA focuses on daily pollutant emissions in the horizon year of 2042.

The LPA will not introduce a new substantial direct source of air pollutant emissions into the Affected Area. The primary direct source of emissions associated with the LPA will be operation of the MSF, which will introduce new minor sources of air pollutant emissions generated by the use of landscaping and consumer products (e.g., cleaners and architectural coatings), as well as new employee and supply delivery trips constituting mobile source emissions. Additional minor stationary sources will be associated with the use of landscaping equipment and the application of architectural coatings at the aerial and at-grade stations and parking facilities. Indirectly, regional emission levels within the Affected Area will be influenced by changes in on-road traffic patterns resulting from induced transportation mode shift, as well as improvements in fuel efficiency and engine technologies that are accounted for in the regulatory emissions model. Indirect criteria pollutant and O_3 precursor emissions will be generated through energy use (e.g., LRT propulsion, lighting, and accessory equipment at station platforms, and MSF operations).

The LPA will induce changes in regional transportation patterns by replacing vehicle trips with transit ridership. Every displaced vehicle and VMT induced by project implementation will indirectly reduce regional emissions related to transportation. As shown in Table 1.1, the LPA (if operational in 2017) will reduce daily VMT within the Affected Area by approximately 71,845 miles relative to Existing Conditions. By 2042, the transportation modeling results in Table 1.2 demonstrate that the LPA will reduce daily VMT by approximately 130,870 miles compared to the No Build Alternative. The LPA will improve regional air quality by taking passenger vehicle trips off the roadway network and encouraging alternative and active modes of transportation. The expansion of LRT infrastructure and the displacement of VMT are critical components of regional transportation planning initiatives to improve air quality and public health. The NEPA assessment presents a comparison of LPA operational emissions in 2042 to the No Build Alternative for informational purposes.

5.2.1 Criteria Pollutant and Ozone Precursor Emissions

The NEPA assessment considers the change in daily emissions within the Affected Area for the LPA relative to the No Build Alternative in 2042. The LPA will affect regional air pollutant emissions primarily through changes in regional transportation patterns due to mode shift and increased Metro ridership, which will decrease regional VMT throughout the Affected Area relative to the No Build Alternative. Additionally, the MSF will introduce new minor sources of air pollutant emissions generated by landscaping, consumer product use, and employee and supply delivery trips. Table 5.2 presents the results of the daily operational emissions modeling for the LPA and the relative change from the No Build Alternative in the design year of 2042.

As shown in Table 5.2, the LPA will decrease daily regional air pollutant emissions when compared to the No Build Alternative in 2042, with the exception of a marginal increase in ROG emissions. As emissions decrease, there is no potential for LPA operations to cause a new NAAQS or CAAQS violation or exacerbate an existing NAAQS or CAAQS violation. Therefore, long-term LPA operations will not result in adverse effects related to criteria pollutant and ozone precursor emissions.

Table 5.2. Daily Operational Emissions—LPA (2042)

Scenario/Source	Daily Criteria Pollutant and Ozone Precursor Emissions (lbs./day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
LPA Regional VMT	14,254	100,838	746,004	3,887	104,646	21,944
LPA MSF	4	1	8	<1	3	1
LPA Total	**14,258**	**100,839**	**746,012**	**3,887**	**104,649**	**21,944**
No Build Alternative Regional VMT	14,257	100,851	746,111	3,888	104,667	21,947
Net Daily Change	**1**	**(12)**	**(99)**	**(1)**	**(18)**	**(3)**
SCAQMD Threshold	55	550	55	150	150	55

Source: TAHA 2023, SCAQMD 2023
Notes: lbs./day = pounds per day; LPA = Locally Preferred Alternative; MSF = maintenance and storage facility; VMT = vehicle miles traveled; SCAQMD = South Coast Air Quality Management District; ROG = reactive organic gases; CO = carbon monoxide; NO_X = nitrogen oxides; SO_X = sulfur oxides; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns; ( ) = reduction/decrease.
[1] The differences between the daily operational emission estimates shown in Table 5.2 compared to the corresponding table in the Draft EIS/EIR (Table 4.5.12) is attributable to the use of the most recent CARB EMFAC model (EMFAC2021) in this Final EIS/EIR.

As shown in Table 5.2, the LPA will decrease daily regional air pollutant emissions when compared to the No Build Alternative in 2042, with the exception of a marginal increase in ROG emissions. As emissions decrease, there is no potential for LPA operations to cause a new NAAQS or CAAQS violation or exacerbate an existing NAAQS or CAAQS violation. Therefore, long-term LPA operations will not result in adverse effects related to criteria pollutant and ozone precursor emissions.

5.2.2 Mobile Source Air Toxics

The purpose of the LPA is to enhance regional mobility and transit circulation. The LPA will reduce VMT from the No Build Alternative, and MSAT emissions are directly correlated to VMT. Reductions in VMT will lead to reductions in project vicinity MSAT emissions. In 2042, LPA operations will reduce daily regional VMT by 130,870 vehicle miles relative to the No Build Alternative, thereby decreasing daily MSAT emissions throughout the Affected Area. Moreover, federal and state regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with the USEPA MOVES model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050, while during this same time VMT are projected to increase by over 100 percent. This will further reduce the background level of MSAT. Therefore, the LPA will not result in adverse MSAT emissions.

5.2.3 Transportation Conformity

The conformity requirement is based on CAA Section 176(c), which prohibits the U.S. Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to the SIP for attaining the NAAQS. Transportation conformity applies to highway and transit projects and is enforced at both the regional level—which is the planning and programmatic level—and the project level. The LPA must conform at both levels to be approved.

5.2.3.1 Regional Transportation Conformity

Regional conformity analysis was conducted by comparing the LPA design, concept, and scope to its description in the SCAG 2016-2040 RTP/SCS and associated air quality analyses. The LPA is also included in the SCAG 2020-2045 RTP/SCS Transportation System Financially Constrained Project List as a LA County transit project under the RTP ID 1TR1011. The LPA is described as follows: "West Santa Ana Branch Transit Corridor LRT." The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) determined that the SCAG 2020–2045 RTP/SCS and the accompanying conformity analysis satisfied all air quality conformity requirements, documented in a letter to SCAG on June 5, 2020. The RTP entry for the LPA was within Draft Amendment #3 to the 2020–2045 RTP/SCS, with changes comprising an update of the opening year from 2028 to 2035 and a decrease in the project cost associated with the length of the LPA alignment relative to other alternatives assessed in the Draft EIS/EIR. Amendment #3 received federal approval of the transportation conformity determination from the FHWA and the FTA on June 9, 2023 (SCAG 2023).

Additionally, the LPA is listed in the 2023 Federal Transportation Improvement Program (FTIP) (FTIP ID is LA0G1094), although it is currently only programmed as a Project Study. The FHWA and FTA determined that the SCAG 2023 FTIP and accompanying conformity analysis satisfied all air quality conformity requirements in a letter on December 16, 2022. The Project is accurately programmed (for study only) in both the SCAG 2020–2045 RTP/SCS and the 2023 FTIP; therefore, the LPA will satisfy the Regional Transportation Conformity requirements. The 2023 FTIP Consistency Amendment #23-03 was approved by the FHWA and the FTA on June 9, 2023, in conjunction with the Connect SoCal Amendment 3 approval (SCAG 2023).

5.2.3.2 Project-Level Transportation Conformity

Project-level conformity requires demonstration that the LPA will not result in a new local CO, PM_{10}, or $PM_{2.5}$ air quality standard violation or worsen existing violations.

Regarding CO hotspots, although the Basin is designated as a maintenance area for CO, it is no longer a pollutant of concern in the region. This is evident in the ambient air quality monitoring data. The NAAQS for CO was last exceeded in 2002, according to the CARB. The SCAQMD last published data for 2021, which included maximum 1- and 8-hour concentrations of 4.3 and 3.7 ppm. These concentrations were below the 1- and 8-hour NAAQS of 20 and 9 ppm, respectively. Furthermore, the LPA is planned to open in 2035. As indicated in the CARB EMFAC model, CO emission rates would be substantially less in 2035 than in 2003 when CO attainment was demonstrated in the AQMP. For example, the running exhaust emission rate for a gasoline passenger vehicle was 5.97 grams per mile in 2003 and is forecasted to be 0.63 gram per mile in 2035, a reduction of approximately 89 percent. Similarly, the running exhaust emission rate for a diesel truck was 2.85 grams per mile in 2003 and is forecasted to be 0.07 gram per mile in 2035, according to the CARB EMFAC model. The combination of the ambient monitoring data and the changes in CO emission rates indicate that there is no potential for the LPA to generate a CO hot spot.

Regarding PM hotspots, the LPA is within a nonattainment area for the federal $PM_{2.5}$ NAAQS and a maintenance area for the PM_{10} NAAQS. Therefore, pursuant to 40 Code of Federal Regulations (CFR) Part 93, project-level $PM_{2.5}$ and PM_{10} Interagency Consultation and/or analyses are required for conformity purposes. A quantitative hot-spot analysis is required only for a project that has been identified as a Project of Air Quality Concern (POAQC), as defined in 40 CFR 93.123(b)(1). As described below, the LPA does not meet the criteria that

will classify it as a POAQC under USEPA's final rule. Accordingly, the LPA is not considered to be a POAQC, and the project-level PM conformity determination requirements are satisfied. Confirmation of this finding was obtained following interagency consultation with SCAG's Transportation Conformity Working Group. Under the LPA, there are no adverse effects related to worsening existing or contributing to new localized PM hot spots.

Screening criteria considered to identify projects of air quality concern typically involve new or expanded highway facilities and a significant number of—or a significant increase in the number of—diesel vehicles (significant number is defined as more than 125,000 average annual daily traffic [AADT], with 8 percent or more of such AADT being diesel truck traffic or, in practice, truck AADT of 10,000 or more regardless of total AADT) associated with project facilities or traveling on the project area roadway network. A list of projects that are considered to be POAQCs is provided below, along with an analysis of why the LPA is not considered to be a POAQC.

1) Projects affecting intersections that are at level-of-service (LOS) D, E, or F, with a significant number of diesel vehicles, or will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project
2) New bus and rail terminals and transfer points with a significant number of diesel vehicles congregating at a single location
3) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location
4) Projects in or affecting locations, areas, or categories of sites identified in the $PM_{2.5}$ or PM_{10} Implementation Plan or Implementation Plan submission, as appropriate, as sites of possible violation

The LPA is an electrically powered transit project that will not directly increase diesel truck traffic on the roadway network. Therefore, the LPA will not influence the level-of-service associated with increased traffic volumes from a significant number of diesel vehicles. In addition, the project corridor is not identified as including possible violation sites in the $PM_{2.5}$ Implementation Plan or PM_{10} Implementation Plan or any other SIP submission. Metro presented the LPA to SCAG's Transportation Conformity Working Group (TCWG) to obtain a project-level conformity determination at the January 26, 2021, TCWG meeting. The members of the TCWG concurred that the LPA will not be a POAQC, thereby establishing that PM emissions from diesel trucks will not present localized air quality concerns along roadways affected by the LPA (documentation of the TCWG concurrence is provided in Appendix B to this Impact Analysis Report along with the LPA listing in the RTP and FTIP). Under NEPA, the LPA will not result in adverse effects related to worsening existing or contributing to new localized PM hot spots and will satisfy all transportation conformity requirements.

5.3 Design Option: Close 186th Street

The design option would close 186th Street but keep 187th Street open to traffic in the City of Artesia by introducing an at-grade crossing. Corby Avenue would become a cul-de-sac with an access driveway for the existing business.

5.3.1 Criteria Pollutant and Ozone Precursor Emissions

Implementation of the LPA with the design option would result in similar regional air quality effects as the LPA without the design option. The LPA with the design option would not introduce a new substantial source of criteria pollutant and/or ozone precursor emissions to the Affected Area. The induced change in VMT on the regional roadway network resulting from increased transit ridership would be equivalent to the change in VMT determined for the LPA without the design option. The LPA with the design option would not alter ridership on the Project and would displace the same amount of vehicle trips and VMT as the LPA. The LPA with the design option would result in similar emissions of criteria pollutants and ozone precursors to the LPA without the design option and would not produce new or exacerbated adverse effects related to air quality.

5.3.2 Mobile Source Air Toxics

MSAT effects of the LPA with the design option would be the same as for the LPA without the design option. The LPA with the design option would not result in adverse air quality effects related to MSAT emissions. The closing of 186th Street in lieu of 187th Street would not substantively change regional traffic circulation patterns and would not have the potential to cause atypically high concentrations of MSAT pollutants near sensitive receptors. The LPA with the design option would not result in new or exacerbated adverse air quality effects related to MSAT emissions and concentrations.

5.3.3 Transportation Conformity

The discussion of transportation conformity requirements is the same for the LPA with the design option as that presented above for the LPA without the design option. The design option would not alter the regional and project-level conformity determinations described above and would also be accurately described in the 2020-2045 RTP/SCS and the 2023 FTIP under the same identification numbers. The design option is consistent with the project programmed in the 2020–2045 RTP/SCS and the 2023 FTIP that received an approved conformity determination from the FTA and FHWA on June 9, 2023; and the description and scope included in the 2020–2045 RTP/SCS and the 2023 FTIP characterizes inclusive of the LPA with the design option. Therefore, the LPA with the design option would satisfy transportation conformity requirements and would not result in new or exacerbated adverse air quality effects.

5.4 Maintenance and Storage Facility

The MSF is an integral component of the LPA and will not operate independently of the LPA being implemented. Air pollutant emissions that will be generated by operation of the MSF were estimated using CalEEMod and are accounted for in the analyses of the LPA. Operation of the MSF will result in emissions associated with vehicle trips to and from the site, natural gas use, and the use of consumer products such as cleaners and solvents. SCAQMD guidance requires that all project components be considered in a comprehensive emissions analysis. The MSF will be a requisite component of the LPA and will not operate independently. The analysis of operational emissions generated by the MSF is therefore incorporated with the LPA analysis. Implementation of the MSF as a component of the LPA will not result in adverse air quality effects.

5.5 U.S. Army Corps of Engineers Facilities

The LPA alignment will cross three U.S. Army Corp of Engineers (USACE) facilities: the concrete-lined LA River and Rio Hondo channels just west and east, respectively, of I-710, and the concrete-lined San Gabriel River channel just west of I-605. Operation of the LPA at the USACE facilities will not generate air pollutant emissions that will adversely affect local air quality. Implementation of the LPA will introduce a new LRT line to the region that will be powered by electric propulsion and will not involve a substantial stationary or mobile source of emissions in the vicinity of USACE facilities. Therefore, no adverse air quality effects will occur during operation of the LPA at the USACE facilities.

5.6 California Department of Transportation Facilities

The LPA alignment transects the following Caltrans facilities, from north to south: I-710, I-105, SR-91, and I-605. Future operation of the LPA will not introduce a new source of stationary or mobile emissions that will adversely affect the Caltrans facilities. Traffic circulation on these Caltrans facilities will not be impacted by LPA operations, which will result in an overall decrease in regional VMT. Therefore, the LPA will not result in adverse air quality effects at Caltrans facility locations.

6 CALIFORNIA ENVIRONMENTAL QUALITY ACT DETERMINATION

In response to SB 743, OPR published a Technical Advisory on evaluating transportation impacts under CEQA that broadly addresses the consideration of air pollutant emissions from induced changes to transportation patterns spurred by developing transit projects. The LPA will provide a new LRT alignment traversing portions of LA County that are not presently well-served by transit, enhancing regional connectivity and displacing vehicle trips and VMT. The California OPR recommends the streamlining of environmental impacts analysis under CEQA based on experiential knowledge that displacing on-road vehicle trips and VMT reduces air pollutant emissions related to transportation and improves regional air quality. Reducing VMT is recognized by OPR, CARB, SCAQMD, and SCAG as a fundamental and crucial strategy for reducing air pollutant emissions; therefore, operational air quality impacts are determined to be less than significant.

6.1 Threshold AQ-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The applicable air quality plan is the SCAQMD 2022 AQMP, which is prepared to support the SIP and was approved by the CARB in January 2023. The 2022 AQMP incorporates regional growth projections from the SCAG 2020–2045 RTP/SCS, and the two plans are heavily interrelated. In accordance with the procedures established in the SCAQMD's CEQA Air Quality Handbook, the following criteria are required to be addressed to determine the consistency with applicable SCAQMD and SCAG policies:

- Would the project result in any of the following?
  - An increase in the frequency or severity of existing air quality violations;
  - Cause or contribute to new air quality violations; or
  - Delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
- Would the project exceed the assumptions utilized in preparing the AQMP?
  - Is the project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based?
  - Does the project include air quality mitigation measures? or
  - To what extent is project development consistent with the AQMP land use policies?

The LPA will provide a new LRT line and supporting MSF in the Affected Area, resulting in changes to the regional air pollutant emissions inventory predominantly attributed to transportation mode shift and reduced on-road VMT. The LPA will not introduce new population or housing growth to the Affected Area, and additional Metro employment opportunities at facilities associated with future LPA operations will not disproportionately contribute to the SCAG growth projections for LA County. The following discussions address whether implementation of the LPA will affect the frequency or severity of air quality violations and the potential for delaying attainment of the air quality standards on the course set by the AQMP.

6.1.1 No Project Alternative

Under the No Project Alternative, the LPA would not be developed; properties would not be acquired for the LPA; no structures along the LPA alignment would be demolished; and no new structures would be constructed along the rail and street ROWs. The existing freight tracks within the rail ROWs would remain in place, and the rail ROWs would be undisturbed. Existing regional on-road VMT would remain unchanged, as there would be no transportation mode shift associated with the LPA. No new sources of air pollutant emissions would be introduced to the Affected Area, and no new growth would be introduced to the county in terms of population, housing, or employment. Metro systemwide operations would not include the LPA and its benefits related to VMT displacement, reducing vehicle trips, encouraging active transportation, and other proven strategies that enhance regional air quality.

As part of its initiative to minimize the environmental consequences of its operations, Metro has committed to implementing a cleaner fleet of buses and service vehicles that reduce air pollution. Between 2012 and 2017, Metro reduced its systemwide NO_X emissions by 40 percent and reduced its systemwide hydrocarbon and particulate matter emissions by over 50 percent; and in 2017 alone Metro reduced NO_X emissions from service vehicles by 26 percent. All of these benefits are consistent with regional emission reduction strategies incorporated into the AQMP. On July 27, 2017, the Metro Board of Directors unanimously voted to transition the entire Metro bus fleet to zero-emission vehicles by 2030. The No Project Alternative would not interfere with Metro's efforts to reduce its systemwide air pollutant emissions and would not conflict with implementation of the 2022 AQMP. Therefore, no impact on regional air quality would occur under the No Project Alternative.

6.1.1.1 Mitigation Measures

No mitigation measures are required.

6.1.1.2 Impacts Remaining After Mitigation

Less than significant impact.

6.1.2 Locally Preferred Alternative

The SCAQMD has responsibility for managing the South Coast Air Basin's air resources and is responsible for bringing the Basin into attainment for federal and state air quality standards. To achieve this goal, the SCAQMD prepares/updates the Basin's AQMP every four years. The "on-road emissions" 2022 AQMP budgets are developed based on the regional planning documents that are prepared by SCAG. The LPA is included in the 2020–2045 RTP/SCS under Project ID 1TR1011, and an updated entry for the LPA is included in Draft Amendment #3 that reflects the revised project scope and cost. The 2020–2045 RTP/SCS was found by FHWA and FTA to be in conformity with the SIP on June 5, 2020. Amendment #3 to the 2020–2045 RTP/SCS was approved in June of 2023.

The purpose of the consistency finding is to determine if the LPA is inconsistent with the objectives and assumptions of the AQMP, and thus would interfere with the region's ability to comply with federal and state air quality standards. The SCAQMD develops an emissions inventory for pollutants of concern to quantify trends in regional pollution. Emissions projections are based on population, vehicle, and land use trends. These are typically developed by SCAQMD, SCAG, and the SCAQMD with input from local agencies, (e.g., cities) and regional agencies (e.g., Metro).

Demonstrating conformity with the SIP is a crucial element of transportation planning, as it ensures that the projects approved for implementation will not create emissions of air pollutants that will impede or delay improvements in regional air quality achieved by various control strategies. The LPA will not introduce new population or housing growth into LA County, and the expansion of Metro operations will represent a negligible increase in regional employment compared to the 1.35 million jobs that are anticipated to be created in LA County between 2015–2040. As such, the LPA is consistent with the objectives and assumptions of the AQMP, and thus will not interfere with the region's ability to attain the air quality standards on the designated schedule.

The LPA will induce changes in regional transportation patterns by replacing vehicle trips with transit ridership. Every displaced vehicle start and VMT induced by LPA implementation will indirectly reduce regional emissions related to transportation. As shown in Table 1.1, the Existing + LPA scenario (if operational in 2017) will reduce daily VMT within the Affected Area by approximately 71,845 vehicle miles relative to Existing Conditions. Implementation of the LPA will improve regional air quality by taking passenger vehicle trips off the roadway network and encouraging alternative and active modes of transportation. The expansion of LRT infrastructure and the displacement of VMT are critical components of regional transportation planning initiatives to improve air quality and public health. OPR recommends streamlining the environmental analyses of transit and active transportation projects that reduce VMT, as decreasing vehicle travel is widely acknowledged to directly correlate with an improvement in air quality.

The NEPA assessment presents a comparison of the LPA operational emissions in 2042 to the No Build Alternative for informational purposes. By 2042, the transportation modeling results in Table 1.2 demonstrates that the LPA will reduce daily VMT by approximately 130,870 vehicle miles compared to the No Project Alternative. The VMT displacement will reduce emissions associated with vehicle exhaust and road dust from passenger vehicle trips that will not occur with implementation of the LPA. The changes in emissions associated with VMT displacement are induced, indirect air quality benefits. The only direct sources of air pollutant emissions that the LPA will introduce to the SCAQMD jurisdiction will be associated with operation of the MSF (i.e., vehicle trips and fugitive area sources), which will generate up to approximately 250 additional Metro staff vehicle trips per day. The displacement of 71,845 daily regional on-road VMT will more than offset the increase in Metro vehicle activities. Table 6.1 presents daily MSF emissions that will occur if it were operational in 2017. Daily operational emissions will remain below applicable SCAQMD thresholds for all criteria pollutants and ozone precursors and will not contribute to an increase in the frequency or severity of air quality violations in the context of existing conditions.

Table 6.1. MSF Daily Operational Emissions (2017)

Source	Emissions (lbs./day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Off-Site Mobile Trips	1	2	15	<1	3	1
On-Site Area Sources	4	<1	<1	<1	<1	<1
On-Site Energy Consumption	<1	<1	<1	<1	<1	<1
Total Regional Emissions	**5**	**3**	**16**	**<1**	**3**	**1**
SCAQMD Regional Threshold	55	550	55	150	150	55
Regional Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Total On-Site Emissions	**3.3**	**<1**	**<1**	**<1**	**<1**	**<1**
SRA 5 LST Value	—	1,480	172	—	4	2
Localized Threshold Exceeded?	—	**No**	**No**	—	**No**	**No**

Source: TAHA 2023, SCAQMD 2023, SCAQMD 2009
Notes: lbs./day = pounds per day; MSF = maintenance and storage facility; SRA = Source/Receptor Areas; LST = Localized Significance Threshold; ROG = reactive organic gases; CO = carbon monoxide; NO_X = nitrogen oxide; SO_X = sulfur oxides; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns

In response to SB 743, OPR and Caltrans have collaboratively and separately developed guidance for analyzing induced changes to transportation patterns and the associated air pollutant emissions. OPR is generally recommending the streamlining of emissions analyses for transit projects that substantially reduce on-road VMT. Caltrans is finalizing guidance related to analyzing transportation impacts from state highway projects, asserting in the draft documentation that the appropriate CEQA analysis for induced changes to on-road VMT be assessed in the design or horizon year of a proposed project relative to the No Project Alternative. Taking into consideration these recent developments in transportation planning approach, the most appropriate holistic comparison of the LPA operational emissions is to those of the No Project Alternative in 2042, as presented in Table 5.2. Implementation of the LPA will reduce emissions of criteria pollutants and ozone precursors relative to the No Project Alternative, with the exception of a minor increase in ROG emissions associated with MSF operations. The incremental increase in ROG emissions is substantially below the regional screening threshold and will not cause a significant impact. Therefore, the LPA will provide environmental benefits related to air quality and emissions of nonattainment pollutants and will result in a less than significant impact related to conflicts with the AQMP.

6.1.2.1 Mitigation Measures

No mitigation measures are required.

6.1.2.2 Impacts Remaining After Mitigation

Less than significant impact.

6.1.3 Design Option: Close 186th Street

With implementation of the design option, 187th Street would remain open but 186th Street would be closed. Additionally, Corby Avenue would become a cul-de-sac with an access driveway for the existing business. These differences compared to the LPA without the

design option would not alter the analysis of operational air pollutant emissions presented for the LPA without the design option. The LPA with the design option would involve the same sources of emissions as the LPA without the design option with regard to the MSF and would indirectly induce the same effect on regional on-road VMT emissions through increased transit ridership and corresponding passenger vehicle trip displacement. The emissions analysis presented in Table 5.2 reflects the long-term effects of the LPA with the design option on regional air quality. Long-term operation of the LPA with the design option would not conflict with or obstruct implementation of the AQMP and would contribute to environmental benefits of regional LRT operations reducing air pollutant emissions. Consistent with the analysis for the LPA without the design option, the LPA with the design option would result in less than significant impacts related to AQMP consistency and air quality violations.

6.1.3.1 Mitigation Measures

No mitigation measures are required.

6.1.3.2 Impacts Remaining After Mitigation

Less than significant impact.

6.1.4 Maintenance and Storage Facility

The MSF will be located in Bellflower and will be the predominant source of direct and indirect air pollutant emissions introduced to the SCAQMD jurisdiction during future LPA operations. The AQMP consistency analyses for the LPA considers the MSF as an integral component of the LPA, as the MSF will not be implemented independently of the LPA. For informational disclosure, Table 6.1 presents operational emissions associated with the MSF in 2017 and compares them to the SCAQMD mass daily air quality significance thresholds at the regional and localized levels. Daily emissions of criteria pollutants and ozone precursors will remain below applicable thresholds at both levels of analysis in this 2017 scenario. Due to improvements in engine technologies, fuel efficiency, and more stringent regulations, operational emissions for the MSF will be lower in 2042 than in 2017. Therefore, the MSF will result in a less than significant impact related to AQMP consistency for the LPA.

6.1.4.1 Mitigation Measures

No mitigation measures are required.

6.1.4.2 Impacts Remaining After Mitigation

Less than significant impact.

6.2 Threshold AQ-2: Would the Project result in a cumulatively considerable net increase of any criteria pollutant under an applicable federal or state ambient air quality standard?

The Basin is the Affected Area for evaluation of cumulative impacts for air quality. The Basin is currently designated as in nonattainment of the federal and/or state AAQS for O_3, PM_{10}, and $PM_{2.5}$. Therefore, there is an ongoing cumulative impact associated with these air pollutants. The potential for the LPA to contribute to a permanent cumulative impact is assessed through consistency with air quality plans. The SCAQMD has promulgated guidance related to cumulative emissions, stating that if daily emissions associated with

implementation of a project do not exceed any applicable regional or localized threshold values, those emissions would not be considered cumulatively significant. Daily air pollutant emission that would be generated by the No Project Alternative and the LPA are evaluated in the context of the SCAQMD Air Quality Significance Thresholds.

6.2.1 No Project Alternative

Under the No Project Alternative, the LPA alignment and components would not be developed, and the associated project corridor would remain unchanged. No new sources of air pollutant emissions would be introduced to the Affected Area that could contribute to a cumulatively considerable increase in emissions of pollutants for which the region is designated in nonattainment. The No Project Alternative would not result in regional air quality impacts related to cumulatively considerable increases in nonattainment pollutant emissions.

6.2.1.1 Mitigation Measures

No mitigation measures are required.

6.2.1.2 Impacts Remaining After Mitigation

Less than significant impact.

6.2.2 Locally Preferred Alternative

The LPA is listed in the region's currently conforming 2020–2045 RTP/SCS. Furthermore, daily pollutant emissions associated with the MSF (if operational in 2017) as presented in Table 6.1 will remain substantially below SCAQMD daily regional and localized thresholds. As shown in Table 5.2, the LPA will not result in an incremental increase in daily emissions that will exceed any applicable SCAQMD threshold. In fact, the LPA will decrease regional air pollutant emissions associated with on-road regional VMT within the Affected Area in the horizon year of 2042. Permanent emissions associated with the LPA will not be cumulatively considerable and this impact will be less than significant.

Per CEQA Guidelines Section 15130 (d), where a project is included in an approved regional plan (among other land use plans) that adequately addresses the affected resource area, no additional analysis is required. Because the Project is listed in the region's currently conforming 2020–2045 RTP/SCS and the LPA will not result in incremental increases in daily emissions exceeding any SCAQMD threshold, permanent emissions associated LPA operation will not be cumulatively considerable.

6.2.2.1 Mitigation Measures

No mitigation measures are required.

6.2.2.2 Impacts Remaining After Mitigation

Less than significant impact.

6.2.3 Design Option: Close 186th Street

With implementation of the design option, 187th Street would remain open but 186th Street would be closed. Additionally, Corby Avenue would become a cul-de-sac with an access driveway for the existing business. These deviations compared to the LPA without the design option would not alter the analysis of air pollutant emissions compared to the LPA without

the design option. The LPA with the design option would involve the same sources of emissions as the LPA without the design option with regard to the MSF and would indirectly induce the same effect on regional on-road VMT emissions through increased transit ridership and corresponding passenger vehicle trip displacement. Long-term operation of the LPA with the design option would not result in an incremental increase in daily emissions that would exceed any applicable SCAQMD threshold, as evidenced by the analysis presented in Table 5.2. Consistent with the analysis for the LPA without the design option, the LPA with the design option would result in less than significant impacts related to AQMP consistency and air quality violations.

6.2.3.1 Mitigation Measures

No mitigation measures are required.

6.2.3.2 Impacts Remaining After Mitigation

Less than significant impact.

6.2.4 Maintenance and Storage Facility

The MSF is considered an integral component in the LPA assessment of the potential for a cumulatively considerable net increase in criteria pollutant emissions. Based on the assessment for the LPA and the MSF emissions (if operational in 2017) presented in Table 6.1, the MSF will not contribute to a cumulatively considerable impact.

6.2.4.1 Mitigation Measures

No mitigation measures are required.

6.2.4.2 Impacts Remaining After Mitigation

Less than significant impact.

6.3 Threshold AQ-3: Would the Project expose sensitive receptors to substantial pollutant concentrations?

6.3.1 No Project Alternative

Under the No Project Alternative, the LPA alignment and components would not be developed, and the associated project corridor would remain unchanged. No new sources of air pollutant emissions would be introduced to the Affected Area that could expose sensitive receptors to substantial pollutant concentrations. The No Project Alternative would not result in regional air quality impacts related to the exposure of sensitive receptors to substantial pollutant concentrations.

6.3.1.1 Mitigation Measures

No mitigation measures are required.

6.3.1.2 Impacts Remaining After Mitigation

Less than significant impact.

6.3.2 Locally Preferred Alternative

The LPA will not introduce a new land use development that will constitute a substantial direct source of air pollutant emissions to the Affected Area during operation. Permanent sources of operational emissions associated with the LPA will include LRT operations and maintenance activities at the MSF. The MSF will constitute the only permanent, stationary source of direct emissions associated with long-term operation of the LPA. No direct source of air pollutant emissions along the LPA alignment will occur as the LRVs are powered by electrical propulsion. Future operation of the LPA will result in a net decrease in particulate matter and dust emissions at the regional scale relative to the No Build Alternative, as shown in Table 5.2.

The LPA will require freight track relocations in certain segments of the alignment, as indicated in Figure 2-2. Regarding particulate emissions from freight train movements, the LPA will not increase freight train activities at any location along the LRT alignment. Existing particulate matter emissions and dust deposition are not related to the environmental effects of the Project itself. Review of observational counts taken at various points along the ROW indicate that existing average daily train passbys are only one or two per day. Increases in freight activity would be separate from the LPA. Furthermore, relocation of the existing train tracks by a distance of 15 to 20 feet will not increase particulate emissions from freight train movements and will not substantially alter dust deposition patterns from those movements. Additionally, ambient particulate matter concentrations and resulting dust deposition are anticipated to decrease between the existing environmental setting (2017) and the horizon year of LPA operations (2042) as a result of future implementation of control strategies outlined in the SCAQMD AQMP.

The LPA will introduce a new LRT line within the Affected Area for the air quality analysis. The LPA will be propelled by electricity, which produces negligible emissions of particulate matter compared to diesel-powered freight trains as there is no source of combustion emissions. The only source of particulate emissions associated with LPA operations will be associated with brake dust resulting from frictional contact between the rail car wheels and the tracks since the cars will be powered by electric propulsion and not diesel-fueled internal combustion engines. Emissions of brake friction dust are reduced relative to diesel-powered trains because primary braking is regenerative through the electric motors of the LRT vehicles, and these emissions will be extremely minor. Therefore, operation of the LPA will not have the potential to expose sensitive receptors to substantial dust concentrations and this impact will be less than significant.

6.3.2.1 Mitigation Measures

No mitigation measures are required.

6.3.2.2 Impacts Remaining After Mitigation

Less than significant impact.

6.3.3 Design Option: Close 186th Street

Corby Avenue would become a cul-de-sac with an access driveway for the existing business. The analysis of potential impacts related to substantial pollutant concentrations affecting sensitive receptors for the LPA with the design option would be the same as the analysis presented for the LPA without the design option. The LPA with the design option would

involve the same sources of emissions as the LPA without the design option with regard to the MSF and would indirectly induce the same effect on regional on-road VMT emissions through increased transit ridership and corresponding passenger vehicle trip displacement. Consistent with the analysis for the LPA without the design option, the LPA with the design option would result in less than significant impacts related to sensitive receptor exposures to pollutant concentrations.

6.3.3.1 Mitigation Measures

No mitigation measures are required.

6.3.3.2 Impacts Remaining After Mitigation

Less than significant impact.

6.3.4 Maintenance and Storage Facility

Operation of the MSF will not constitute a substantial source of pollutant emissions within the Affected Area. Primary emissions sources from the MSF during operation will be consumer product use (e.g., solvents and cleaners) and ancillary activities (i.e., landscaping and building upkeep). Table 6.1 presents the emissions that will be generated by the MSF if it were operational in 2017 and compares the localized emissions to the applicable SCAQMD LST values for SRA 5 (Southeast Los Angeles County). On-site operational emissions will be approximately 3.3 pounds per day of ROG, less than 0.5 pound per day of CO and NO_X, and less than 0.1 pound per day of SO_X, PM_{10}, and $PM_{2.5}$. Emissions will remain substantially below the applicable SCAQMD LST values for SRA 5 under this hypothetical scenario that represents a more conservative evaluation of MSF operational emissions than those that will occur in 2042. Operation of the MSF will not have the potential to expose sensitive receptors to substantial pollutant concentrations and impacts will be less than significant.

6.3.4.1 Mitigation Measures

No mitigation measures are required.

6.3.4.2 Impacts Remaining After Mitigation

Less than significant impact.

6.4 Threshold AQ-4: Would the Project result in other emissions (such as those leading to odors or dust) adversely affecting a substantial number of people?

6.4.1 No Project Alternative

Under the No Project Alternative, the LPA alignment and components would not be developed, and the associated project corridor would remain unchanged. No new sources of air pollutant emissions would be introduced to the Affected Area that could expose sensitive receptors to substantial pollutant concentrations. The No Project Alternative would have no impact on regional air quality related to public nuisance for odors or visible dust plumes.

6.4.1.1 Mitigation Measures

No mitigation measures are required.

6.4.1.2 Impacts Remaining After Mitigation

Less than significant impact.

6.4.2 Locally Preferred Alternative

The LPA will not generate a substantial source of operational odors. Land uses and industrial operations commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Any unpleasant odors from transit operations will be subject to management under the odor complaint tracking system mandated by SCAQMD Rule 402 (Nuisance), which prevents nuisance odor conditions. All trash receptacles at Metro station locations will be subject to regular servicing and maintenance to ensure that unpleasant odors do not emanate from waste bins and present unpleasant conditions to patrons. As a result, operation of the LPA will have a minor, if any, impact with respect to odors. Therefore, the LPA will result in a less than significant impact related to operational odors.

Furthermore, operation of the LPA will not introduce a new substantial source of dust emissions to the Affected Area. As shown in Table 1.1, the Existing + LPA scenario (if operational in 2017) will reduce daily VMT from 463,245,820 miles under Existing Conditions to 463,173,975 miles under the LPA scenario. The daily VMT reduction of 71,845 vehicle miles will reduce regional mobile source emissions associated with both vehicle exhaust and re-entrained dust on the roadways. By 2042, the transportation modeling results in Table 1.2 demonstrate that the LPA will reduce daily VMT by approximately 130,870 miles compared to the No Project Alternative. As such, the LPA will decrease road dust emissions in direct correlation with VMT reduction. Therefore, the LPA will result in a less than significant impact related to operational odors and dust.

6.4.2.1 Mitigation Measures

No mitigation measures are required.

6.4.2.2 Impacts Remaining After Mitigation

Less than significant impact.

6.4.3 Design Option: Close 186th Street

Corby Avenue would become a cul-de-sac with an access driveway for the existing business. The analysis of potential impacts related to emissions that could cause public nuisances would be the same as the analysis presented for the LPA without the design option. Any unpleasant odors from transit operations will be subject to management under the odor complaint tracking system mandated by SCAQMD Rule 402 (Nuisance), which prevents nuisance odor conditions. All trash receptacles at Metro station locations will be subject to regular servicing and maintenance to ensure that unpleasant odors do not emanate from waste bins and present unpleasant conditions to patrons. As a result, operation of the LPA with the design option would have a minor, if any, impact with respect to odors. Consistent with the analysis for the LPA without the design option, the LPA with the design option would result in less than significant impacts related to emissions of odorous compounds and other pollutants that could cause public nuisances.

6.4.3.1 Mitigation Measures

No mitigation measures are required.

6.4.3.2 Impacts Remaining After Mitigation

Less than significant impact.

6.4.4 Maintenance and Storage Facility

The MSF will be located in the City of Bellflower. The MSF will not generate a substantial source of operational odors. Land uses and industrial operations commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Operational activities at the MSF will include the use of common cleaning products and solvents that generate localized odors that are not anticipated to be detectable beyond the MSF property line. Therefore, the MSF will result in a less than significant impact related to operational odors.

Furthermore, operation of the MSF will not introduce a new substantial source of dust emissions to the Affected Area. Primary sources of operational emissions at the MSF will include mobile vehicle trips to and from the site, as well as area source emissions from consumer products and ancillary activities such as landscaping. The MSF site will be paved and will not involve large aggregate storage piles or other sources of fugitive dust emissions. Operation of the MSF will be subject to compliance with the SCAQMD rules controlling fugitive dust emissions (Rule 401 Visible Emissions, Rule 402 Nuisance, and Rule 403 Fugitive Dust). As no sources of fugitive dust emissions will be present on the MSF site, operation of the MSF will result in a less than significant impact related to dust emissions.

6.4.4.1 Mitigation Measures

No mitigation measures are required.

6.4.4.2 Impacts Remaining After Mitigation

Less than significant impact.

7 CONSTRUCTION IMPACTS

This section addresses emissions of air pollutants that will be generated by construction activities involved in implementation of the LPA in the context of NEPA and CEQA. Development of the LPA and MSF will produce air pollutant emissions associated with off-road equipment, on-road vehicles, and fugitive dust and evaporative emissions. The emissions modeling and analyses incorporated the mandatory elements of the Metro *Green Construction Policy* (Metro 2011) where applicable and feasible.

7.1 Construction Activities

Construction activities associated with the Project are detailed in the *West Santa Ana Branch Transit Corridor Project Construction Methods Report* (Metro 2024).

Construction of the LPA will take place over approximately eight years and all activities involved will be conducted in accordance with the Metro *Green Construction Policy* (Metro 2011). There are several activities and components of the LPA that will be implemented, and throughout the overall schedule varying combinations of activities will occur concurrently at multiple locations along the LPA alignment. There may be periods during which various components of the LPA are under construction simultaneously throughout the 14.5-mile alignment. Additionally, some portions may be constructed in phases with activities occurring progressively from south to north along the alignment or vice versa. The air quality analysis for construction accounts for the maximum amount of equipment and vehicle activities that may be ongoing concurrently at any given time throughout the eight-year period.

A general overview of the components of the LPA is detailed in the *West Santa Ana Branch Transit Corridor Project Construction Methods Report* (Metro 2024), along with descriptions of the work involved and an approximate duration of the completion time for each phase or component. Prior to the installation of LRT system infrastructure, freight rail line and utility relocations, demolition, and excavation will occur throughout the LPA alignment. In addition to excavation, material import will be required to prepare the foundations for the overcrossings, grade separations, and aerial railway tracks and stations.

Following the preparation activities, construction of the Project will consist of five high-level components: at-grade LRT segments, aerial LRT segments, the MSF, and systems installation and testing. Construction of these components will overlap during certain periods of the schedule, and on a given day it is possible that concurrent work will be conducted related to implementation of all of the high-level components. In accordance with guidance from SCAQMD, the air quality assessment characterizes the maximum daily emissions that will occur at regional and localized scales throughout construction of the LPA, which involves determining a reasonably conservative estimate of highest daily combined activity intensity as well as peak daily emissions from on-site sources during construction of each individual component site.

7.2 Construction Methodology

7.2.1 Regional Emissions Analysis

The regional level analysis considers all sources of air pollutant emissions within the Affected Area—the Basin—during construction, both on the project site and at remote or mobile locations. Sources of air pollutant emissions involved in construction of the LPA will include heavy-duty construction equipment exhaust, fugitive dust (particulate matter) generated by material movement and ground disturbance, haul truck trips used for material import and off-site disposal trips, and vehicle trips associated with crew workers and vendors delivering materials to and from the construction sites. The California Emissions Estimator Model (CalEEMod) is the preferred land use development emissions tool for estimating air pollutant emissions under CEQA and was employed to complete the air quality analysis for the LPA in accordance with standard CEQA practice.

The air quality assessment of construction emissions for the Draft EIS/EIR used CalEEMod Version 2016.3.2 to prepare the analysis. Since the original air quality assessment was prepared for the Draft EIS/EIR, new iterations of air quality analytical tools were published by the CARB, CAPCOA, and the California air districts. For the Final EIS/EIR, CalEEMod (Version 2020.4.0) was used to prepare reasonably conservative estimates of maximum daily regional emissions that would be generated by the sources involved in construction activities described in the West Santa Ana Branch Transit Corridor Project Construction Methods Report (Metro 2024). CalEEMod Version 2020.4.0 and its supporting documentation were released in May and June of 2021, and this iteration represents the best available tool for quantifying emissions that will be generated during construction of the LPA. Updates to the discussions do not change the conclusions related to air quality impacts, and no adverse effects related to maximum daily emissions, construction odors, or visible dust will occur during construction of the LPA.

Maximum daily activities correspond to the LPA, a 14.5-mile alignment. Table 7.1 presents a summary of the CalEEMod input parameters used to estimate combinations of reasonable maximum daily construction activities and resulting air pollutant emissions. It was determined that construction of the LPA will require up to 60 pieces of off-road equipment, up to 750 daily crew members commuting to construction sites, up to 120 hauling loads of bulk material disposals, and up to 80 deliveries of building supplies and materials to the construction sites.

The equipment inventories, vehicle trips, and material displacement were populated and allocated using best available information and experiential knowledge of Metro LRT projects taking into account feasibility constraints. The earliest year for regional construction emissions is assumed to be 2024, and the analysis characterizes maximum daily emissions during concurrent construction of up to four individual components of the LPA alignment as anticipated in 2029, 2030, and 2031 based on the updated conceptual construction schedule. Early utility relocations and freight track relocations may briefly overlap during construction of the LPA; therefore, a 2025 emissions scenario is also assessed, although on a daily basis these activities are anticipated to require less intense equipment use. Default values are used where project-specific data is not available at the planning phase.

Table 7.1. Examples of the Maximum Daily Construction Activity Parameters – Regional Analysis

Construction Activity Combinations	Off-Road Equipment Count	Daily Construction Workers	Daily Vendor Deliveries	Daily Haul Truckloads
Scenario 1: Early Utilities and Freight Track Relocations				
Utility Relocations	16	250	25	-
Freight Track Relocations	16	250	25	-
Totals	32	500	50	-
Scenario 2: Demolition & Site Work, Utility Relocations, Guideway and Tracks, and Stations (2029)				
Demolition and Site Work	15	125	20	30
Utility Relocations	10	125	10	30
Guideway and Tracks	20	250	30	40
Stations	15	250	20	20
Totals	60	750	80	120
Scenario 3: Utility Relocations, Guideway and Tracks, Stations, and MSF (2029/2030)				
Utility Relocations	10	125	10	30
Guideway and Tracks	20	250	30	40
Stations	15	250	20	20
MSF	15	125	20	30
Totals	60	750	80	120
Scenario 4: Guideway and Tracks, Stations, and Systems (2031)				
Guideway and Tracks	20	250	40	100
Stations	20	250	20	20
Systems	20	250	20	-
Totals	60	750	80	120

Source: TAHA 2023
Note: MSF = maintenance and storage facility

The SCAQMD CEQA Air Quality Handbook recommends the use of maximum daily emissions for determining the potential significance of air pollutant emissions generated by CEQA projects. The parameters presented in Table 7.1 represent maximum daily activity intensity for the LPA. Daily haul truck activity will fluctuate over the course of construction activities. Based on resource feasibility constraints and preliminary schedule coordination, maximum daily truck activity will not exceed 120 hauling trucks and 80 material deliveries along the LPA alignment. The cut (excavated and exported for off-site disposal) and fill (imported for on-site use) volumes for the LPA are presented in Table 7.2. Construction of the LPA will not involve any subterranean tunneling or stations.

Table 7.2. Export and Import Quantities—Locally Preferred Alternative

Project	Total Export (cubic yards)[1]	Export Truck Loads (20-CY trucks)[1,2]	Total Import (cubic yards)[1]	Import Truck Loads (10-CY trucks)[1,3]
LPA	78,600	3,950	547,300	54,750
LPA with Design Option	78,600	3,950	547,300	54,750

Source: WSP 2023
Notes: [1] Bulk material volumes are rounded up to nearest hundred cubic yards (CY). Truck trips are rounded up to nearest 50.
[2] 20-CY truck trips are calculated for cut (excavation) quantities using double-trailer trucks.
[3] 10-CY truck trips are calculated for fill quantities.
Analysis will be updated to match data as presented in the *Final Construction Methods Impacts Report* for Admin Draft 2; however, impact conclusions will not change.
LPA = Locally Preferred Alternative; CY = cubic yard
Localized Emissions Analysis

SCAQMD guidance recommends an assessment of localized air quality impacts near construction sites. The localized analysis focuses on emission sources located on the construction site itself and does not include regional vehicle travel and other remote emissions. Using ambient air monitoring data from 37 monitoring sites throughout the Basin in conjunction with air dispersion modeling, the SCAQMD determined regionally specific incremental increases in localized pollutant concentrations throughout the Basin that could constitute a significant air quality impact by exceeding an applicable air quality standard. The Basin was subdivided into SRAs based on proximity to the nearest monitoring station and local topography.

The LPA transects portions of SRA 1 (Central LA County), SRA 4 (South Coastal LA County), SRA 5 (Southeast LA County), and SRA 12 (South Central LA County). For the localized analysis—which considers emissions only from sources located on the LPA construction site and excludes on-road vehicle activity—the Affected Area evaluated is a buffer zone of approximately 1,640 feet (500 meters) around each specific construction site along the alignment. The buffer zone distance is based on the SCAQMD Final LST Methodology, which focuses on the prevention of near-source pollutant concentrations reaching or exceeding ambient air quality standards at sensitive receptor locations in close proximity to construction sites.

Localized emissions for construction were analyzed for the following high-level project components at applicable locations:

- Aerial station and guideway (e.g., Slauson/A Line, Firestone, and Paramount/Rosecrans stations)
- At-grade station and guideway (e.g., Pacific/Randolph, Florence/Salt Lake, Gardendale, I-105/C Line, Bellflower, and Pioneer stations)
- Parking facilities along the LPA alignment
- MSF site in Bellflower

7.2.2 Metro Green Construction Policy

The LPA will implement Project Measure AQ PM-1 (Metro Green Construction Policy) that requires construction activities to be conducted in accordance with Metro's *Green Construction Policy*. The policy includes control measures and BMPs for minimizing emissions of air pollutants generated by construction sources. Emissions modeling and impact analyses prepared for the LPA accounted for the following elements of the policy:

Off-Road Construction Equipment

- Construction equipment shall incorporate, where feasible, emissions-reducing technology such as hybrid drives and specific fuel economy standards.
- Idling shall be restricted to a maximum of 5 minutes, except as provided in the exceptions to the applicable CARB regulations regarding idling.
- All off-road diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier-4 off-road emission standards at a minimum. In addition, if not already supplied with a factory-equipped diesel particulate filter, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine defined by CARB regulations.
- Contractors shall use renewable diesel fuel for all diesel engines.

On-Road Equipment

- Trucks or equipment hauling material such as debris or any fill materials shall be fully covered while operating at, to, and from the Metro construction project.
- Idling shall be restricted to a maximum of 5 minutes, except as provided in the exceptions to the applicable CARB regulations regarding idling.
- All on-road heavy-duty diesel trucks or equipment with a Gross Vehicle Weight Rating of 19,500 pounds or greater shall comply with USEPA 2010 on-road emission standards for PM and NO_X (0.01 g/bhp-hr and at least 1.2 g/bhp-hr, respectively).

Best Management Practices

- Use diesel particulate traps or BACT, as feasible.
- Maintain equipment according to manufacturer's specifications.
- Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use, except as provided in the exceptions to the applicable CARB regulations regarding idling for off-road and on-road equipment.
- Maintain a buffer zone that is a minimum of 1,000 feet between truck traffic and sensitive receptors, where feasible.
- Enforce truck parking restrictions, where applicable.
- Prepare haul routes that conform to local requirements to minimize traversing through congested streets or near sensitive receptor areas.
- Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site, as feasible.
- Limit traffic speeds on all unpaved roads to 15 mph or less.

7.3 Construction Impacts

The NEPA analysis considers emissions of criteria pollutants and ozone precursors and emissions that could create a public nuisance that will be generated by construction of the LPA. The SCAQMD thresholds are provided for informational purposes in the NEPA analysis.

7.3.1 No Build Alternative

The No Build Alternative includes projects identified in the SCAG 2016–2040 RTP/SCS (SCAG 2016), Metro's 2009 LRTP (Metro 2009), and Measure M. Construction activities for other planned transportation projects may include, but are not limited to, construction staging, materials stockpiling, hauling of dirt and materials, and temporary street and lane closures, and may require temporary easements. The No Build Alternative would not include construction of any project-related facilities or infrastructure, and no emissions of air pollutants generated by project construction activities would occur. Ongoing and future planned Metro projects would continue to comply with the Metro Green Construction Policy to ensure that air pollutant emissions during construction activities are minimized to the greatest extent feasible. Therefore, potential adverse construction effects related to the No Build Alternative would not occur.

7.3.2 Locally Preferred Alternative

7.3.2.1 Criteria Pollutant and Ozone Precursor Emissions

Construction of the LPA will involve a variety of construction activities throughout the 14.5-mile LRT alignment and will implement Project Measure AQ PM-1 (Metro Green Construction Policy). As described above, the emission modeling for LPA construction included reasonably conservative assumptions of up to 750 daily construction crew vehicles, 120 daily truckloads of bulk material hauling, and 80 deliveries of materials to the construction sites.

Table 7.3 presents the maximum daily emissions that will be generated by concurrent activities during construction of the LPA, as well as the SCAQMD Air Quality Significance Thresholds for mass daily emissions at the regional level. Regional emissions of the six pollutants for which the SCAQMD has established regional mass daily thresholds will remain below the threshold screening values. Relative to the emissions disclosed in the Draft EIS/EIR, LPA construction emissions are lower due to the later start of construction (2024) compared to the prior analysis (2017). Therefore, emissions during construction of the LPA will not create a potentially adverse effect related to air quality and mitigation is not required.

Table 7.3. Maximum Daily Regional Emissions during Construction of the LPA (2024–2032)

Emissions Source	Emissions (lbs./day)					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Equipment Exhaust	5	23	173	<1	<1	<1
On-Site Dust and Vapors	42	-	-	-	12	6
Material Hauling	<1	32	9	<1	5	2
Vendor Deliveries	<1	8	3	<1	2	<1
Crew Worker Trips	4	2	37	<1	17	4
Total	**50**	**65**	**221**	**0.5**	**35**	**12**
SCAQMD Threshold	75	100	550	150	150	55

Source: Metro 2019k, SCAQMD 2023, TAHA 2023
Note: Numbers are rounded to nearest whole number.
CO = carbon monoxide; lbs./day = pounds per day; LPA = Locally Preferred Alternative; NO_x = nitrogen oxide; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns; ROG = reactive organic gases; SCAQMD = South Coast Air Quality Management District; SO_x = sulfur oxides

7.3.2.2 Odors and Dust

Construction of the LPA will not generate a substantial source of construction odors or visible dust. Construction activities will use a variety of gasoline or diesel-powered equipment that emit exhaust fumes as well as asphalt paving, which has a distinctive odor during application. Persons within proximity to the construction work area may find these odors objectionable or experience a temporary annoyance if the source of odors and dust is excessive. However, it is anticipated that emissions from construction activities will occur intermittently throughout the workday and the associated odors will dissipate rapidly within the immediate vicinity of the work area.

Construction activities will generate dust emissions that are primarily associated with equipment disturbing the unpaved ground surfaces within the construction area footprint. Dust emissions will be minimized by mandated compliance with SCAQMD Rule 403 (Fugitive Dust) and Rule 402 (Nuisance). The construction contractor is mandated to comply with SCAQMD Rule 403 related to the control of fugitive dust. The LPA will also implement Project Measure AQ PM-1 (Metro Green Construction Policy) that requires construction activities to be conducted in accordance with Metro's Green Construction Policy which includes BMPs related to control strategies such as the application of water or dust suppressants to unpaved areas to maintain soil moisture content and limiting vehicle speeds on unpaved areas to 15 mph.

To evaluate the potential for localized dust impacts to nearby sensitive receptors, emissions that will be generated from on-site sources (i.e., off-road equipment and fugitive dust and vapors) during construction of each component of the LPA were estimated using CalEEMod and compared to the SCAQMD LST screening values for the applicable SRAs. Table 7.4 presents the maximum daily emissions that will be generated by individual demolition and relocation sites throughout the LPA alignment, along with the applicable LST values for a 1-acre work site. The LST values are provided for all SRAs in which demolition and relocation activities will occur during construction of the LPA.

Table 7.4. Demolition and Relocation Daily Localized Construction Emissions

Description	On-Site Emissions (lbs./day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$
Equipment Exhaust/Area Source	**29.0**	**2.7**	**3.9**	**0.6**
SCAQMD SRA 1 LST Value	680	74	5	3
SCAQMD SRA 4 LST Value	585	57	4	3
SCAQMD SRA 5 LST Value	571	80	4	3
SCAQMD SRA 12 LST Value	231	43	4	3
Exceed SCAQMD LST Threshold? [1]	**No**	**No**	**No**	**No**

Source: TAHA 2023, SCAQMD 2009
Notes: [1] The exceedance of SCAQMD thresholds are measured by comparing the "Equipment Exhaust/Area Source" with the SCAQMD Localized Significance Thresholds.
CO = carbon monoxide; lbs./day = pounds per day; LST = Localized Significance Threshold; NO_x = nitrogen oxide; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns; SCAQMD = South Coast Air Quality Management District; SRA = Source Receptor Area

Based on the LST analysis, the demolition and relocation activities will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, demolition and relocation activities will not result in adverse air quality effects related to dust and odors.

Table 7.5 presents the maximum daily emissions that will be generated by excavation and grading sites throughout the LPA alignment, along with the applicable LST values for a 2-acre work site. Based on the LST analysis, excavation and grading activities during LPA construction will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, excavation and grading activities will not result in an adverse air quality effect related to dust and odors.

Table 7.5. Excavation and Grading Daily Localized Construction Emissions

Description	On-Site Emissions (lbs./day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$
Equipment Exhaust/Area Source	**35.8**	**3.5**	**5.6**	**2.7**
SCAQMD SRA 1 LST Value	1,048	108	8	5
SCAQMD SRA 4 LST Value	842	82	7	5
SCAQMD SRA 5 LST Value	861	114	7	4
SCAQMD SRA 12 LST Value	346	65	7	4
Exceed SCAQMD LST Threshold? [1]	**No**	**No**	**No**	**No**

Source: TAHA 2023, SCAQMD 2009

Notes: [1] The exceedance of SCAQMD thresholds are measured by comparing the "Equipment Exhaust/Area Source" with the SCAQMD Localized Significance Thresholds.

CO = carbon monoxide; lbs./day = pounds per day; LRT = light rail transit; LST = Localized Significance Threshold; NO_x = nitrogen oxide; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns; SCAQMD = South Coast Air Quality Management District; SRA – Source Receptor Areas

Table 7.6 presents the maximum daily emissions that will be generated by construction sources on individual at-grade track and station sites throughout the LPA alignment following demolition and site clearing activities, along with the applicable LST values for a 1-acre work site. The LST values are provided for all SRAs in which at-grade LRT segment construction activities along the LPA alignment will occur. Based on the LST analysis, at-grade construction activities will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, at-grade construction activities will not result in adverse air quality effects related to dust and odors.

Table 7.6. At-Grade Track and Station Daily Localized Construction Emissions

Description	On-Site Emissions (lbs./day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$
Equipment Exhaust/Area Source	**35.6**	**3.3**	**2.8**	**1.4**
SCAQMD SRA 1 LST Value	680	74	5	3
SCAQMD SRA 4 LST Value	585	57	4	3
SCAQMD SRA 5 LST Value	571	80	4	3
SCAQMD SRA 12 LST Value	231	43	4	3
Exceed SCAQMD LST Threshold? [1]	**No**	**No**	**No**	**No**

Source: TAHA 2023, SCAQMD 2009
Notes: [1] The exceedance of SCAQMD thresholds are measured by comparing the "Equipment Exhaust/Area Source" with the SCAQMD Localized Significance Thresholds.
CO = carbon monoxide; lbs./day = pounds per day; LST = Localized Significance Threshold; NO_x = nitrogen oxide; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns; SCAQMD = South Coast Air Quality Management District; SRA = Source Receptor Area

Table 7.7 presents the maximum daily emissions that will be generated by individual aerial track and station sites throughout the LPA alignment following demolition and site clearing activities, as well as the applicable LST values for a 1-acre work site for all SRAs in which at-grade LRT segment construction activities along the LPA alignment will occur. Based on the LST analysis, aerial track and station construction activities will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, aerial track and station construction activities will result in a less than significant impact related to exposure of sensitive receptors to substantial localized pollutant concentrations.

Table 7.7. Aerial Track and Station Daily Localized Construction Emissions

Description	On-Site Emissions (lbs./day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$
Equipment Exhaust/Area Source	**29.4**	**3.0**	**2.8**	**1.4**
SCAQMD SRA 1 LST Value	680	74	5	3
SCAQMD SRA 4 LST Value	585	57	4	3
SCAQMD SRA 5 LST Value	571	80	4	3
SCAQMD SRA 12 LST Value	231	43	4	3
Exceed SCAQMD LST Threshold? [1]	**No**	**No**	**No**	**No**

Source: TAHA 2023, SCAQMD 2009
Notes: [1] The exceedance of SCAQMD thresholds are measured by comparing the "Equipment Exhaust/Area Source" with the SCAQMD Localized Significance Thresholds.
CO = carbon monoxide; lbs./day = pounds per day; LST = Localized Significance Threshold; NO_x = nitrogen oxide; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns; SCAQMD = South Coast Air Quality Management District; SRA = Source Receptor Area

Table 7.8 presents the daily localized emissions that will be generated by construction of the MSF, as well as the applicable LST values for a 2-acre work site in SRA 5. Based on the LST analysis, construction of the MSF will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, construction of the MSF will result in a less than significant impact related to exposure of sensitive receptors to substantial localized pollutant concentrations.

Table 7.8. Daily Localized Construction Emissions for the MSF

Construction Phase	Emissions (lbs./day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$
Demolition	34.2	3.1	0.9	0.2
Site Preparation	36.5	3.8	5.8	2.8
Building/Track Installation	24.5	3.7	<0.1	<0.1
Paving/Coating/Striping	24.5	1.8	<0.1	<0.1
Maximum Daily Emissions	**36.5**	**3.8**	**5.8**	**2.8**
SCAQMD SRA 5 LST Value	861	114	7	4
Exceed SCAQMD LST Threshold? [1]	**No**	**No**	**No**	**No**

Source: TAHA 2023, SCAQMD 2009
Notes: [1] The exceedance of SCAQMD thresholds are measured by comparing the "Equipment Exhaust/Area Source" with the SCAQMD Localized Significance Thresholds.
CO = carbon monoxide; lbs./day = pounds per day; NO_x = nitrogen oxide; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns; ROG = reactive organic gases; SCAQMD = South Coast Air Quality Management District; SO_x = sulfur oxides

Construction activities will adhere to the stringent provisions of the Metro *Green Construction Policy* (e.g., equipment maintenance and inspections, restriction of idling, maintaining buffer zones where feasible, and using renewable diesel fuel in off-road equipment) and employ BMPs to prevent the occurrence of a nuisance odor or dust plume in accordance with SCAQMD Rule 402 (Nuisance). Therefore, the LPA will not result in adverse effects related to odor and dust nuisance during construction.

7.3.3 Design Option: Close 186th Street

7.3.3.1 Criteria Pollutant and Ozone Precursor Emissions

The analysis of regional and localized construction emissions for the LPA with the design option is similar to the emissions analysis presented for the LPA without the design option in Table 7.3. Construction of the LPA with the design option would occur over the same duration as the LPA without the design option and would involve the same phases of construction to develop. In addition, Project Measure AQ PM-1 (Metro Green Construction Policy) would be implemented that requires construction activities to be conducted in accordance with Metro's *Green Construction Policy*. Construction activities for the LPA with the design option would not result in greater daily source activity or emissions relative to those described during construction of the LPA without the design option. Construction of the LPA with the design option would not result in adverse air quality effects.

7.3.3.2 Odors and Dust

The analysis of odorous and particulate dust emissions for the LPA with the design option is similar to the discussion provided for the LPA without the design option. The LPA with the design option would involve the same construction activities and would incorporate the same BMPs as construction of the LPA without the design option. The results of the localized analyses presented in Table 7.4 through Table 7.8 demonstrate that emissions of dust and vapors from on-site sources during construction would not exceed any applicable SCAQMD LST screening value, which are based on the prevention of substantial pollutant concentrations occurring in close vicinity to construction sites. Construction of the LPA with the design option would not have the potential to create nuisance conditions related to odors and dust.

7.3.4 Maintenance and Storage Facility

7.3.4.1 Criteria Pollutant and Ozone Precursor Emissions

Table 7.9 presents the maximum daily emissions that will be generated by construction of the MSF, as well as the SCAQMD Air Quality Significance Thresholds for mass daily emissions at the regional level. Construction of the MSF will include demolition, site clearing, grading, structure and track installation, paving, and architectural coating activities. Construction of the MSF will last for approximately two years and Project Measure AQ PM-1 (Metro Green Construction Policy) will be implemented, which requires construction activities to be conducted in accordance with Metro's Green Construction Policy. Construction of the MSF will not produce emissions exceeding any regional mass daily threshold and no adverse effects will occur.

Table 7.9. Maximum Daily Construction Emissions – MSF

Construction Phase	Emissions (lbs./day)					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Demolition	2	9	43	<1	6	2
Site Preparation	2	14	47	<1	11	4
Building/Track Installation	2	6	33	<1	4	1
Paving/Coating/Striping	43	5	32	<1	4	1
Maximum Daily Emissions	**43**	**14**	**47**	**<1**	**11**	**4**
SCAQMD Threshold	75	100	550	150	150	55

Source: TAHA. 2023; SCAQMD 2023
Note: CO = carbon monoxide; lbs/day = pounds per day; NO_x = nitrogen oxide; $PM_{2.5}$ = fine particulate matter of diameter less than 2.5 microns; PM_{10} = respirable particulate matter of diameter less than 10 microns; ROG = reactive organic gases; SCAQMD = South Coast Air Quality Management District; SO_x = sulfur oxides

7.3.4.2 Odors and Dust

The odors and dust analysis for the MSF is similar to the analysis presented for the LPA. Construction of the MSF will not generate a substantial source of construction odors or visible dust plumes and Project Measure AQ PM-1 (Metro Green Construction Policy) will be implemented to employ BMPs in accordance with SCAQMD Rule 402 (Nuisance). Therefore,

the MSF will not result in adverse effects related to odor and dust nuisance during construction.

7.3.5 U.S. Army Corps of Engineers Facilities

7.3.5.1 Criteria Pollutant and Ozone Precursor Emissions

Construction of the LPA will not create adverse air quality conditions at the locations of the USACE facilities. As discussed above, implementation of Project Measure AQ PM-1 (Metro Green Construction Policy) will control emissions so that adverse air quality effects do not occur. There are no sensitive receptors at the USACE facilities that could be impacted by criteria pollutant and ozone precursor emissions. Therefore, no adverse air quality effects will occur at USACE facilities.

7.3.5.2 Odors and Dust

Construction of the LPA will employ BMPs in accordance with the Metro Green Construction Policy and SCAQMD Rule 403 to control emissions of fugitive dust to the maximum extent practicable during active equipment and vehicle use. Construction of the LPA will not create new or exacerbated adverse air quality effects related to odors and dust at the locations of USACE facilities.

7.3.6 California Department of Transportation Facilities

7.3.6.1 Criteria Pollutant and Ozone Precursor Emissions

Construction of the LPA will not interfere with traffic circulation on Caltrans facilities. The incremental increase in daily traffic on Caltrans facilities resulting from construction of the LPA will not be substantial. Therefore, the LPA will not result in adverse air quality effects at Caltrans facility locations.

7.3.6.2 Odors and Dust

No sensitive receptors at the Caltrans facilities will be affected by emissions resulting from construction of the LPA. LPA construction will not create new or exacerbated air quality effects related to nuisances that involve odors and dust.

7.4 California Environmental Quality Act

As described in Section 7.2.1, Regional Emissions Analysis, construction of the LPA would generate air pollutant emissions through sources such as heavy-duty off-road equipment exhaust, fugitive dust produced by ground disturbance and soil displacement activities, on-road vehicle exhaust from trips by construction workers, haul trucks, material delivery trucks, and on-road re-entrained dust and brake and tire wear. The SCAQMD guidance states that air pollutant emissions be analyzed on both regional and local scales. The regional emissions analysis, where applicable, considers daily pollutant emissions that would be generated by all sources involved in project construction, both on-site and remote (mobile). The localized emissions analysis relates to the potential concentrations of pollutants in the vicinity of the construction sites, and only considers emissions from sources located on the construction site (i.e., equipment exhaust and on-site fugitive dust). The daily pollutant emissions are compared to the applicable SCAQMD Air Quality Significance Thresholds discussed in Section 1.5.4.

7.4.1 Threshold AQ-CON-1: Would the Proposed Project conflict with or obstruct implementation of the applicable air quality plan?

The following analyses address consistency with applicable SCAQMD and SCAG policies, including SCAQMD's 2016 AQMP and growth projections within the SCAG's 2016–2040 RTP/SCS, as well as the 2022 AQMP and 2020-2045 RTP/SCS. The following impact discussions focus on construction emissions in the context of air quality violations and attainment of the air quality standards.

7.4.1.1 No Project Alternative

The No Project Alternative would not include construction of any project-related facilities or infrastructure and would not introduce additional sources of construction air pollutant emissions into the SCAQMD jurisdiction. Ongoing Metro construction activities and those planned for future Metro projects would remain committed to compliance with the Metro *Green Construction Policy*. Therefore, no impact would occur related to obstructing implementation of the applicable air quality plan by increasing the frequency or severity of air quality violations or delaying attainment of the air quality standards.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.1.2 Locally Preferred Alternative

The LPA will involve a variety of construction activities and will be conducted in accordance with the Metro *Green Construction Policy* consistent with Project Measure AQ PM-1 (Metro Green Construction Policy). The emissions modeling results presented in Table 7.3 demonstrate that construction of the LPA will not produce emissions exceeding any regional mass daily threshold. Construction of the LPA will result in a less than significant impact related to potentially obstructing timely attainment air quality standards as outlined in the 2016 AQMP and 2022 AQMP.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.1.3 Design Option: Close 186th Street

Implementation of the LPA with the design option would generate emissions similar to those analyzed for the LPA without the design option. As shown in Table 7.3, maximum daily regional emissions would remain below the applicable SCAQMD thresholds throughout the construction period. Construction of the LPA with the design option would not result in greater daily source activity or emissions relative to those presented for the LPA without the design option and would not have the potential to conflict with or obstruct implementation of the AQMP. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.1.4 Maintenance and Storage Facility

Construction of the MSF will last for approximately two years and will be constructed in accordance with the Metro *Green Construction Policy* per Project Measure AQ PM-1 (Metro Green Construction Policy). Construction of the MSF will not produce emissions exceeding any regional mass daily threshold and will result in a less than significant impact related to potentially obstructing timely attainment of the AQMP, and mitigation is not required.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.2 Threshold AQ-CON-2: Would the Proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The project region is currently designated nonattainment for O_3, PM_{10}, and $PM_{2.5}$. The following analysis focuses on ozone precursors (reactive organic gas and NO_X) and particulate matter (PM_{10} and $PM_{2.5}$) emissions that may contribute to a cumulatively considerable incremental increase in atmospheric concentrations of ozone and particulate matter.

7.4.2.1 No Project Alternative

The No Project Alternative would not include construction of any project-related facilities or infrastructure, and no new sources of construction air pollutant emissions would be introduced to the SCAQMD jurisdiction. Therefore, no impact related to cumulatively considerable net increases in criteria pollutant or ozone precursor emissions would occur.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.2.2 Locally Preferred Alternative

As demonstrated in the emissions analysis detailed in Table 7.3, construction of the LPA will not result in a significant air quality impact related to regional emissions of ozone precursors or particulate matter. The SCAQMD asserts that if a project generates daily emissions exceeding the project-level CEQA mass daily thresholds of significance, those emissions would also be considered cumulatively considerable. Conversely, maximum daily emissions that do not exceed the regional threshold would also be determined to be not cumulatively considerable or significant. Therefore, construction of the LPA will result in a less than

significant impact related to cumulatively considerable increases in emissions of nonattainment pollutants.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.2.3 Design Option: Close 186th Street

The analysis of cumulatively considerable emissions during construction of the LPA with the design option is similar to the discussion provided for the LPA without the design option. Construction of the LPA with the design option would result in emissions of equal magnitude to those that will be generated during construction of the LPA without the design option. Therefore, this impact would be less than significant, and no mitigation would be required.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.2.4 Maintenance and Storage Facility

Table 7.9 presents the maximum daily emissions that will be generated by construction of the MSF, as well as the SCAQMD Air Quality Significance Thresholds for mass daily emissions at the regional level. Construction of the MSF will include demolition, site clearing, grading, structure and track installation, paving, and architectural coating activities. Construction of the MSF will last for approximately two years and will implement Project Measure AQ PM-1 (Metro Green Construction Policy). As detailed in Table 7-9, construction of the MSF will not generate maximum daily emissions of particulate matter and ozone precursors in excess of the applicable SCAQMD regional mass daily threshold values. Therefore, according to SCAQMD guidance, construction of the MSF will result in a less than significant impact related to cumulatively considerable increases in nonattainment pollutants.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.3 Threshold AQ-CON-3: Would the Proposed Project expose sensitive receptors to substantial pollutant concentrations?

The potential sensitive receptor exposures to substantial pollutant concentrations and the public health implications of construction emissions are assessed in both regional and localized contexts.

7.4.3.1 No Project Alternative

The No Project Alternative would not include construction of any project-related facilities or infrastructure. Therefore, the No Project Alternative would not introduce any sources of air pollutant emissions into the area and no construction-related emissions would occur. No impact related to exposure of sensitive receptors to substantial pollutant concentrations generated by construction activity emissions would occur.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.3.2 Locally Preferred Alternative

Regional Emissions

The regional emissions analysis for the LPA presented in Table 7.3 demonstrates that maximum daily regional emissions will remain below all applicable SCAQMD mass daily thresholds of significance. Therefore, construction of the LPA will not generate regional emissions that will potentially expose sensitive receptors to substantial pollutant concentrations and impacts will be less than significant.

Localized Emissions

As described in Section 7.2.2, the localized emissions analysis considers various types of construction sites that will be involved in developing the LPA. Table 7.4 presents the maximum daily emissions that will be generated by individual demolition and relocations throughout the LPA alignment, along with the applicable LST values for a 1-acre work site. The LST values are provided for all SRAs in which demolition and relocation activities will occur during construction of the LPA. Based on the LST analysis, the demolition and relocation activities will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, demolition and relocation activities will result in a less than significant impact related to the exposure of sensitive receptors to substantial localized pollutant concentrations.

Table 7.5 presents the maximum daily emissions generated by excavation and grading sites throughout the LPA alignment, along with the applicable LST values for a 2-acre work site. Based on the LST analysis, excavation and grading activities during LPA construction will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, excavation and grading activities will result in a less than significant impact related to exposure of sensitive receptors to substantial localized pollutant concentrations.

Table 7.6 presents the maximum daily emissions generated by individual at-grade track and station sites throughout the LPA alignment following demolition and site clearing activities, along with the applicable LST values for a 1-acre work site. The LST values are provided for all SRAs in which at-grade LRT segment construction activities along the LPA alignment will occur. Based on the LST analysis, at-grade construction activities will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, at-grade construction activities will result in a less than significant impact related to exposure of sensitive receptors to substantial localized pollutant concentrations.

Table 7.7 presents the maximum daily emissions that will be generated by individual aerial track and station sites throughout the LPA alignment following demolition and site clearing activities, as well as the applicable LST values for a 1-acre work site. The LST values are provided for all SRAs in which at-grade LRT segment construction activities along the LPA alignment will occur. Based on the LST analysis, aerial track and station construction activities will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, aerial track and station construction activities will result in a less than significant impact related to exposure of sensitive receptors to substantial localized pollutant concentrations.

Table 7.8 presents the daily localized emissions that will be generated by construction of the MSF, as well as the applicable LST values for a 2-acre work site in SRA 5. Based on the LST analysis, construction of the MSF will not generate emissions exceeding any applicable LST value for sensitive receptors located within approximately 80 feet of the construction sites. Therefore, construction of the MSF will result in a less than significant impact related to exposure of sensitive receptors to substantial localized pollutant concentrations. Overall, construction of the LPA will result in a less than significant impact related to the exposure of sensitive receptors to substantial localized pollutant concentrations during construction.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.3.3 Design Option: Close 186th Street

Regional Emissions

The analysis of regional emissions for the LPA with the design option is similar to the discussion provided for the LPA without the design option. Maximum daily emissions during construction of the design option would remain below applicable SCAQMD regional screening values, and impacts would be less than significant.

Localized Emissions

The analysis of localized emissions for the LPA with the design option is similar to the discussion provided for the LPA without the design option because construction of the LPA with the design option would not require additional daily equipment use beyond that analyzed for the LPA without the design option. Construction of the LPA with the design option also would not result in sensitive receptors being in closer proximity to active

construction areas throughout the project alignment. The LPA with the design option would also implement Project Measure AQ PM-1 (Metro Green Construction Policy) to control emissions from equipment and fugitive sources on construction sites. Maximum daily emissions during construction of the design option would remain below applicable SCAQMD LST screening values, and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.3.4 Maintenance and Storage Facility

The MSF will be an integral component of the LPA, and emissions associated with its construction are assessed in conjunction with the remainder of the LPA alignment.

Regional Emissions

The regional emissions analysis for the MSF presented in Table 7.9 shows the maximum daily emissions that will be generated by construction of the MSF, as well as the SCAQMD Air Quality Significance Thresholds for mass daily emissions at the regional level. Construction of the MSF will include demolition, site clearing, grading, structure and track installation, paving, and architectural coating activities. Construction of the MSF will last for approximately two years and Project Measure AQ PM-1 (Metro Green Construction Policy) will be implemented. Table 7-9 shows that maximum daily regional emissions will remain below all applicable SCAQMD mass daily thresholds of significance. Therefore, construction of the MSF will not generate regional emissions that will potentially expose sensitive receptors to substantial pollutant concentrations and impacts will be less than significant.

Localized Emissions

The localized emissions that will be generated by construction of the MSF are presented within the analysis for the LPA. As shown in Table 7.8, maximum daily localized emissions will not exceed the applicable LST values, and construction of the MSF will result in a less than significant impact related to potential exposures of sensitive receptors to substantial localized pollutant concentrations.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.4 Threshold AQ-CON-4: Would the Proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

7.4.4.1 No Project Alternative

The No Project Alternative would not include construction of any project-related facilities or infrastructure. Therefore, the No Project Alternative would not introduce any sources of air pollutant emissions into the area and no construction-related emissions would occur. No

impact related to the creation of emissions that could result in a public nuisance for odors or visible dust plumes would occur.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.4.2 Locally Preferred Alternative

LPA construction activities will not generate a substantial source of construction odors or visible dust plumes. Construction of the LPA will result in exhaust fumes through gasoline or diesel-powered equipment and asphalt paving. Such emissions will occur intermittently, and associated odors will dissipate rapidly within the immediate vicinity of the work area. The LPA will implement Project Measure AQ PM-1 (Metro Green Construction Policy) and employ BMPs to prevent the occurrence of a nuisance odor or dust plume in accordance with SCAQMD Rule 402 (Nuisance). Therefore, construction of the LPA will result in a less than significant impact related to public nuisance for odors or visible dust plumes.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.4.3 Design Option: Close 186th Street

The discussion of potential impacts related to odors or dust nuisances during construction of the LPA with the design option is similar to the analysis presented for the LPA without the design option. Construction activities of the LPA with the design option would implement Project Measure AQ PM-1 (Metro Green Construction Policy) and be subject to compliance with CARB ATCM for diesel engine idling, and provisions of the SCAQMD Rules 401, 402, and 403. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.4.4 Maintenance and Storage Facility

The odors analysis for the MSF is similar to the analysis presented for construction of the LPA. Construction of the MSF will not generate a substantial source of construction odors or visible dust plumes and will implement Project Measure AQ PM-1 (Metro Green Construction Policy). Therefore, the construction of the MSF will result in a less than significant impact related to public nuisance for odors or visible dust plumes.

8 PROJECT MEASURES AND MITIGATION MEASURES

8.1 Project Measures

AQ PM-1: Metro Green Construction Policy. LPA construction activities will be conducted in compliance with the Metro Green Construction Policy and will implement Best Management Practices contained therein as practicable.

8.2 Mitigation Measures

8.2.1 Operation

No operation mitigation measures are required.

8.2.2 Construction

No construction mitigation measures are required.

9 REFERENCES

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APPENDIX A AIR QUALITY CALCULATION WORKSHEETS

- OPERATIONAL EMISSIONS
  - Daily Regional On-Road Vehicle Miles Traveled Summary Table
  - Daily Regional On-Road Vehicle Travel Emissions
  - Regional On-Road Vehicle Miles Traveled EMFAC2021 Emission Rates
  - Bellflower Site Option Maintenance and Storage Facility (MSF) Daily CalEEMod Output File – 2017
  - Bellflower Site Option Maintenance and Storage Facility (MSF) Daily CalEEMod Output File – 2042
- CONSTRUCTION EMISSIONS
  - Daily Construction Emissions - Overlapping Activity Scenarios
  - Light Rail Corridor Components Construction CalEEMod Output Files – Daily Emissions
  - Bellflower Site Option Maintenance & Storage Facility (MSF) CalEEMod Output –Daily Emissions

Operational Emissions

Daily Regional On-Road Vehicle Miles Traveled Summary Table

Daily Regional On-Road Vehicle Miles Traveled Summary

	2017 Operational Scenario		2042 Operational Scenario	
Speed Range	2017-Existing (Miles/Day)	2017 LPA (Miles/Day)	2042 No Build (Miles/Day)	2042 LPA (Miles/Day)
≤5	2,925,006	2,924,597	8,161,300	8,120,095
5-10	5,252,940	5,245,489	22,192,831	22,245,691
10-15	13,759,521	13,715,106	37,570,046	37,558,820
15-20	29,405,409	29,510,250	58,002,358	57,936,698
20-25	62,189,909	62,022,759	85,809,742	86,039,526
25-30	67,226,815	67,573,243	87,812,528	87,751,214
30-35	59,226,864	58,873,089	69,039,178	68,783,376
35-40	36,971,117	36,979,119	45,115,846	45,312,052
40-45	22,813,405	22,776,688	20,004,278	19,936,347
45-50	16,937,617	16,951,438	16,888,941	17,054,865
50-55	16,868,433	16,947,536	15,149,076	14,888,433
55-60	16,152,280	16,129,597	20,835,805	20,854,238
60-65	21,987,684	22,051,930	28,725,713	28,572,364
65-70	35,691,030	35,592,063	48,972,338	49,191,189
70-75	55,649,717	55,693,001	41,911,351	41,815,668
75-80	188,076	188,070	138,580	138,464
Totals	463,245,820	463,173,975	606,329,911	606,199,041

Change from No Build			(130,870)
% Change from NB			-0.028%
Change from Existing	(71,845)	143,084,090	142,953,220
% Change from Existing	-0.02%	30.887%	30.859%

Operational Emissions

Daily Regional On-Road Vehicle Travel Emissions

Daily Regional On-Road Vehicle Travel Emissions

Year	Scenario	Speed	Daily VMT	ROG (lb/day)	NOX (lb/day)	CO (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
2017	Existing	5	2,925,006	2,155.8	5,936.2	22,672.1	60.5	652.7	250.7
2017	Existing	10	5,252,940	2,629.7	8,862.4	34,772.8	89.1	1,116.1	387.6
2017	Existing	15	13,759,521	4,454.1	18,013.4	78,487.4	191.2	2,794.9	867.8
2017	Existing	20	29,405,409	6,432.3	32,351.0	148,166.7	342.0	5,827.8	1,663.2
2017	Existing	25	62,189,909	10,228.5	61,039.2	281,559.6	622.0	12,146.0	3,293.0
2017	Existing	30	67,226,815	8,813.3	60,681.1	276,742.6	599.3	12,996.7	3,413.6
2017	Existing	35	59,226,864	6,449.6	49,962.6	223,754.5	488.9	11,326.8	2,908.7
2017	Existing	40	36,971,117	3,494.2	29,671.8	129,356.6	293.6	6,906.3	1,740.2
2017	Existing	45	22,813,405	1,962.4	17,760.7	74,641.9	180.2	4,094.7	1,013.4
2017	Existing	50	16,937,617	1,395.8	13,058.4	52,458.7	136.4	2,930.8	719.1
2017	Existing	55	16,868,433	1,404.7	13,151.2	50,108.2	140.4	2,868.5	709.6
2017	Existing	60	16,152,280	1,430.0	12,964.2	46,800.8	139.5	2,733.3	685.0
2017	Existing	65	21,987,684	2,161.8	18,428.6	63,483.4	195.9	3,696.5	934.1
2017	Existing	70	35,691,030	3,762.9	30,380.0	104,021.4	321.3	6,015.3	1,530.2
2017	Existing	75	55,649,717	5,867.4	47,368.7	162,192.7	501.0	9,379.1	2,386.0
2017	Existing	80	188,076	19.8	160.1	548.2	1.7	31.7	8.1
	Existing Total		463,245,820	62,662.4	419,789.7	1,749,767.5	4,303.0	85,517.2	22,510.4
2017	Alternative 3	5	2,924,597	2,155.5	5,935.4	22,668.9	60.5	652.7	250.6
2017	Alternative 3	10	5,245,489	2,625.9	8,849.9	34,723.5	89.0	1,114.5	387.0
2017	Alternative 3	15	13,715,106	4,439.7	17,955.3	78,234.0	190.6	2,785.9	865.0
2017	Alternative 3	20	29,510,250	6,455.3	32,466.4	148,694.9	343.2	5,848.6	1,669.2
2017	Alternative 3	25	62,022,759	10,201.0	60,875.1	280,802.8	620.3	12,113.4	3,284.1
2017	Alternative 3	30	67,573,243	8,858.7	60,993.8	278,168.7	602.4	13,063.6	3,431.2
2017	Alternative 3	35	58,873,089	6,411.1	49,664.1	222,418.0	486.0	11,259.1	2,891.4
2017	Alternative 3	40	36,979,119	3,494.9	29,678.2	129,384.6	293.7	6,907.8	1,740.6
2017	Alternative 3	45	22,776,688	1,959.3	17,732.2	74,521.8	179.9	4,088.1	1,011.8
2017	Alternative 3	50	16,951,438	1,396.9	13,069.1	52,501.5	136.5	2,933.2	719.7
2017	Alternative 3	55	16,947,536	1,411.3	13,212.8	50,343.2	141.1	2,881.9	713.0
2017	Alternative 3	60	16,129,597	1,428.0	12,946.0	46,735.1	139.3	2,729.4	684.0
2017	Alternative 3	65	22,051,930	2,168.1	18,482.5	63,668.9	196.5	3,707.3	936.9
2017	Alternative 3	70	35,592,063	3,752.5	30,295.8	103,732.9	320.4	5,998.6	1,526.0
2017	Alternative 3	75	55,693,001	5,872.0	47,405.6	162,318.8	501.4	9,386.3	2,387.8
2017	Alternative 3	80	188,070	19.8	160.1	548.1	1.7	31.7	8.1
	Alternative 3 Total		463,173,975	62,650.1	419,722.1	1,749,465.8	4,302.3	85,502.3	22,506.4
2042	No Build	5	8,161,300	892.4	4,888.6	18,018.2	109.0	1,435.3	333.8
2042	No Build	10	22,192,831	1,539.8	9,697.8	43,245.0	242.1	3,911.6	872.9
2042	No Build	15	37,570,046	1,724.5	11,237.0	65,019.9	336.0	6,677.0	1,458.3
2042	No Build	20	58,002,358	1,878.2	13,581.2	90,559.4	435.3	10,429.1	2,257.5
2042	No Build	25	85,809,742	2,086.4	16,076.1	121,945.4	555.4	15,496.9	3,329.2
2042	No Build	30	87,812,528	1,687.6	13,126.7	114,165.8	507.6	15,842.1	3,379.9
2042	No Build	35	69,039,178	1,099.3	8,279.6	82,455.5	370.2	12,384.4	2,623.7
2042	No Build	40	45,115,846	623.7	4,442.5	49,702.7	233.2	7,929.0	1,655.4
2042	No Build	45	20,004,278	251.8	1,700.1	20,415.6	103.0	3,382.4	688.0
2042	No Build	50	16,888,941	203.4	1,341.2	16,044.7	88.8	2,749.0	545.2
2042	No Build	55	15,149,076	183.6	1,237.8	13,464.3	82.5	2,411.6	472.5
2042	No Build	60	20,835,805	268.1	1,915.1	17,460.3	117.9	3,286.0	643.8
2042	No Build	65	28,725,713	413.7	3,160.2	22,824.8	168.0	4,491.2	882.4
2042	No Build	70	48,972,338	755.3	5,470.0	38,086.1	289.5	7,661.8	1,509.0
2042	No Build	75	41,911,351	646.4	4,681.3	32,594.8	247.8	6,557.1	1,291.4
2042	No Build	80	138,580	2.1	15.5	107.8	0.8	21.7	4.3
	No Build Total		606,329,911	14,256.3	100,850.6	746,110.1	3,887.3	104,666.3	21,947.4

Daily Regional On-Road Vehicle Travel Emissions

Year	Scenario	Speed	Daily VMT	ROG (lb/day)	NOX (lb/day)	CO (lb/day)	SOX (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
2042	Alternative 3	5	8,120,095	887.9	4,863.9	17,927.2	108.4	1,428.0	332.1
2042	Alternative 3	10	22,245,691	1,543.5	9,720.9	43,348.0	242.6	3,920.9	875.0
2042	Alternative 3	15	37,558,820	1,724.0	11,233.7	65,000.4	335.9	6,675.0	1,457.9
2042	Alternative 3	20	57,936,698	1,876.1	13,565.8	90,456.9	434.9	10,417.3	2,254.9
2042	Alternative 3	25	86,039,526	2,092.0	16,119.1	122,271.9	556.9	15,538.4	3,338.1
2042	Alternative 3	30	87,751,214	1,686.4	13,117.5	114,086.1	507.2	15,831.1	3,377.6
2042	Alternative 3	35	68,783,376	1,095.2	8,248.9	82,150.0	368.8	12,338.5	2,614.0
2042	Alternative 3	40	45,312,052	626.4	4,461.8	49,918.9	234.2	7,963.5	1,662.6
2042	Alternative 3	45	19,936,347	251.0	1,694.3	20,346.3	102.7	3,370.9	685.7
2042	Alternative 3	50	17,054,865	205.4	1,354.4	16,202.3	89.7	2,776.0	550.6
2042	Alternative 3	55	14,888,433	180.5	1,216.5	13,232.7	81.1	2,370.1	464.4
2042	Alternative 3	60	20,854,238	268.3	1,916.8	17,475.7	118.0	3,288.9	644.4
2042	Alternative 3	65	28,572,364	411.5	3,143.3	22,703.0	167.1	4,467.2	877.7
2042	Alternative 3	70	49,191,189	758.7	5,494.4	38,256.3	290.8	7,696.1	1,515.8
2042	Alternative 3	75	41,815,668	644.9	4,670.6	32,520.4	247.2	6,542.2	1,288.5
2042	Alternative 3	80	138,464	2.1	15.5	107.7	0.8	21.7	4.3
	Alternative 3 Total		606,199,041	14,253.8	100,837.4	746,003.6	3,886.5	104,645.8	21,943.4
2017	Existing		463,245,820.3	62,662.4	419,789.7	1,749,767.5	4,303.0	85,517.2	22,510.4
	Existing + Alt 3		463,173,975.3	62,650.1	419,722.1	1,749,465.8	4,302.3	85,502.3	22,506.4
	[Existing + Alt 3] - [Existing]		(71,845.0)	(12.3)	(67.6)	(301.7)	(0.6)	(14.9)	(4.0)
2042	NBA		606,329,910.6	14,256.3	100,850.6	746,110.1	3,887.3	104,666.3	21,947.4
	Alt 3		606,199,040.6	14,253.8	100,837.4	746,003.6	3,886.5	104,645.8	21,943.4
	Alt 3 - NBA		(130,870.0)	(2.5)	(13.1)	(106.5)	(0.8)	(20.5)	(4.0)
	% Change								
	NBA - Existing		143,084,090.23	-48,406.04	-318,939.18	-1,003,657.36	-415.69	19,149.07	-563.00
			30.9%	-77.2%	-76.0%	-57.4%	-9.7%	22.4%	-2.5%
	w/MSF			4.0	1.1	7.6	0.0	2.4	0.7
				14,257.8	100,838.5	746,011.3	3,886.5	104,648.1	21,944.0
			LPA-No Build	**1.5**	**(12.1)**	**(98.9)**	**(0.7)**	**(18.1)**	**(3.4)**

Operational Emissions

Regional On-Road Vehicle Miles Traveled

EMFAC2021 Emission Rates

Regional On-Road Vehicle Miles Traveled EMFAC2021 Emission Rates

Project Area EMFAC2021 Emission Factors (grams/mile, 7% truck fleet mix)							
Year	Speed	ROG	NOX	CO	SOX	PM10	PM2.5
2017	5	0.33430	0.92055	3.51585	0.00938	0.10122	0.03887
2017	10	0.22707	0.76527	3.00264	0.00770	0.09638	0.03347
2017	15	0.14683	0.59383	2.58739	0.00630	0.09214	0.02861
2017	20	0.09922	0.49903	2.28554	0.00528	0.08990	0.02566
2017	25	0.07460	0.44520	2.05360	0.00454	0.08859	0.02402
2017	30	0.05947	0.40943	1.86723	0.00404	0.08769	0.02303
2017	35	0.04939	0.38264	1.71364	0.00374	0.08675	0.02228
2017	40	0.04287	0.36404	1.58705	0.00360	0.08473	0.02135
2017	45	0.03902	0.35313	1.48408	0.00358	0.08141	0.02015
2017	50	0.03738	0.34971	1.40485	0.00365	0.07849	0.01926
2017	55	0.03777	0.35363	1.34741	0.00378	0.07713	0.01908
2017	60	0.04016	0.36406	1.31427	0.00392	0.07676	0.01924
2017	65	0.04460	0.38017	1.30962	0.00404	0.07626	0.01927
2017	70	0.04782	0.38609	1.32199	0.00408	0.07645	0.01945
2017	75	0.04782	0.38609	1.32201	0.00408	0.07645	0.01945
2017	80	0.04783	0.38609	1.32203	0.00408	0.07645	0.01945
2042	5	0.04960	0.27170	1.00142	0.00606	0.07977	0.01855
2042	10	0.03147	0.19821	0.88387	0.00495	0.07995	0.01784
2042	15	0.02082	0.13567	0.78500	0.00406	0.08061	0.01761
2042	20	0.01469	0.10621	0.70820	0.00340	0.08156	0.01765
2042	25	0.01103	0.08498	0.64461	0.00294	0.08192	0.01760
2042	30	0.00872	0.06781	0.58972	0.00262	0.08183	0.01746
2042	35	0.00722	0.05440	0.54174	0.00243	0.08137	0.01724
2042	40	0.00627	0.04466	0.49971	0.00234	0.07972	0.01664
2042	45	0.00571	0.03855	0.46292	0.00234	0.07670	0.01560
2042	50	0.00546	0.03602	0.43092	0.00239	0.07383	0.01464
2042	55	0.00550	0.03706	0.40315	0.00247	0.07221	0.01415
2042	60	0.00584	0.04169	0.38011	0.00257	0.07154	0.01402
2042	65	0.00653	0.04990	0.36041	0.00265	0.07092	0.01393
2042	70	0.00700	0.05066	0.35276	0.00268	0.07097	0.01398
2042	75	0.00700	0.05066	0.35276	0.00268	0.07097	0.01398
2042	80	0.00700	0.05066	0.35276	0.00268	0.07097	0.01398

Operational Emissions

Bellflower Site Option Maintenance and Storage Facility (MSF) Daily CalEEMod Output File – 2017

LACMTA West Santa Ana Branch MSF - Bellflower Option - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

LACMTA West Santa Ana Branch MSF - Bellflower Option

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	4.60	1000sqft	0.11	4,600.00	0
General Light Industry	12.10	1000sqft	0.28	12,100.00	0
Industrial Park	103.44	1000sqft	2.37	103,440.00	0
Unrefrigerated Warehouse-Rail	11.90	1000sqft	0.27	11,900.00	0
Other Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0
Other Non-Asphalt Surfaces	12.50	Acre	12.50	544,500.00	0
Parking Lot	307.00	Space	2.76	122,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	531.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Operations only (2017)

Land Use -

Construction Phase - Operations only

Off-road Equipment - Project Inventory

Off-road Equipment - 2017 Operations Only

LACMTA West Santa Ana Branch MSF - Bellflower Option - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT - 2017 Operations Only

Grading - Equip = 1 scraper (1 acre/day), 2 graders (1 acres/day), 1 crawler tractor (0.5 acres/day) = 2.5 acres/day x 360 days = 900

Vehicle Trips - 250 trips/day

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - SCAQMD Rule 1113 - Building Envelope = 50 g/L

Construction Off-road Equipment Mitigation - Metro GCP Compliance

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	1.00
tblEnergyUse	T24E	2.01	2.25
tblEnergyUse	T24E	4.11	4.60
tblEnergyUse	T24E	0.58	0.65
tblEnergyUse	T24NG	13.51	13.65
tblEnergyUse	T24NG	9.92	10.02
tblEnergyUse	T24NG	0.83	0.84
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	531.98
tblTripsAndVMT	WorkerTripLength	14.70	0.00
tblVehicleTrips	DV_TP	19.00	5.00
tblVehicleTrips	PB_TP	2.00	3.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	PR_TP	79.00	92.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	2.54	2.42
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	1.24	2.42
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	3.37	2.42
tblVehicleTrips	WD_TR	1.74	0.00

2.0 Emissions Summary

LACMTA West Santa Ana Branch MSF - Bellflower Option - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	6.1800e-003	2.4700e-003	0.0200	1.0000e-005	3.0000e-005	2.0000e-005	5.0000e-005	1.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.6868	0.6868	6.3000e-004	2.4000e-004	0.7752
Maximum	**6.1800e-003**	**2.4700e-003**	**0.0200**	**1.0000e-005**	**3.0000e-005**	**2.0000e-005**	**5.0000e-005**	**1.0000e-005**	**2.0000e-005**	**3.0000e-005**	**0.0000**	**0.6868**	**0.6868**	**6.3000e-004**	**2.4000e-004**	**0.7752**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	6.1800e-003	2.4700e-003	0.0200	1.0000e-005	3.0000e-005	2.0000e-005	5.0000e-005	1.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.6868	0.6868	6.3000e-004	2.4000e-004	0.7752
Maximum	**6.1800e-003**	**2.4700e-003**	**0.0200**	**1.0000e-005**	**3.0000e-005**	**2.0000e-005**	**5.0000e-005**	**1.0000e-005**	**2.0000e-005**	**3.0000e-005**	**0.0000**	**0.6868**	**0.6868**	**6.3000e-004**	**2.4000e-004**	**0.7752**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

LACMTA West Santa Ana Branch MSF - Bellflower Option - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2558	4.5000e-004	0.0473	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0995	0.0995	2.8000e-004		0.1064
Energy	0.0411	0.3732	0.3135	2.2400e-003		0.0284	0.0284		0.0284	0.0284		447.8432	447.8432	8.5800e-003	8.2100e-003	450.5045
Mobile	1.2439	2.1784	14.9668	0.0260	2.3336	0.0344	2.3680	0.6216	0.0324	0.6540		2,643.6617	2,643.6617	0.1999	0.1303	2,687.4937
Total	**4.5407**	**2.5520**	**15.3276**	**0.0282**	**2.3336**	**0.0630**	**2.3966**	**0.6216**	**0.0609**	**0.6825**		**3,091.6043**	**3,091.6043**	**0.2088**	**0.1385**	**3,138.1046**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2558	4.5000e-004	0.0473	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0995	0.0995	2.8000e-004		0.1064
Energy	0.0411	0.3732	0.3135	2.2400e-003		0.0284	0.0284		0.0284	0.0284		447.8432	447.8432	8.5800e-003	8.2100e-003	450.5045
Mobile	1.2439	2.1784	14.9668	0.0260	2.3336	0.0344	2.3680	0.6216	0.0324	0.6540		2,643.6617	2,643.6617	0.1999	0.1303	2,687.4937
Total	**4.5407**	**2.5520**	**15.3276**	**0.0282**	**2.3336**	**0.0630**	**2.3966**	**0.6216**	**0.0609**	**0.6825**		**3,091.6043**	**3,091.6043**	**0.2088**	**0.1385**	**3,138.1046**

LACMTA West Santa Ana Branch MSF - Bellflower Option - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/20/2017	12/20/2017	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 18.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	1	0.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	3.00	0.00	0.00	0.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

LACMTA West Santa Ana Branch MSF - Bellflower Option - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1800e-003	2.4700e-003	0.0200	1.0000e-005	3.0000e-005	2.0000e-005	5.0000e-005	1.0000e-005	2.0000e-005	3.0000e-005		0.6868	0.6868	6.3000e-004	2.4000e-004	0.7752
Total	**6.1800e-003**	**2.4700e-003**	**0.0200**	**1.0000e-005**	**3.0000e-005**	**2.0000e-005**	**5.0000e-005**	**1.0000e-005**	**2.0000e-005**	**3.0000e-005**		**0.6868**	**0.6868**	**6.3000e-004**	**2.4000e-004**	**0.7752**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1800e-003	2.4700e-003	0.0200	1.0000e-005	3.0000e-005	2.0000e-005	5.0000e-005	1.0000e-005	2.0000e-005	3.0000e-005		0.6868	0.6868	6.3000e-004	2.4000e-004	0.7752
Total	**6.1800e-003**	**2.4700e-003**	**0.0200**	**1.0000e-005**	**3.0000e-005**	**2.0000e-005**	**5.0000e-005**	**1.0000e-005**	**2.0000e-005**	**3.0000e-005**		**0.6868**	**0.6868**	**6.3000e-004**	**2.4000e-004**	**0.7752**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

LACMTA West Santa Ana Branch MSF - Bellflower Option - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2439	2.1784	14.9668	0.0260	2.3336	0.0344	2.3680	0.6216	0.0324	0.6540		2,643.6617	2,643.6617	0.1999	0.1303	2,687.4937
Unmitigated	1.2439	2.1784	14.9668	0.0260	2.3336	0.0344	2.3680	0.6216	0.0324	0.6540		2,643.6617	2,643.6617	0.1999	0.1303	2,687.4937

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Industrial Park	250.32	250.32	250.32	1,108,508	1,108,508
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	250.32	250.32	250.32	1,108,508	1,108,508

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.558576	0.056735	0.184428	0.128422	0.022014	0.004926	0.010706	0.007707	0.001001	0.000652	0.020602	0.000669	0.003563
Industrial Park	0.558576	0.056735	0.184428	0.128422	0.022014	0.004926	0.010706	0.007707	0.001001	0.000652	0.020602	0.000669	0.003563
Other Asphalt Surfaces	0.558576	0.056735	0.184428	0.128422	0.022014	0.004926	0.010706	0.007707	0.001001	0.000652	0.020602	0.000669	0.003563
Other Non-Asphalt Surfaces	0.558576	0.056735	0.184428	0.128422	0.022014	0.004926	0.010706	0.007707	0.001001	0.000652	0.020602	0.000669	0.003563
Parking Lot	0.558576	0.056735	0.184428	0.128422	0.022014	0.004926	0.010706	0.007707	0.001001	0.000652	0.020602	0.000669	0.003563
Unrefrigerated Warehouse-Rail	0.558576	0.056735	0.184428	0.128422	0.022014	0.004926	0.010706	0.007707	0.001001	0.000652	0.020602	0.000669	0.003563

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

LACMTA West Santa Ana Branch MSF - Bellflower Option - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0411	0.3732	0.3135	2.2400e-003		0.0284	0.0284		0.0284	0.0284		447.8432	447.8432	8.5800e-003	8.2100e-003	450.5045
NaturalGas Unmitigated	0.0411	0.3732	0.3135	2.2400e-003		0.0284	0.0284		0.0284	0.0284		447.8432	447.8432	8.5800e-003	8.2100e-003	450.5045

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	228.11	2.4600e-003	0.0224	0.0188	1.3000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003		26.8364	26.8364	5.1000e-004	4.9000e-004	26.9959
General Light Industry	600.027	6.4700e-003	0.0588	0.0494	3.5000e-004		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003		70.5915	70.5915	1.3500e-003	1.2900e-003	71.0110
Industrial Park	2950.17	0.0318	0.2892	0.2430	1.7400e-003		0.0220	0.0220		0.0220	0.0220		347.0783	347.0783	6.6500e-003	6.3600e-003	349.1408
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	28.3644	3.1000e-004	2.7800e-003	2.3400e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.3370	3.3370	6.0000e-005	6.0000e-005	3.3568
Total		**0.0411**	**0.3732**	**0.3135**	**2.2400e-003**		**0.0284**	**0.0284**		**0.0284**	**0.0284**		**447.8432**	**447.8432**	**8.5700e-003**	**8.2000e-003**	**450.5045**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.22811	2.4600e-003	0.0224	0.0188	1.3000e-004		1.7000e-003	1.7000e-003		1.7000e-003	1.7000e-003		26.8364	26.8364	5.1000e-004	4.9000e-004	26.9959
General Light Industry	0.600027	6.4700e-003	0.0588	0.0494	3.5000e-004		4.4700e-003	4.4700e-003		4.4700e-003	4.4700e-003		70.5915	70.5915	1.3500e-003	1.2900e-003	71.0110
Industrial Park	2.95017	0.0318	0.2892	0.2430	1.7400e-003		0.0220	0.0220		0.0220	0.0220		347.0783	347.0783	6.6500e-003	6.3600e-003	349.1408
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	0.0283644	3.1000e-004	2.7800e-003	2.3400e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.3370	3.3370	6.0000e-005	6.0000e-005	3.3568
Total		**0.0411**	**0.3732**	**0.3135**	**2.2400e-003**		**0.0284**	**0.0284**		**0.0284**	**0.0284**		**447.8432**	**447.8432**	**8.5700e-003**	**8.2000e-003**	**450.5045**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

LACMTA West Santa Ana Branch MSF - Bellflower Option - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.2558	4.5000e-004	0.0473	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0995	0.0995	2.8000e-004		0.1064
Unmitigated	3.2558	4.5000e-004	0.0473	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0995	0.0995	2.8000e-004		0.1064

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5600e-003	4.5000e-004	0.0473	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0995	0.0995	2.8000e-004		0.1064
Total	**3.2558**	**4.5000e-004**	**0.0473**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0995**	**0.0995**	**2.8000e-004**		**0.1064**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5600e-003	4.5000e-004	0.0473	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.0995	0.0995	2.8000e-004		0.1064
Total	**3.2558**	**4.5000e-004**	**0.0473**	**0.0000**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**		**0.0995**	**0.0995**	**2.8000e-004**		**0.1064**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Operational Emissions

Bellflower Site Option Maintenance and Storage Facility (MSF) Daily CalEEMod Output File – 2042

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

LACMTA West Santa Ana Branch MSF - Bellflower Site

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	4.60	1000sqft	0.11	4,600.00	0
General Light Industry	12.10	1000sqft	0.28	12,100.00	0
Industrial Park	103.44	1000sqft	2.37	103,440.00	0
Unrefrigerated Warehouse-Rail	11.90	1000sqft	0.27	11,900.00	0
Other Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0
Other Non-Asphalt Surfaces	12.50	Acre	12.50	544,500.00	0
Parking Lot	307.00	Space	2.76	122,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	260.79	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Analysis for Operational Year 2042. Construction 2029-2031. SCE CO2 factor from CalEEMod 2022.1.1.3 User's Guide.

Land Use -

Construction Phase - Preliminary Schedule Updated: March 2029 - April 2031.

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Project Inventory

Trips and VMT - Maximum Daily Workers = 150.
Daily Haul Trips = 30 x 60 = 1800 (Demo), 60 x 90 = 5400

Grading - Equip = 1 scraper (1 acre/day), 2 graders (1 acres/day), 1 crawler tractor (0.5 acres/day) = 2.5 acres/day x 90 days = 315 acres

Architectural Coating - SCAQMD Rule 1113 = 50 g/L max for building envelope

Vehicle Trips - 250 trips/day

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - SCAQMD Rule 1113 - Building Envelope = 50 g/L

Energy Use -

Construction Off-road Equipment Mitigation - Metro GCP Compliance

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	66,020.00	40,000.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	10.00	90.00
tblConstructionPhase	NumDays	370.00	450.00
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	260.79
tblTripsAndVMT	HaulingTripNumber	910.00	1,800.00
tblTripsAndVMT	HaulingTripNumber	0.00	5,400.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	152.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	25.00	300.00
tblTripsAndVMT	WorkerTripNumber	25.00	300.00
tblTripsAndVMT	WorkerTripNumber	391.00	300.00
tblTripsAndVMT	WorkerTripNumber	20.00	200.00
tblTripsAndVMT	WorkerTripNumber	78.00	100.00
tblVehicleTrips	DV_TP	19.00	5.00
tblVehicleTrips	PB_TP	2.00	3.00
tblVehicleTrips	PR_TP	79.00	92.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	2.54	2.42
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	1.24	2.42
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	3.37	2.42
tblVehicleTrips	WD_TR	1.74	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2029	4.4368	45.4071	37.4128	0.1313	20.4158	1.5063	21.9222	8.2723	1.3879	9.6602	0.0000	13,325.3773	13,325.3773	2.4838	0.7048	13,597.4990
2030	2.6134	13.6342	30.3203	0.0726	3.6095	0.2483	3.8578	0.9631	0.2469	1.2100	0.0000	7,041.9429	7,041.9429	0.2376	0.1526	7,093.3550
2031	43.9469	13.5991	30.2685	0.0721	3.7377	0.4217	4.1593	1.0000	0.4202	1.4202	0.0000	7,106.6625	7,106.6625	0.2507	0.1992	7,172.2921
Maximum	**43.9469**	**45.4071**	**37.4128**	**0.1313**	**20.4158**	**1.5063**	**21.9222**	**8.2723**	**1.3879**	**9.6602**	**0.0000**	**13,325.3773**	**13,325.3773**	**2.4838**	**0.7048**	**13,597.4990**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2029	1.7318	13.5043	46.2762	0.1313	10.8047	0.0875	10.8922	3.9894	0.0839	4.0733	0.0000	13,325.3773	13,325.3773	2.4838	0.7048	13,597.4990
2030	1.4241	5.9628	31.9230	0.0726	3.6095	0.0334	3.6429	0.9631	0.0320	0.9951	0.0000	7,041.9429	7,041.9429	0.2376	0.1526	7,093.3550
2031	42.4334	5.9276	31.7449	0.0721	3.7377	0.0324	3.7693	1.0000	0.0311	1.0302	0.0000	7,106.6625	7,106.6625	0.2507	0.1992	7,172.2921
Maximum	**42.4334**	**13.5043**	**46.2762**	**0.1313**	**10.8047**	**0.0875**	**10.8922**	**3.9894**	**0.0839**	**4.0733**	**0.0000**	**13,325.3773**	**13,325.3773**	**2.4838**	**0.7048**	**13,597.4990**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	10.60	65.04	-12.19	0.00	34.62	92.96	38.86	41.84	92.85	50.38	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2555	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Energy	0.0407	0.3698	0.3106	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.7171	443.7171	8.5000e-003	8.1300e-003	446.3539
Mobile	0.7116	0.6889	7.2729	0.0163	2.3355	8.1900e-003	2.3437	0.6224	7.6400e-003	0.6300		1,665.4706	1,665.4706	0.1196	0.0715	1,689.7653
Total	**4.0078**	**1.0591**	**7.6296**	**0.0185**	**2.3355**	**0.0365**	**2.3719**	**0.6224**	**0.0359**	**0.6583**		**2,109.2872**	**2,109.2872**	**0.1284**	**0.0796**	**2,136.2251**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2555	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Energy	0.0407	0.3698	0.3106	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.7171	443.7171	8.5000e-003	8.1300e-003	446.3539
Mobile	0.7116	0.6889	7.2729	0.0163	2.3355	8.1900e-003	2.3437	0.6224	7.6400e-003	0.6300		1,665.4706	1,665.4706	0.1196	0.0715	1,689.7653
Total	**4.0078**	**1.0591**	**7.6296**	**0.0185**	**2.3355**	**0.0365**	**2.3719**	**0.6224**	**0.0359**	**0.6583**		**2,109.2872**	**2,109.2872**	**0.1284**	**0.0796**	**2,136.2251**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/12/2029	5/19/2029	6	60	
2	Site Preparation	Site Preparation	5/21/2029	9/1/2029	6	90	
3	Building Construction & Track Laydown	Building Construction	9/3/2029	2/8/2031	6	450	
4	Paving Parking & Access Roads	Paving	2/10/2031	4/19/2031	6	60	
5	Road Striping & Architectural Coating	Architectural Coating	3/17/2031	4/19/2031	6	30	

Acres of Grading (Site Preparation Phase): 315

Acres of Grading (Grading Phase): 0

Acres of Paving: 18.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 198,060; Non-Residential Outdoor: 40,000; Striped Parking Area: 47,879 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rough Terrain Forklifts	2	8.00	100	0.40
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition	Rubber Tired Loaders	2	8.00	203	0.36
Site Preparation	Crawler Tractors	1	8.00	212	0.43

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Excavators	2	8.00	158	0.38
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction & Track Laydown	Cranes	1	8.00	231	0.29
Building Construction & Track Laydown	Generator Sets	1	8.00	84	0.74
Building Construction & Track Laydown	Rough Terrain Forklifts	3	8.00	100	0.40
Building Construction & Track Laydown	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction & Track Laydown	Welders	2	8.00	46	0.45
Paving Parking & Access Roads	Forklifts	2	8.00	89	0.20
Paving Parking & Access Roads	Pavers	2	8.00	130	0.42
Paving Parking & Access Roads	Paving Equipment	2	8.00	132	0.36
Paving Parking & Access Roads	Rollers	2	8.00	80	0.38
Road Striping & Architectural Coating	Air Compressors	2	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	300.00	40.00	1,800.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	10	300.00	40.00	5,400.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction & Track Laydown	10	300.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving Parking & Access Roads	8	200.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Road Striping & Architectural Coating	2	100.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.2812	0.0000	3.2812	0.4968	0.0000	0.4968			0.0000			0.0000
Off-Road	2.8717	26.5303	27.3181	0.0593		1.0827	1.0827		1.0109	1.0109		5,718.6061	5,718.6061	1.5183		5,756.5635
Total	**2.8717**	**26.5303**	**27.3181**	**0.0593**	**3.2812**	**1.0827**	**4.3639**	**0.4968**	**1.0109**	**1.5077**		**5,718.6061**	**5,718.6061**	**1.5183**		**5,756.5635**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0575	3.9064	1.1343	0.0156	0.5252	0.0242	0.5494	0.1440	0.0232	0.1672		1,722.8635	1,722.8635	0.1119	0.2742	1,807.3740
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.8170**	**5.8830**	**8.6324**	**0.0459**	**4.1347**	**0.0461**	**4.1808**	**1.1071**	**0.0436**	**1.1507**		**4,836.9113**	**4,836.9113**	**0.1837**	**0.4306**	**4,969.8192**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2797	0.0000	1.2797	0.1938	0.0000	0.1938			0.0000			0.0000
Off-Road	0.7007	3.0361	34.1122	0.0593		0.0140	0.0140		0.0140	0.0140	0.0000	5,718.6061	5,718.6061	1.5183		5,756.5635
Total	**0.7007**	**3.0361**	**34.1122**	**0.0593**	**1.2797**	**0.0140**	**1.2937**	**0.1938**	**0.0140**	**0.2078**	**0.0000**	**5,718.6061**	**5,718.6061**	**1.5183**		**5,756.5635**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0575	3.9064	1.1343	0.0156	0.5252	0.0242	0.5494	0.1440	0.0232	0.1672		1,722.8635	1,722.8635	0.1119	0.2742	1,807.3740
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.8170**	**5.8830**	**8.6324**	**0.0459**	**4.1347**	**0.0461**	**4.1808**	**1.1071**	**0.0436**	**1.1507**		**4,836.9113**	**4,836.9113**	**0.1837**	**0.4306**	**4,969.8192**

3.3 Site Preparation - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					15.7559	0.0000	15.7559	7.0212	0.0000	7.0212			0.0000			0.0000
Off-Road	3.5623	35.6177	27.6461	0.0699		1.4360	1.4360		1.3211	1.3211		6,765.6025	6,765.6025	2.1881		6,820.3058
Total	**3.5623**	**35.6177**	**27.6461**	**0.0699**	**15.7559**	**1.4360**	**17.1919**	**7.0212**	**1.3211**	**8.3423**		**6,765.6025**	**6,765.6025**	**2.1881**		**6,820.3058**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1150	7.8128	2.2685	0.0311	1.0504	0.0485	1.0989	0.2880	0.0464	0.3344		3,445.7270	3,445.7270	0.2238	0.5484	3,614.7479
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.8745**	**9.7894**	**9.7667**	**0.0615**	**4.6599**	**0.0704**	**4.7303**	**1.2511**	**0.0668**	**1.3179**		**6,559.7748**	**6,559.7748**	**0.2956**	**0.7048**	**6,777.1932**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1448	0.0000	6.1448	2.7383	0.0000	2.7383			0.0000			0.0000
Off-Road	0.8573	3.7149	36.5095	0.0699		0.0172	0.0172		0.0172	0.0172	0.0000	6,765.6025	6,765.6025	2.1881		6,820.3058
Total	**0.8573**	**3.7149**	**36.5095**	**0.0699**	**6.1448**	**0.0172**	**6.1620**	**2.7383**	**0.0172**	**2.7554**	**0.0000**	**6,765.6025**	**6,765.6025**	**2.1881**		**6,820.3058**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1150	7.8128	2.2685	0.0311	1.0504	0.0485	1.0989	0.2880	0.0464	0.3344		3,445.7270	3,445.7270	0.2238	0.5484	3,614.7479
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.8745**	**9.7894**	**9.7667**	**0.0615**	**4.6599**	**0.0704**	**4.7303**	**1.2511**	**0.0668**	**1.3179**		**6,559.7748**	**6,559.7748**	**0.2956**	**0.7048**	**6,777.1932**

3.4 Building Construction & Track Laydown - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7060	16.1058	22.2449	0.0372		0.5823	0.5823		0.5499	0.5499		3,504.1364	3,504.1364	0.8601		3,525.6377
Total	**1.7060**	**16.1058**	**22.2449**	**0.0372**		**0.5823**	**0.5823**		**0.5499**	**0.5499**		**3,504.1364**	**3,504.1364**	**0.8601**		**3,525.6377**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.7595**	**1.9766**	**7.4982**	**0.0303**	**3.6095**	**0.0219**	**3.6314**	**0.9631**	**0.0204**	**0.9835**		**3,114.0478**	**3,114.0478**	**0.0718**	**0.1564**	**3,162.4453**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8172	4.3204	24.8160	0.0372		0.0198	0.0198		0.0198	0.0198	0.0000	3,504.1364	3,504.1364	0.8601		3,525.6377
Total	**0.8172**	**4.3204**	**24.8160**	**0.0372**		**0.0198**	**0.0198**		**0.0198**	**0.0198**	**0.0000**	**3,504.1364**	**3,504.1364**	**0.8601**		**3,525.6377**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.7595**	**1.9766**	**7.4982**	**0.0303**	**3.6095**	**0.0219**	**3.6314**	**0.9631**	**0.0204**	**0.9835**		**3,114.0478**	**3,114.0478**	**0.0718**	**0.1564**	**3,162.4453**

3.4 Building Construction & Track Laydown - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8947	11.6976	23.1133	0.0429		0.2274	0.2274		0.2274	0.2274		3,991.3904	3,991.3904	0.1689		3,995.6120
Total	**1.8947**	**11.6976**	**23.1133**	**0.0429**		**0.2274**	**0.2274**		**0.2274**	**0.2274**		**3,991.3904**	**3,991.3904**	**0.1689**		**3,995.6120**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0375	1.5492	0.5634	6.5200e-003	0.2562	7.6200e-003	0.2639	0.0738	7.2900e-003	0.0811		705.8418	705.8418	0.0278	0.1020	736.9206
Worker	0.6813	0.3875	6.6437	0.0232	3.3533	0.0133	3.3666	0.8893	0.0122	0.9015		2,344.7107	2,344.7107	0.0409	0.0506	2,360.8225
Total	**0.7187**	**1.9367**	**7.2070**	**0.0297**	**3.6095**	**0.0209**	**3.6304**	**0.9631**	**0.0195**	**0.9826**		**3,050.5525**	**3,050.5525**	**0.0687**	**0.1526**	**3,097.7431**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7054	4.0261	24.7160	0.0429		0.0125	0.0125		0.0125	0.0125	0.0000	3,991.3904	3,991.3904	0.1689		3,995.6120
Total	**0.7054**	**4.0261**	**24.7160**	**0.0429**		**0.0125**	**0.0125**		**0.0125**	**0.0125**	**0.0000**	**3,991.3904**	**3,991.3904**	**0.1689**		**3,995.6120**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0375	1.5492	0.5634	6.5200e-003	0.2562	7.6200e-003	0.2639	0.0738	7.2900e-003	0.0811		705.8418	705.8418	0.0278	0.1020	736.9206
Worker	0.6813	0.3875	6.6437	0.0232	3.3533	0.0133	3.3666	0.8893	0.0122	0.9015		2,344.7107	2,344.7107	0.0409	0.0506	2,360.8225
Total	**0.7187**	**1.9367**	**7.2070**	**0.0297**	**3.6095**	**0.0209**	**3.6304**	**0.9631**	**0.0195**	**0.9826**		**3,050.5525**	**3,050.5525**	**0.0687**	**0.1526**	**3,097.7431**

3.4 Building Construction & Track Laydown - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8947	11.6976	23.1133	0.0429		0.2274	0.2274		0.2274	0.2274		3,991.3904	3,991.3904	0.1689		3,995.6120
Total	**1.8947**	**11.6976**	**23.1133**	**0.0429**		**0.2274**	**0.2274**		**0.2274**	**0.2274**		**3,991.3904**	**3,991.3904**	**0.1689**		**3,995.6120**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0370	1.5412	0.5628	6.4100e-003	0.2562	7.5000e-003	0.2637	0.0738	7.1700e-003	0.0810		693.3686	693.3686	0.0280	0.1002	723.9179
Worker	0.6414	0.3603	6.3955	0.0228	3.3533	0.0125	3.3658	0.8893	0.0115	0.9008		2,302.7431	2,302.7431	0.0380	0.0490	2,318.2835
Total	**0.6784**	**1.9015**	**6.9583**	**0.0292**	**3.6095**	**0.0200**	**3.6295**	**0.9631**	**0.0186**	**0.9817**		**2,996.1117**	**2,996.1117**	**0.0660**	**0.1491**	**3,042.2014**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7054	4.0261	24.7160	0.0429		0.0125	0.0125		0.0125	0.0125	0.0000	3,991.3904	3,991.3904	0.1689		3,995.6120
Total	**0.7054**	**4.0261**	**24.7160**	**0.0429**		**0.0125**	**0.0125**		**0.0125**	**0.0125**	**0.0000**	**3,991.3904**	**3,991.3904**	**0.1689**		**3,995.6120**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0370	1.5412	0.5628	6.4100e-003	0.2562	7.5000e-003	0.2637	0.0738	7.1700e-003	0.0810		693.3686	693.3686	0.0280	0.1002	723.9179
Worker	0.6414	0.3603	6.3955	0.0228	3.3533	0.0125	3.3658	0.8893	0.0115	0.9008		2,302.7431	2,302.7431	0.0380	0.0490	2,318.2835
Total	**0.6784**	**1.9015**	**6.9583**	**0.0292**	**3.6095**	**0.0200**	**3.6295**	**0.9631**	**0.0186**	**0.9817**		**2,996.1117**	**2,996.1117**	**0.0660**	**0.1491**	**3,042.2014**

3.5 Paving Parking & Access Roads - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5622	8.0966	18.2348	0.0318		0.3438	0.3438		0.3438	0.3438		3,013.3384	3,013.3384	0.1402		3,016.8442
Paving	0.2515					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8137**	**8.0966**	**18.2348**	**0.0318**		**0.3438**	**0.3438**		**0.3438**	**0.3438**		**3,013.3384**	**3,013.3384**	**0.1402**		**3,016.8442**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving Parking & Access Roads - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0370	1.5412	0.5628	6.4100e-003	0.2562	7.5000e-003	0.2637	0.0738	7.1700e-003	0.0810		693.3686	693.3686	0.0280	0.1002	723.9179
Worker	0.4276	0.2402	4.2637	0.0152	2.2355	8.3100e-003	2.2438	0.5929	7.6400e-003	0.6005		1,535.1621	1,535.1621	0.0254	0.0326	1,545.5223
Total	**0.4646**	**1.7814**	**4.8265**	**0.0216**	**2.4918**	**0.0158**	**2.5076**	**0.6667**	**0.0148**	**0.6815**		**2,228.5307**	**2,228.5307**	**0.0534**	**0.1328**	**2,269.4403**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3181	1.3786	19.6188	0.0318		6.3600e-003	6.3600e-003		6.3600e-003	6.3600e-003	0.0000	3,013.3384	3,013.3384	0.1402		3,016.8442
Paving	0.2515					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5697**	**1.3786**	**19.6188**	**0.0318**		**6.3600e-003**	**6.3600e-003**		**6.3600e-003**	**6.3600e-003**	**0.0000**	**3,013.3384**	**3,013.3384**	**0.1402**		**3,016.8442**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving Parking & Access Roads - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0370	1.5412	0.5628	6.4100e-003	0.2562	7.5000e-003	0.2637	0.0738	7.1700e-003	0.0810		693.3686	693.3686	0.0280	0.1002	723.9179
Worker	0.4276	0.2402	4.2637	0.0152	2.2355	8.3100e-003	2.2438	0.5929	7.6400e-003	0.6005		1,535.1621	1,535.1621	0.0254	0.0326	1,545.5223
Total	**0.4646**	**1.7814**	**4.8265**	**0.0216**	**2.4918**	**0.0158**	**2.5076**	**0.6667**	**0.0148**	**0.6815**		**2,228.5307**	**2,228.5307**	**0.0534**	**0.1328**	**2,269.4403**

3.6 Road Striping & Architectural Coating - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.0876					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3487	2.2834	4.7940	7.9200e-003		0.0542	0.0542		0.0542	0.0542		750.5281	750.5281	0.0304		751.2875
Total	**41.4362**	**2.2834**	**4.7940**	**7.9200e-003**		**0.0542**	**0.0542**		**0.0542**	**0.0542**		**750.5281**	**750.5281**	**0.0304**		**751.2875**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Road Striping & Architectural Coating - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0185	0.7706	0.2814	3.2000e-003	0.1281	3.7500e-003	0.1319	0.0369	3.5900e-003	0.0405		346.6843	346.6843	0.0140	0.0501	361.9590
Worker	0.2138	0.1201	2.1318	7.5900e-003	1.1178	4.1500e-003	1.1219	0.2964	3.8200e-003	0.3003		767.5810	767.5810	0.0127	0.0163	772.7612
Total	**0.2323**	**0.8907**	**2.4132**	**0.0108**	**1.2459**	**7.9000e-003**	**1.2538**	**0.3333**	**7.4100e-003**	**0.3407**		**1,114.2653**	**1,114.2653**	**0.0267**	**0.0664**	**1,134.7201**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.0876					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0792	0.3434	4.8864	7.9200e-003		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	750.5281	750.5281	0.0304		751.2875
Total	**41.1668**	**0.3434**	**4.8864**	**7.9200e-003**		**1.5800e-003**	**1.5800e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**750.5281**	**750.5281**	**0.0304**		**751.2875**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Road Striping & Architectural Coating - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0185	0.7706	0.2814	3.2000e-003	0.1281	3.7500e-003	0.1319	0.0369	3.5900e-003	0.0405		346.6843	346.6843	0.0140	0.0501	361.9590
Worker	0.2138	0.1201	2.1318	7.5900e-003	1.1178	4.1500e-003	1.1219	0.2964	3.8200e-003	0.3003		767.5810	767.5810	0.0127	0.0163	772.7612
Total	**0.2323**	**0.8907**	**2.4132**	**0.0108**	**1.2459**	**7.9000e-003**	**1.2538**	**0.3333**	**7.4100e-003**	**0.3407**		**1,114.2653**	**1,114.2653**	**0.0267**	**0.0664**	**1,134.7201**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7116	0.6889	7.2729	0.0163	2.3355	8.1900e-003	2.3437	0.6224	7.6400e-003	0.6300		1,665.4706	1,665.4706	0.1196	0.0715	1,689.7653
Unmitigated	0.7116	0.6889	7.2729	0.0163	2.3355	8.1900e-003	2.3437	0.6224	7.6400e-003	0.6300		1,665.4706	1,665.4706	0.1196	0.0715	1,689.7653

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Industrial Park	250.32	250.32	250.32	1,108,508	1,108,508
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	250.32	250.32	250.32	1,108,508	1,108,508

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Industrial Park	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Other Asphalt Surfaces	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Other Non-Asphalt Surfaces	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Parking Lot	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Unrefrigerated Warehouse-Rail	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0407	0.3698	0.3106	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.7171	443.7171	8.5000e-003	8.1300e-003	446.3539
NaturalGas Unmitigated	0.0407	0.3698	0.3106	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.7171	443.7171	8.5000e-003	8.1300e-003	446.3539

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	226.345	2.4400e-003	0.0222	0.0186	1.3000e-004		1.6900e-003	1.6900e-003		1.6900e-003	1.6900e-003		26.6289	26.6289	5.1000e-004	4.9000e-004	26.7871
General Light Industry	595.386	6.4200e-003	0.0584	0.0490	3.5000e-004		4.4400e-003	4.4400e-003		4.4400e-003	4.4400e-003		70.0455	70.0455	1.3400e-003	1.2800e-003	70.4617
Industrial Park	2921.83	0.0315	0.2865	0.2406	1.7200e-003		0.0218	0.0218		0.0218	0.0218		343.7442	343.7442	6.5900e-003	6.3000e-003	345.7869
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	28.0384	3.0000e-004	2.7500e-003	2.3100e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.2986	3.2986	6.0000e-005	6.0000e-005	3.3182
Total		**0.0407**	**0.3698**	**0.3106**	**2.2200e-003**		**0.0281**	**0.0281**		**0.0281**	**0.0281**		**443.7171**	**443.7171**	**8.5000e-003**	**8.1300e-003**	**446.3539**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.226345	2.4400e-003	0.0222	0.0186	1.3000e-004		1.6900e-003	1.6900e-003		1.6900e-003	1.6900e-003		26.6289	26.6289	5.1000e-004	4.9000e-004	26.7871
General Light Industry	0.595386	6.4200e-003	0.0584	0.0490	3.5000e-004		4.4400e-003	4.4400e-003		4.4400e-003	4.4400e-003		70.0455	70.0455	1.3400e-003	1.2800e-003	70.4617
Industrial Park	2.92183	0.0315	0.2865	0.2406	1.7200e-003		0.0218	0.0218		0.0218	0.0218		343.7442	343.7442	6.5900e-003	6.3000e-003	345.7869
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	0.0280384	3.0000e-004	2.7500e-003	2.3100e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.2986	3.2986	6.0000e-005	6.0000e-005	3.3182
Total		**0.0407**	**0.3698**	**0.3106**	**2.2200e-003**		**0.0281**	**0.0281**		**0.0281**	**0.0281**		**443.7171**	**443.7171**	**8.5000e-003**	**8.1300e-003**	**446.3539**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.2555	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Unmitigated	3.2555	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2200e-003	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Total	**3.2555**	**4.1000e-004**	**0.0461**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0995**	**0.0995**	**2.6000e-004**		**0.1059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2200e-003	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Total	**3.2555**	**4.1000e-004**	**0.0461**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0995**	**0.0995**	**2.6000e-004**		**0.1059**

7.0 Water Detail

7.1 Mitigation Measures Water

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Construction Emissions

Daily Construction Emissions - Overlapping Activity Scenarios

Daily Construction Emissions - Overlapping Activity Scenarios

Utility Relocation [I] - 2027

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust					0.0	0.0	0.0	0.0	0.0	0.0
Off-Road	0.6	2.5	29.8	0.0		0.0	0.0		0.0	0.0
Total	**0.6**	**2.5**	**29.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Hauling	0.1	8.0	2.2	0.0	1.1	0.0	1.1	0.3	0.0	0.3
Vendor	0.0	2.1	0.7	0.0	0.4	0.0	0.4	0.1	0.0	0.1
Worker	0.7	0.4	6.5	0.0	2.9	0.0	2.9	0.8	0.0	0.8
Total	**0.8**	**10.5**	**9.4**	**0.1**	**4.3**	**0.1**	**4.3**	**1.2**	**0.1**	**1.2**
	1.4	12.9	39.2	0.1	4.3	0.1	4.4	1.2	0.1	1.2

Demolition & Site Work [I] - 2027

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust					5.1	0.0	5.1	2.6	0.0	2.6
Off-Road	1.0	7.0	42.3	0.1		0.0	0.0		0.0	0.0
Total	**1.0**	**7.0**	**42.3**	**0.1**	**5.1**	**0.0**	**5.2**	**2.6**	**0.0**	**2.6**
Hauling	0.1	8.0	2.2	0.0	1.1	0.0	1.1	0.3	0.0	0.3
Vendor	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Worker	0.7	0.4	6.5	0.0	2.9	0.0	2.9	0.8	0.0	0.8
Total	**0.8**	**8.4**	**8.7**	**0.1**	**3.9**	**0.1**	**4.0**	**1.0**	**0.1**	**1.1**
	1.8	15.4	51.0	0.1	9.0	0.1	9.1	3.7	0.1	3.8

Daily Construction Emissions - Overlapping Activity Scenarios

Guideway and Track [I] - 2028

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust					5.6	0.0	5.6	2.7	0.0	2.7
Off-Road	1.6	7.5	60.5	0.1		0.1	0.1		0.1	0.1
Total	**1.6**	**7.5**	**60.5**	**0.1**	**5.6**	**0.1**	**5.6**	**2.7**	**0.1**	**2.8**
Hauling	0.2	15.8	4.5	0.1	2.1	0.1	2.2	0.6	0.1	0.7
Vendor	0.1	3.1	1.0	0.0	0.6	0.0	0.6	0.2	0.0	0.2
Worker	1.3	0.8	12.3	0.0	5.7	0.0	5.7	1.5	0.0	1.5
Total	**1.6**	**19.7**	**17.8**	**0.1**	**8.4**	**0.1**	**8.5**	**2.2**	**0.1**	**2.4**
	3.2	27.2	78.3	0.2	13.9	0.2	14.1	4.9	0.2	5.1

Stations [I] - 2029

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road	1.2	5.6	40.1	0.1		0.1	0.1		0.1	0.1
Total	**1.2**	**5.6**	**40.1**	**0.1**		**0.1**	**0.1**		**0.1**	**0.1**
Hauling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vendor	0.1	3.1	1.0	0.0	0.6	0.0	0.6	0.2	0.0	0.2
Worker	1.2	0.7	11.7	0.0	5.7	0.0	5.7	1.5	0.0	1.5
Total	**1.3**	**3.8**	**12.7**	**0.1**	**6.3**	**0.0**	**6.3**	**1.7**	**0.0**	**1.7**
	2.5	9.4	52.8	0.1	6.3	0.1	6.4	1.7	0.1	1.8

Daily Construction Emissions - Overlapping Activity Scenarios

Utility Relocation [II] - 2029

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust					0.0	0.0	0.0	0.0	0.0	0.0
Off-Road	0.6	2.5	29.8	0.0		0.0	0.0		0.0	0.0
Total	**0.6**	**2.5**	**29.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Hauling	0.1	7.8	2.3	0.0	1.1	0.0	1.1	0.3	0.0	0.3
Vendor	0.0	2.0	0.7	0.0	0.4	0.0	0.4	0.1	0.0	0.1
Worker	0.6	0.4	5.9	0.0	2.9	0.0	2.9	0.8	0.0	0.8
Total	**0.8**	**10.2**	**8.8**	**0.1**	**4.3**	**0.1**	**4.3**	**1.2**	**0.1**	**1.2**
	1.3	12.7	38.6	0.1	4.3	0.1	4.4	1.2	0.1	1.2

MSF [II] - 2029

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust					6.0	0.0	6.0	2.7	0.0	2.7
Off-Road	1.1	6.6	45.1	0.1		0.0	0.0		0.0	0.0
Total	**1.1**	**6.6**	**45.1**	**0.1**	**6.0**	**0.0**	**6.0**	**2.7**	**0.0**	**2.7**
Hauling	0.1	7.8	2.3	0.0	1.1	0.0	1.1	0.3	0.0	0.3
Vendor	0.0	2.0	0.7	0.0	0.4	0.0	0.4	0.1	0.0	0.1
Worker	0.6	0.4	5.9	0.0	2.9	0.0	2.9	0.8	0.0	0.8
Total	**0.8**	**10.2**	**8.8**	**0.1**	**4.3**	**0.1**	**4.3**	**1.2**	**0.1**	**1.2**
	1.9	16.8	53.9	0.1	10.2	0.1	10.3	3.9	0.1	4.0

Daily Construction Emissions - Overlapping Activity Scenarios

Guideway & Track Work [II] - 2029

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust					5.5	0.0	5.5	2.7	0.0	2.7
Off-Road	1.6	7.5	60.5	0.1		0.1	0.1		0.1	0.1
Total	**1.6**	**7.5**	**60.5**	**0.1**	**5.5**	**0.1**	**5.6**	**2.7**	**0.1**	**2.8**
Hauling	0.2	15.6	4.5	0.1	2.1	0.1	2.2	0.6	0.1	0.7
Vendor	0.0	2.0	0.7	0.0	0.4	0.0	0.4	0.1	0.0	0.1
Worker	1.2	0.7	11.7	0.0	5.7	0.0	5.7	1.5	0.0	1.5
Total	**1.5**	**18.4**	**16.9**	**0.1**	**8.2**	**0.1**	**8.3**	**2.2**	**0.1**	**2.3**
	3.1	25.9	77.4	0.2	13.7	0.2	13.9	4.9	0.2	5.1

Stations [II] - 2029

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road	1.2	6.1	38.7	0.1		0.1	0.1		0.1	0.1
Total	**1.2**	**6.1**	**38.7**	**0.1**		**0.1**	**0.1**		**0.1**	**0.1**
Hauling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vendor	0.0	2.0	0.7	0.0	0.4	0.0	0.4	0.1	0.0	0.1
Worker	1.2	0.7	11.7	0.0	5.7	0.0	5.7	1.5	0.0	1.5
Total	**1.3**	**2.8**	**12.4**	**0.0**	**6.1**	**0.0**	**6.1**	**1.6**	**0.0**	**1.7**
	2.5	8.8	51.1	0.1	6.1	0.1	6.2	1.6	0.1	1.7

Daily Construction Emissions - Overlapping Activity Scenarios

Guideway & Track Work [III] - 2031

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						5.6	0.0	5.6	2.7	0.0	2.7
Off-Road		1.5	7.3	60.4	0.1		0.1	0.1		0.1	0.1
Total		**1.5**	**7.3**	**60.4**	**0.1**	**5.6**	**0.1**	**5.6**	**2.7**	**0.1**	**2.7**
Hauling		0.5	30.7	9.2	0.1	4.2	0.2	4.4	1.2	0.2	1.3
Vendor		0.1	4.0	1.3	0.0	0.7	0.0	0.8	0.2	0.0	0.2
Worker		1.1	0.6	10.8	0.0	5.7	0.0	5.7	1.5	0.0	1.5
Total		**1.6**	**35.3**	**21.4**	**0.2**	**10.6**	**0.2**	**10.9**	**2.9**	**0.2**	**3.1**
		3.1	42.6	81.8	0.3	16.2	0.3	16.5	5.6	0.3	5.8

Systems [III] - 2031

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		1.0	9.5	44.1	0.1		0.0	0.0		0.0	0.0
Total		**1.0**	**9.5**	**44.1**	**0.1**		**0.0**	**0.0**		**0.0**	**0.0**
Hauling		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vendor		0.0	2.0	0.7	0.0	0.4	0.0	0.4	0.1	0.0	0.1
Worker		1.1	0.6	10.8	0.0	5.7	0.0	5.7	1.5	0.0	1.5
Total		**1.1**	**2.6**	**11.5**	**0.0**	**6.1**	**0.0**	**6.1**	**1.6**	**0.0**	**1.6**
		2.1	12.1	55.5	0.1	6.1	0.0	6.1	1.6	0.0	1.7

Daily Construction Emissions - Overlapping Activity Scenarios

Stations [III] - 2031

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road	1.5	7.3	58.3	0.1		0.1	0.1		0.1	0.1
Total	**1.5**	**7.3**	**58.3**	**0.1**		**0.1**	**0.1**		**0.1**	**0.1**
Hauling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vendor	0.0	2.0	0.7	0.0	0.4	0.0	0.4	0.1	0.0	0.1
Worker	1.1	0.6	10.8	0.0	5.7	0.0	5.7	1.5	0.0	1.5
Total	**1.1**	**2.6**	**11.5**	**0.0**	**6.1**	**0.0**	**6.1**	**1.6**	**0.0**	**1.6**
	2.6	9.9	69.8	0.2	6.1	0.1	6.2	1.6	0.1	1.7

MSF Fugitive ROG

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Paving	0.3					0.0	0.0		0.0	0.0
Archit. Coating	41.1					0.0	0.0		0.0	0.0

Daily Construction Emissions - Overlapping Activity Scenarios

[I] Sum

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
On	4.3	22.6	172.7	0.3	10.7	0.2	10.9	5.3	0.2	5.5
Off	4.5	42.3	48.6	0.3	22.8	0.3	23.1	6.1	0.3	6.4
Total	8.8	64.9	221.3	0.6	33.5	0.5	34.0	11.4	0.5	11.9
Fugitive	41.3	0.0	0.0	0.0	10.7	0.0	10.7	5.3	0.0	5.3
Off-Road	4.3	22.6	172.7	0.3	0.0	0.2	0.2	0.0	0.2	0.2
Total	45.6	22.6	172.7	0.3	10.7	0.2	10.9	5.3	0.2	5.5
Hauling	0.5	31.8	9.0	0.1	4.2	0.2	4.4	1.2	0.2	1.3
Vendor	0.2	8.2	2.6	0.0	1.5	0.0	1.5	0.4	0.0	0.5
Worker	3.9	2.3	37.0	0.1	17.1	0.1	17.2	4.5	0.1	4.6
Total	4.5	42.3	48.6	0.3	22.8	0.3	23.1	6.1	0.3	6.4
Max Daily [I]	**50.2**	**64.9**	**221.3**	**0.6**	**33.5**	**0.5**	**34.0**	**11.4**	**0.5**	**11.9**

[II] Sum

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
On	4.5	22.7	174.1	0.3	11.5	0.2	11.7	5.4	0.2	5.6
Off	4.3	41.6	46.9	0.3	22.8	0.3	23.1	6.1	0.3	6.4
Total	8.8	64.2	221.1	0.6	34.3	0.5	34.8	11.5	0.5	12.0
Fugitive	41.3	0.0	0.0	0.0	11.5	0.0	11.5	5.4	0.0	5.4
Off-Road	4.5	22.7	174.1	0.3	0.0	0.2	0.2	0.0	0.2	0.2
Total	45.8	22.7	174.1	0.3	11.5	0.2	11.7	5.4	0.2	5.6
Hauling	0.5	31.3	9.1	0.1	4.2	0.2	4.4	1.2	0.2	1.3
Vendor	0.2	8.2	2.6	0.0	1.5	0.0	1.5	0.4	0.0	0.5
Worker	3.7	2.1	35.2	0.1	17.1	0.1	17.2	4.5	0.1	4.6
Total	4.3	41.6	46.9	0.3	22.8	0.3	23.1	6.1	0.3	6.4
Max Daily [II]	**50.1**	**64.2**	**221.1**	**0.6**	**34.3**	**0.5**	**34.8**	**11.5**	**0.5**	**12.0**

Daily Construction Emissions - Overlapping Activity Scenarios

[III] Sum

On		4.0	24.1	162.8	0.3	5.6	0.1	5.7	2.7	0.1	2.8
Off		3.9	40.6	44.3	0.3	22.8	0.3	23.1	6.1	0.3	6.4
Total		7.8	64.7	207.1	0.6	28.4	0.4	28.8	8.8	0.4	9.2
Fugitive		41.3	0.0	0.0	0.0	5.6	0.0	5.6	2.7	0.0	2.7
Off-Road		4.0	24.1	162.8	0.3	0.0	0.1	0.1	0.0	0.1	0.1
Total		45.3	24.1	162.8	0.3	5.6	0.1	5.7	2.7	0.1	2.8
Hauling		0.5	30.7	9.2	0.1	4.2	0.2	4.4	1.2	0.2	1.3
Vendor		0.2	8.1	2.6	0.0	1.5	0.0	1.5	0.4	0.0	0.5
Worker		3.3	1.8	32.5	0.1	17.1	0.1	17.2	4.5	0.1	4.6
Total		3.9	40.6	44.3	0.3	22.8	0.3	23.1	6.1	0.3	6.4
Max Daily [III]		**49.2**	**64.7**	**207.1**	**0.6**	**28.4**	**0.4**	**28.8**	**8.8**	**0.4**	**9.2**

Construction Emissions

Light Rail Corridor Components Construction
CalEEMod Output Files – Daily Emissions

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	10.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2034
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	260.79	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Sources: California Utilities. 2021. Excel database of GHG emission factors for delivered electricity, provided to the Sacramento Metropolitan Air Quality Management District and ICF. January through March 2021; April 24, 2023.

Land Use - Lot acreage approximated as 5x 2-acre sites.

Construction Phase - Combination I = (Jan 2029 - Mar 2029), Combination II = (Mar 2029 - May 2029), Combination III = (June 2031 - Jan 2032)

Off-road Equipment - Maximum Daily Activity Intensity

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Trips and VMT - Maximum Daily Activity Intensity: 750 workers; 80 vendor deliveries; 120 hauling truckloads

Demolition -

Grading - 10 CY Trucks.

Construction Off-road Equipment Mitigation - LACMTA Green Construction Policy

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	NumDays	10.00	1.00
tblGrading	MaterialExported	0.00	600.00
tblGrading	MaterialExported	0.00	400.00
tblGrading	MaterialExported	0.00	1,200.00
tblGrading	MaterialExported	0.00	600.00
tblGrading	MaterialExported	0.00	400.00

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblLandUse	LotAcreage	0.00	10.00
tblOffRoadEquipment	HorsePower	84.00	75.00
tblOffRoadEquipment	HorsePower	84.00	75.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	260.79
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	HaulingTripNumber	75.00	60.00
tblTripsAndVMT	HaulingTripNumber	75.00	120.00
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	HaulingTripNumber	50.00	60.00
tblTripsAndVMT	HaulingTripNumber	50.00	120.00
tblTripsAndVMT	HaulingTripNumber	150.00	240.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripLength	6.90	10.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00

tblTripsAndVMT	VendorTripNumber	0.00	80.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripLength	14.70	15.00
tblTripsAndVMT	WorkerTripNumber	25.00	250.00
tblTripsAndVMT	WorkerTripNumber	50.00	500.00
tblTripsAndVMT	WorkerTripNumber	0.00	500.00
tblTripsAndVMT	WorkerTripNumber	38.00	250.00
tblTripsAndVMT	WorkerTripNumber	50.00	500.00
tblTripsAndVMT	WorkerTripNumber	0.00	500.00
tblTripsAndVMT	WorkerTripNumber	25.00	250.00
tblTripsAndVMT	WorkerTripNumber	38.00	250.00
tblTripsAndVMT	WorkerTripNumber	50.00	500.00
tblTripsAndVMT	WorkerTripNumber	0.00	500.00
tblTripsAndVMT	WorkerTripNumber	50.00	500.00

2.0 Emissions Summary

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2027	4.1688	40.4466	41.4546	0.1264	17.0743	1.3796	18.4539	7.7894	1.2710	9.0605	0.0000	12,767.8158	12,767.8158	2.5400	0.7716	13,016.0065
2028	6.4710	64.1956	62.3033	0.2262	22.5929	1.9795	24.5724	9.1082	1.8303	10.9385	0.0000	23,056.8511	23,056.8511	3.8424	1.4357	23,580.7565
2029	18.7714	177.3928	179.5192	0.5941	52.2748	5.7582	58.0329	19.9433	5.3462	25.2895	0.0000	60,005.1863	60,005.1863	10.1436	3.0454	61,166.3055
2031	16.9254	105.2797	173.3093	0.6039	37.0945	2.1641	39.2586	12.9862	2.1490	15.1353	0.0000	60,249.0932	60,249.0932	2.4149	2.9196	61,179.5109
Maximum	**18.7714**	**177.3928**	**179.5192**	**0.6039**	**52.2748**	**5.7582**	**58.0329**	**19.9433**	**5.3462**	**25.2895**	**0.0000**	**60,249.0932**	**60,249.0932**	**10.1436**	**3.0454**	**61,179.5109**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2027	1.7677	15.4188	50.9651	0.1264	9.0390	0.0858	9.1202	3.6748	0.0821	3.7527	0.0000	12,767.8158	12,767.8158	2.5400	0.7716	13,016.0064
2028	3.1900	27.1679	78.3060	0.2262	13.9107	0.2272	14.1379	4.9238	0.2201	5.1439	0.0000	23,056.8511	23,056.8511	3.8424	1.4357	23,580.7565
2029	8.7786	64.2276	221.0539	0.5941	34.2912	0.5267	34.8178	11.5087	0.5106	12.0193	0.0000	60,005.1863	60,005.1863	10.1436	3.0454	61,166.3055
2031	7.8320	64.7178	207.1139	0.6039	28.3710	0.4174	28.7884	8.7955	0.4023	9.1978	0.0000	60,249.0932	60,249.0932	2.4149	2.9196	61,179.5109
Maximum	**8.7786**	**64.7178**	**221.0539**	**0.6039**	**34.2912**	**0.5267**	**34.8178**	**11.5087**	**0.5106**	**12.0193**	**0.0000**	**60,249.0932**	**60,249.0932**	**10.1436**	**3.0454**	**61,179.5109**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**53.45**	**55.71**	**-22.09**	**0.00**	**33.65**	**88.86**	**38.09**	**41.99**	**88.53**	**50.16**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Utility Relocation [I]	Site Preparation	1/25/2027	1/25/2027	5	1	(Jan 2027 - May 2029)
2	Demolition & Site Work [I]	Site Preparation	3/1/2027	3/1/2027	5	1	(March 2027 - March 2029)
3	Guideway and Track [I]	Grading	1/3/2028	1/3/2028	5	1	(Jan 2028 - Jan 2032)
4	Stations [I]	Building Construction	1/8/2029	1/8/2029	5	1	(Jan 2029 - Feb 2032)
5	Utility Relocation [II]	Site Preparation	3/26/2029	3/26/2029	5	1	(Mar 2029 - May 2029)
6	MSF [II]	Site Preparation	3/26/2029	3/26/2029	5	1	(Mar 2029 - April 2031)
7	Guideway & Track Work [II]	Grading	3/26/2029	3/26/2029	5	1	(Mar 2029 - May 2029)
8	Stations [II]	Building Construction	3/26/2029	3/26/2029	5	1	(Mar 2029 - May 2029)
9	Guideway & Track Work [III]	Grading	6/2/2031	6/2/2031	5	1	(June 2031 - Jan 2032)
10	Systems [III]	Trenching	6/2/2031	6/2/2031	5	1	(June 2031 - Jan 2032)
11	Stations [III]	Building Construction	6/2/2031	6/2/2031	5	1	(June 2031 - Jan 2032)

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Utility Relocation [I]	Concrete/Industrial Saws	2	8.00	81	0.73
Utility Relocation [I]	Cranes	1	6.00	231	0.29
Utility Relocation [I]	Excavators	2	8.00	158	0.38
Utility Relocation [I]	Rollers	1	8.00	80	0.38
Utility Relocation [I]	Rubber Tired Loaders	2	8.00	203	0.36
Utility Relocation [I]	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition & Site Work [I]	Cranes	1	8.00	231	0.29
Demolition & Site Work [I]	Excavators	3	8.00	158	0.38
Demolition & Site Work [I]	Rubber Tired Dozers	2	8.00	247	0.40
Demolition & Site Work [I]	Rubber Tired Loaders	3	8.00	203	0.36
Demolition & Site Work [I]	Skid Steer Loaders	3	8.00	65	0.37
Demolition & Site Work [I]	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Guideway and Track [I]	Bore/Drill Rigs	2	6.00	221	0.50
Guideway and Track [I]	Cranes	2	6.00	231	0.29
Guideway and Track [I]	Excavators	4	8.00	158	0.38
Guideway and Track [I]	Graders	2	8.00	187	0.41
Guideway and Track [I]	Other Material Handling Equipment	2	8.00	168	0.40
Guideway and Track [I]	Rollers	2	8.00	80	0.38
Guideway and Track [I]	Rubber Tired Dozers	2	8.00	247	0.40
Guideway and Track [I]	Rubber Tired Loaders	2	8.00	203	0.36
Guideway and Track [I]	Welders	2	6.00	46	0.45
Stations [I]	Bore/Drill Rigs	1	6.00	221	0.50
Stations [I]	Cranes	2	6.00	231	0.29
Stations [I]	Generator Sets	2	8.00	75	0.74
Stations [I]	Rough Terrain Forklifts	2	8.00	100	0.40
Stations [I]	Rubber Tired Dozers	2	8.00	247	0.40
Stations [I]	Rubber Tired Loaders	2	8.00	203	0.36
Stations [I]	Tractors/Loaders/Backhoes	2	8.00	97	0.37

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Stations [I]	Welders	2	6.00	46	0.45
Utility Relocation [II]	Concrete/Industrial Saws	2	8.00	81	0.73
Utility Relocation [II]	Cranes	1	6.00	231	0.29
Utility Relocation [II]	Excavators	2	8.00	158	0.38
Utility Relocation [II]	Rollers	1	8.00	80	0.38
Utility Relocation [II]	Rubber Tired Loaders	2	8.00	203	0.36
Utility Relocation [II]	Tractors/Loaders/Backhoes	2	8.00	97	0.37
MSF [II]	Cranes	1	6.00	231	0.29
MSF [II]	Graders	2	8.00	187	0.41
MSF [II]	Pavers	1	8.00	130	0.42
MSF [II]	Paving Equipment	1	8.00	132	0.36
MSF [II]	Rollers	1	8.00	80	0.38
MSF [II]	Rough Terrain Forklifts	2	8.00	100	0.40
MSF [II]	Rubber Tired Dozers	2	8.00	247	0.40
MSF [II]	Rubber Tired Loaders	2	8.00	203	0.36
MSF [II]	Scrapers	1	8.00	367	0.48
MSF [II]	Skid Steer Loaders	2	8.00	65	0.37
Guideway & Track Work [II]	Bore/Drill Rigs	2	6.00	221	0.50
Guideway & Track Work [II]	Cranes	2	6.00	231	0.29
Guideway & Track Work [II]	Excavators	4	8.00	158	0.38
Guideway & Track Work [II]	Graders	2	8.00	187	0.41
Guideway & Track Work [II]	Other Material Handling Equipment	2	8.00	168	0.40
Guideway & Track Work [II]	Rollers	2	8.00	80	0.38
Guideway & Track Work [II]	Rubber Tired Dozers	2	8.00	247	0.40
Guideway & Track Work [II]	Rubber Tired Loaders	2	8.00	203	0.36
Guideway & Track Work [II]	Welders	2	6.00	46	0.45
Stations [II]	Bore/Drill Rigs	1	6.00	221	0.50
Stations [II]	Cranes	1	7.00	231	0.29
Stations [II]	Generator Sets	2	8.00	75	0.74

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Stations [II]	Rough Terrain Forklifts	2	8.00	100	0.40
Stations [II]	Rubber Tired Dozers	2	8.00	247	0.40
Stations [II]	Rubber Tired Loaders	2	8.00	203	0.36
Stations [II]	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Stations [II]	Welders	2	8.00	46	0.45
Guideway & Track Work [III]	Bore/Drill Rigs	2	6.00	221	0.50
Guideway & Track Work [III]	Cranes	2	6.00	231	0.29
Guideway & Track Work [III]	Excavators	4	8.00	158	0.38
Guideway & Track Work [III]	Graders	2	8.00	187	0.41
Guideway & Track Work [III]	Other Material Handling Equipment	2	8.00	168	0.40
Guideway & Track Work [III]	Rollers	2	8.00	80	0.38
Guideway & Track Work [III]	Rubber Tired Dozers	2	8.00	247	0.40
Guideway & Track Work [III]	Rubber Tired Loaders	2	8.00	203	0.36
Guideway & Track Work [III]	Welders	2	6.00	46	0.45
Systems [III]	Aerial Lifts	2	8.00	63	0.31
Systems [III]	Bore/Drill Rigs	2	6.00	221	0.50
Systems [III]	Cranes	2	6.00	231	0.29
Systems [III]	Rough Terrain Forklifts	4	8.00	100	0.40
Systems [III]	Skid Steer Loaders	4	8.00	65	0.37
Systems [III]	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Systems [III]	Trenchers	2	8.00	78	0.50
Stations [III]	Air Compressors	2	8.00	78	0.48
Stations [III]	Bore/Drill Rigs	2	6.00	221	0.50
Stations [III]	Cranes	1	7.00	231	0.29
Stations [III]	Generator Sets	2	8.00	84	0.74
Stations [III]	Pumps	2	8.00	84	0.74
Stations [III]	Rough Terrain Forklifts	3	8.00	100	0.40
Stations [III]	Rubber Tired Dozers	2	8.00	247	0.40
Stations [III]	Rubber Tired Loaders	2	8.00	203	0.36

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Stations [III]	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Stations [III]	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Utility Relocation [I]	10	250.00	40.00	60.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition & Site Work [I]	15	250.00	0.00	60.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
Guideway and Track [I]	20	500.00	60.00	120.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
Stations [I]	15	500.00	60.00	0.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
Utility Relocation [II]	10	250.00	40.00	60.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
MSF [II]	15	250.00	40.00	60.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
Guideway & Track Work [II]	20	500.00	40.00	120.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
Stations [II]	14	500.00	40.00	0.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
Guideway & Track Work [III]	20	500.00	80.00	240.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
Systems [III]	20	500.00	40.00	0.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT
Stations [III]	20	500.00	40.00	0.00	15.00	10.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Utility Relocation [l] - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.0175	17.1884	24.3599	0.0486		0.7121	0.7121		0.6699	0.6699		4,674.5441	4,674.5441	1.1806		4,704.0598
Total	**2.0175**	**17.1884**	**24.3599**	**0.0486**	**0.0000**	**0.7121**	**0.7121**	**0.0000**	**0.6699**	**0.6699**		**4,674.5441**	**4,674.5441**	**1.1806**		**4,704.0598**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1171	7.9782	2.2281	0.0325	1.0504	0.0494	1.0997	0.2880	0.0473	0.3352		3,591.6551	3,591.6551	0.2199	0.5712	3,767.3771
Vendor	0.0471	2.0781	0.6644	9.7700e-003	0.3709	0.0112	0.3820	0.1067	0.0107	0.1174		1,055.1540	1,055.1540	0.0386	0.1519	1,101.3740
Worker	0.6814	0.4156	6.4752	0.0212	2.8514	0.0139	2.8653	0.7562	0.0128	0.7690		2,137.9427	2,137.9427	0.0438	0.0485	2,153.5038
Total	**0.8456**	**10.4719**	**9.3677**	**0.0634**	**4.2726**	**0.0744**	**4.3470**	**1.1509**	**0.0707**	**1.2216**		**6,784.7518**	**6,784.7518**	**0.3022**	**0.7716**	**7,022.2548**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Utility Relocation [I] - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5682	2.4621	29.8419	0.0486		0.0114	0.0114		0.0114	0.0114	0.0000	4,674.5441	4,674.5441	1.1806		4,704.0598
Total	**0.5682**	**2.4621**	**29.8419**	**0.0486**	**0.0000**	**0.0114**	**0.0114**	**0.0000**	**0.0114**	**0.0114**	**0.0000**	**4,674.5441**	**4,674.5441**	**1.1806**		**4,704.0598**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1171	7.9782	2.2281	0.0325	1.0504	0.0494	1.0997	0.2880	0.0473	0.3352		3,591.6551	3,591.6551	0.2199	0.5712	3,767.3771
Vendor	0.0471	2.0781	0.6644	9.7700e-003	0.3709	0.0112	0.3820	0.1067	0.0107	0.1174		1,055.1540	1,055.1540	0.0386	0.1519	1,101.3740
Worker	0.6814	0.4156	6.4752	0.0212	2.8514	0.0139	2.8653	0.7562	0.0128	0.7690		2,137.9427	2,137.9427	0.0438	0.0485	2,153.5038
Total	**0.8456**	**10.4719**	**9.3677**	**0.0634**	**4.2726**	**0.0744**	**4.3470**	**1.1509**	**0.0707**	**1.2216**		**6,784.7518**	**6,784.7518**	**0.3022**	**0.7716**	**7,022.2548**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Demolition & Site Work [I] - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					13.1725	0.0000	13.1725	6.7452	0.0000	6.7452			0.0000			0.0000
Off-Road	3.3703	32.0528	32.7513	0.0727		1.3163	1.3163		1.2110	1.2110		7,038.2180	7,038.2180	2.2763		7,095.1256
Total	**3.3703**	**32.0528**	**32.7513**	**0.0727**	**13.1725**	**1.3163**	**14.4889**	**6.7452**	**1.2110**	**7.9563**		**7,038.2180**	**7,038.2180**	**2.2763**		**7,095.1256**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1171	7.9782	2.2281	0.0325	1.0504	0.0494	1.0997	0.2880	0.0473	0.3352		3,591.6551	3,591.6551	0.2199	0.5712	3,767.3771
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6814	0.4156	6.4752	0.0212	2.8514	0.0139	2.8653	0.7562	0.0128	0.7690		2,137.9427	2,137.9427	0.0438	0.0485	2,153.5038
Total	**0.7985**	**8.3938**	**8.7033**	**0.0537**	**3.9017**	**0.0633**	**3.9650**	**1.0442**	**0.0600**	**1.1042**		**5,729.5978**	**5,729.5978**	**0.2637**	**0.6198**	**5,920.8809**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Demolition & Site Work [I] - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.1373	0.0000	5.1373	2.6306	0.0000	2.6306			0.0000			0.0000
Off-Road	0.9692	7.0250	42.2618	0.0727		0.0179	0.0179		0.0179	0.0179	0.0000	7,038.2180	7,038.2180	2.2763		7,095.1256
Total	**0.9692**	**7.0250**	**42.2618**	**0.0727**	**5.1373**	**0.0179**	**5.1552**	**2.6306**	**0.0179**	**2.6485**	**0.0000**	**7,038.2180**	**7,038.2180**	**2.2763**		**7,095.1256**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1171	7.9782	2.2281	0.0325	1.0504	0.0494	1.0997	0.2880	0.0473	0.3352		3,591.6551	3,591.6551	0.2199	0.5712	3,767.3771
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.6814	0.4156	6.4752	0.0212	2.8514	0.0139	2.8653	0.7562	0.0128	0.7690		2,137.9427	2,137.9427	0.0438	0.0485	2,153.5038
Total	**0.7985**	**8.3938**	**8.7033**	**0.0537**	**3.9017**	**0.0633**	**3.9650**	**1.0442**	**0.0600**	**1.1042**		**5,729.5978**	**5,729.5978**	**0.2637**	**0.6198**	**5,920.8809**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Guideway and Track [l] - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2330	0.0000	14.2330	6.8598	0.0000	6.8598			0.0000			0.0000
Off-Road	4.8791	44.5375	44.5035	0.1070		1.8391	1.8391		1.6969	1.6969		10,299.8032	10,299.8032	3.2601		10,381.3053
Total	**4.8791**	**44.5375**	**44.5035**	**0.1070**	**14.2330**	**1.8391**	**16.0721**	**6.8598**	**1.6969**	**8.5566**		**10,299.8032**	**10,299.8032**	**3.2601**		**10,381.3053**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2321	15.7974	4.4984	0.0636	2.1008	0.0980	2.1987	0.5760	0.0937	0.6697		7,036.5957	7,036.5957	0.4434	1.1195	7,381.2967
Vendor	0.0691	3.0956	0.9880	0.0144	0.5563	0.0166	0.5730	0.1601	0.0159	0.1760		1,552.4825	1,552.4825	0.0582	0.2235	1,620.5452
Worker	1.2906	0.7651	12.3135	0.0412	5.7028	0.0259	5.7286	1.5124	0.0238	1.5362		4,167.9697	4,167.9697	0.0806	0.0927	4,197.6093
Total	**1.5918**	**19.6581**	**17.7999**	**0.1192**	**8.3598**	**0.1405**	**8.5003**	**2.2485**	**0.1334**	**2.3819**		**12,757.0479**	**12,757.0479**	**0.5823**	**1.4357**	**13,199.4512**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Guideway and Track [l] - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5509	0.0000	5.5509	2.6753	0.0000	2.6753			0.0000			0.0000
Off-Road	1.5982	7.5098	60.5061	0.1070		0.0867	0.0867		0.0867	0.0867	0.0000	10,299.8032	10,299.8032	3.2601		10,381.3053
Total	**1.5982**	**7.5098**	**60.5061**	**0.1070**	**5.5509**	**0.0867**	**5.6376**	**2.6753**	**0.0867**	**2.7620**	**0.0000**	**10,299.8032**	**10,299.8032**	**3.2601**		**10,381.3053**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2321	15.7974	4.4984	0.0636	2.1008	0.0980	2.1987	0.5760	0.0937	0.6697		7,036.5957	7,036.5957	0.4434	1.1195	7,381.2967
Vendor	0.0691	3.0956	0.9880	0.0144	0.5563	0.0166	0.5730	0.1601	0.0159	0.1760		1,552.4825	1,552.4825	0.0582	0.2235	1,620.5452
Worker	1.2906	0.7651	12.3135	0.0412	5.7028	0.0259	5.7286	1.5124	0.0238	1.5362		4,167.9697	4,167.9697	0.0806	0.0927	4,197.6093
Total	**1.5918**	**19.6581**	**17.7999**	**0.1192**	**8.3598**	**0.1405**	**8.5003**	**2.2485**	**0.1334**	**2.3819**		**12,757.0479**	**12,757.0479**	**0.5823**	**1.4357**	**13,199.4512**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Stations [I] - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6431	34.6602	31.1131	0.0741		1.3651	1.3651		1.2744	1.2744		7,086.6659	7,086.6659	1.9022		7,134.2204
Total	**3.6431**	**34.6602**	**31.1131**	**0.0741**		**1.3651**	**1.3651**		**1.2744**	**1.2744**		**7,086.6659**	**7,086.6659**	**1.9022**		**7,134.2204**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0676	3.0728	0.9811	0.0141	0.5563	0.0165	0.5728	0.1601	0.0158	0.1759		1,523.4281	1,523.4281	0.0586	0.2194	1,590.2732
Worker	1.2193	0.7068	11.7470	0.0403	5.7028	0.0241	5.7269	1.5124	0.0222	1.5346		4,071.7214	4,071.7214	0.0744	0.0889	4,100.0744
Total	**1.2869**	**3.7796**	**12.7281**	**0.0544**	**6.2591**	**0.0406**	**6.2997**	**1.6725**	**0.0380**	**1.7105**		**5,595.1495**	**5,595.1495**	**0.1330**	**0.3083**	**5,690.3476**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Stations [I] - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1656	5.6353	40.0786	0.0741		0.0781	0.0781		0.0781	0.0781	0.0000	7,086.6659	7,086.6659	1.9022		7,134.2203
Total	**1.1656**	**5.6353**	**40.0786**	**0.0741**		**0.0781**	**0.0781**		**0.0781**	**0.0781**	**0.0000**	**7,086.6659**	**7,086.6659**	**1.9022**		**7,134.2203**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0676	3.0728	0.9811	0.0141	0.5563	0.0165	0.5728	0.1601	0.0158	0.1759		1,523.4281	1,523.4281	0.0586	0.2194	1,590.2732
Worker	1.2193	0.7068	11.7470	0.0403	5.7028	0.0241	5.7269	1.5124	0.0222	1.5346		4,071.7214	4,071.7214	0.0744	0.0889	4,100.0744
Total	**1.2869**	**3.7796**	**12.7281**	**0.0544**	**6.2591**	**0.0406**	**6.2997**	**1.6725**	**0.0380**	**1.7105**		**5,595.1495**	**5,595.1495**	**0.1330**	**0.3083**	**5,690.3476**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Utility Relocation [II] - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.0175	17.1884	24.3599	0.0486		0.7121	0.7121		0.6699	0.6699		4,674.5441	4,674.5441	1.1806		4,704.0598
Total	**2.0175**	**17.1884**	**24.3599**	**0.0486**	**0.0000**	**0.7121**	**0.7121**	**0.0000**	**0.6699**	**0.6699**		**4,674.5441**	**4,674.5441**	**1.1806**		**4,704.0598**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1150	7.8128	2.2685	0.0311	1.0504	0.0485	1.0989	0.2880	0.0464	0.3344		3,445.7270	3,445.7270	0.2238	0.5484	3,614.7479
Vendor	0.0451	2.0486	0.6540	9.3900e-003	0.3709	0.0110	0.3819	0.1067	0.0105	0.1173		1,015.6187	1,015.6187	0.0391	0.1463	1,060.1821
Worker	0.6096	0.3534	5.8735	0.0201	2.8514	0.0121	2.8635	0.7562	0.0111	0.7673		2,035.8607	2,035.8607	0.0372	0.0445	2,050.0372
Total	**0.7698**	**10.2148**	**8.7961**	**0.0606**	**4.2727**	**0.0716**	**4.3442**	**1.1509**	**0.0680**	**1.2190**		**6,497.2064**	**6,497.2064**	**0.3001**	**0.7391**	**6,724.9673**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Utility Relocation [II] - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5682	2.4621	29.8419	0.0486		0.0114	0.0114		0.0114	0.0114	0.0000	4,674.5441	4,674.5441	1.1806		4,704.0598
Total	**0.5682**	**2.4621**	**29.8419**	**0.0486**	**0.0000**	**0.0114**	**0.0114**	**0.0000**	**0.0114**	**0.0114**	**0.0000**	**4,674.5441**	**4,674.5441**	**1.1806**		**4,704.0598**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1150	7.8128	2.2685	0.0311	1.0504	0.0485	1.0989	0.2880	0.0464	0.3344		3,445.7270	3,445.7270	0.2238	0.5484	3,614.7479
Vendor	0.0451	2.0486	0.6540	9.3900e-003	0.3709	0.0110	0.3819	0.1067	0.0105	0.1173		1,015.6187	1,015.6187	0.0391	0.1463	1,060.1821
Worker	0.6096	0.3534	5.8735	0.0201	2.8514	0.0121	2.8635	0.7562	0.0111	0.7673		2,035.8607	2,035.8607	0.0372	0.0445	2,050.0372
Total	**0.7698**	**10.2148**	**8.7961**	**0.0606**	**4.2727**	**0.0716**	**4.3442**	**1.1509**	**0.0680**	**1.2190**		**6,497.2064**	**6,497.2064**	**0.3001**	**0.7391**	**6,724.9673**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 MSF [II] - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					15.2709	0.0000	15.2709	6.9708	0.0000	6.9708			0.0000			0.0000
Off-Road	4.0520	41.0835	33.4282	0.0848		1.6089	1.6089		1.4802	1.4802		8,204.6674	8,204.6674	2.6536		8,271.0063
Total	**4.0520**	**41.0835**	**33.4282**	**0.0848**	**15.2709**	**1.6089**	**16.8798**	**6.9708**	**1.4802**	**8.4510**		**8,204.6674**	**8,204.6674**	**2.6536**		**8,271.0063**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1150	7.8128	2.2685	0.0311	1.0504	0.0485	1.0989	0.2880	0.0464	0.3344		3,445.7270	3,445.7270	0.2238	0.5484	3,614.7479
Vendor	0.0451	2.0486	0.6540	9.3900e-003	0.3709	0.0110	0.3819	0.1067	0.0105	0.1173		1,015.6187	1,015.6187	0.0391	0.1463	1,060.1821
Worker	0.6096	0.3534	5.8735	0.0201	2.8514	0.0121	2.8635	0.7562	0.0111	0.7673		2,035.8607	2,035.8607	0.0372	0.0445	2,050.0372
Total	**0.7698**	**10.2148**	**8.7961**	**0.0606**	**4.2727**	**0.0716**	**4.3442**	**1.1509**	**0.0680**	**1.2190**		**6,497.2064**	**6,497.2064**	**0.3001**	**0.7391**	**6,724.9673**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 MSF [II] - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.9557	0.0000	5.9557	2.7186	0.0000	2.7186			0.0000			0.0000
Off-Road	1.0923	6.6167	45.0801	0.0848		0.0208	0.0208		0.0208	0.0208	0.0000	8,204.6674	8,204.6674	2.6536		8,271.0063
Total	**1.0923**	**6.6167**	**45.0801**	**0.0848**	**5.9557**	**0.0208**	**5.9765**	**2.7186**	**0.0208**	**2.7395**	**0.0000**	**8,204.6674**	**8,204.6674**	**2.6536**		**8,271.0063**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1150	7.8128	2.2685	0.0311	1.0504	0.0485	1.0989	0.2880	0.0464	0.3344		3,445.7270	3,445.7270	0.2238	0.5484	3,614.7479
Vendor	0.0451	2.0486	0.6540	9.3900e-003	0.3709	0.0110	0.3819	0.1067	0.0105	0.1173		1,015.6187	1,015.6187	0.0391	0.1463	1,060.1821
Worker	0.6096	0.3534	5.8735	0.0201	2.8514	0.0121	2.8635	0.7562	0.0111	0.7673		2,035.8607	2,035.8607	0.0372	0.0445	2,050.0372
Total	**0.7698**	**10.2148**	**8.7961**	**0.0606**	**4.2727**	**0.0716**	**4.3442**	**1.1509**	**0.0680**	**1.2190**		**6,497.2064**	**6,497.2064**	**0.3001**	**0.7391**	**6,724.9673**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Guideway & Track Work [II] - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.2104	0.0000	14.2104	6.8563	0.0000	6.8563			0.0000			0.0000
Off-Road	4.8791	44.5375	44.5035	0.1070		1.8391	1.8391		1.6969	1.6969		10,299.8032	10,299.8032	3.2601		10,381.3053
Total	**4.8791**	**44.5375**	**44.5035**	**0.1070**	**14.2104**	**1.8391**	**16.0495**	**6.8563**	**1.6969**	**8.5532**		**10,299.8032**	**10,299.8032**	**3.2601**		**10,381.3053**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2301	15.6256	4.5371	0.0622	2.1008	0.0970	2.1978	0.5760	0.0928	0.6688		6,891.4540	6,891.4540	0.4476	1.0968	7,229.4959
Vendor	0.0451	2.0486	0.6540	9.3900e-003	0.3709	0.0110	0.3819	0.1067	0.0105	0.1173		1,015.6187	1,015.6187	0.0391	0.1463	1,060.1821
Worker	1.2193	0.7068	11.7470	0.0403	5.7028	0.0241	5.7269	1.5124	0.0222	1.5346		4,071.7214	4,071.7214	0.0744	0.0889	4,100.0744
Total	**1.4944**	**18.3810**	**16.9381**	**0.1119**	**8.1745**	**0.1321**	**8.3065**	**2.1951**	**0.1255**	**2.3206**		**11,978.7941**	**11,978.7941**	**0.5611**	**1.3320**	**12,389.7524**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Guideway & Track Work [II] - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5421	0.0000	5.5421	2.6740	0.0000	2.6740			0.0000			0.0000
Off-Road	1.5982	7.5098	60.5061	0.1070		0.0867	0.0867		0.0867	0.0867	0.0000	10,299.8032	10,299.8032	3.2601		10,381.3053
Total	**1.5982**	**7.5098**	**60.5061**	**0.1070**	**5.5421**	**0.0867**	**5.6288**	**2.6740**	**0.0867**	**2.7607**	**0.0000**	**10,299.8032**	**10,299.8032**	**3.2601**		**10,381.3053**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2301	15.6256	4.5371	0.0622	2.1008	0.0970	2.1978	0.5760	0.0928	0.6688		6,891.4540	6,891.4540	0.4476	1.0968	7,229.4959
Vendor	0.0451	2.0486	0.6540	9.3900e-003	0.3709	0.0110	0.3819	0.1067	0.0105	0.1173		1,015.6187	1,015.6187	0.0391	0.1463	1,060.1821
Worker	1.2193	0.7068	11.7470	0.0403	5.7028	0.0241	5.7269	1.5124	0.0222	1.5346		4,071.7214	4,071.7214	0.0744	0.0889	4,100.0744
Total	**1.4944**	**18.3810**	**16.9381**	**0.1119**	**8.1745**	**0.1321**	**8.3065**	**2.1951**	**0.1255**	**2.3206**		**11,978.7941**	**11,978.7941**	**0.5611**	**1.3320**	**12,389.7524**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Stations [II] - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.5244	33.0175	30.2962	0.0710		1.2878	1.2878		1.2050	1.2050		6,765.6244	6,765.6244	1.7747		6,809.9907
Total	**3.5244**	**33.0175**	**30.2962**	**0.0710**		**1.2878**	**1.2878**		**1.2050**	**1.2050**		**6,765.6244**	**6,765.6244**	**1.7747**		**6,809.9907**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0451	2.0486	0.6540	9.3900e-003	0.3709	0.0110	0.3819	0.1067	0.0105	0.1173		1,015.6187	1,015.6187	0.0391	0.1463	1,060.1821
Worker	1.2193	0.7068	11.7470	0.0403	5.7028	0.0241	5.7269	1.5124	0.0222	1.5346		4,071.7214	4,071.7214	0.0744	0.0889	4,100.0744
Total	**1.2644**	**2.7554**	**12.4011**	**0.0497**	**6.0737**	**0.0351**	**6.1088**	**1.6191**	**0.0327**	**1.6519**		**5,087.3401**	**5,087.3401**	**0.1135**	**0.2352**	**5,160.2565**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Stations [II] - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2217	6.0732	38.6944	0.0710		0.0974	0.0974		0.0974	0.0974	0.0000	6,765.6244	6,765.6244	1.7747		6,809.9907
Total	**1.2217**	**6.0732**	**38.6944**	**0.0710**		**0.0974**	**0.0974**		**0.0974**	**0.0974**	**0.0000**	**6,765.6244**	**6,765.6244**	**1.7747**		**6,809.9907**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0451	2.0486	0.6540	9.3900e-003	0.3709	0.0110	0.3819	0.1067	0.0105	0.1173		1,015.6187	1,015.6187	0.0391	0.1463	1,060.1821
Worker	1.2193	0.7068	11.7470	0.0403	5.7028	0.0241	5.7269	1.5124	0.0222	1.5346		4,071.7214	4,071.7214	0.0744	0.0889	4,100.0744
Total	**1.2644**	**2.7554**	**12.4011**	**0.0497**	**6.0737**	**0.0351**	**6.1088**	**1.6191**	**0.0327**	**1.6519**		**5,087.3401**	**5,087.3401**	**0.1135**	**0.2352**	**5,160.2565**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Guideway & Track Work [III] - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					14.3009	0.0000	14.3009	6.8700	0.0000	6.8700			0.0000			0.0000
Off-Road	5.0515	19.6599	44.1686	0.1307		0.6931	0.6931		0.6931	0.6931		12,325.8309	12,325.8309	0.4463		12,336.9887
Total	**5.0515**	**19.6599**	**44.1686**	**0.1307**	**14.3009**	**0.6931**	**14.9940**	**6.8700**	**0.6931**	**7.5631**		**12,325.8309**	**12,325.8309**	**0.4463**		**12,336.9887**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4537	30.6828	9.2265	0.1191	4.2017	0.1887	4.3905	1.1521	0.1806	1.3326		13,228.4459	13,228.4459	0.9106	2.1068	13,879.0384
Vendor	0.0874	4.0465	1.3009	0.0181	0.7418	0.0215	0.7633	0.2135	0.0206	0.2341		1,958.9456	1,958.9456	0.0793	0.2822	2,045.0206
Worker	1.0842	0.6096	10.8365	0.0387	5.7028	0.0212	5.7239	1.5124	0.0195	1.5319		3,914.6712	3,914.6712	0.0639	0.0828	3,940.9469
Total	**1.6253**	**35.3389**	**21.3639**	**0.1760**	**10.6463**	**0.2314**	**10.8777**	**2.8779**	**0.2206**	**3.0985**		**19,102.0627**	**19,102.0627**	**1.0538**	**2.4718**	**19,865.0059**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Guideway & Track Work [III] - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.5773	0.0000	5.5773	2.6793	0.0000	2.6793			0.0000			0.0000
Off-Road	1.5144	7.2891	60.4311	0.1307		0.0500	0.0500		0.0500	0.0500	0.0000	12,325.8309	12,325.8309	0.4463		12,336.9887
Total	**1.5144**	**7.2891**	**60.4311**	**0.1307**	**5.5773**	**0.0500**	**5.6274**	**2.6793**	**0.0500**	**2.7293**	**0.0000**	**12,325.8309**	**12,325.8309**	**0.4463**		**12,336.9887**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4537	30.6828	9.2265	0.1191	4.2017	0.1887	4.3905	1.1521	0.1806	1.3326		13,228.4459	13,228.4459	0.9106	2.1068	13,879.0384
Vendor	0.0874	4.0465	1.3009	0.0181	0.7418	0.0215	0.7633	0.2135	0.0206	0.2341		1,958.9456	1,958.9456	0.0793	0.2822	2,045.0206
Worker	1.0842	0.6096	10.8365	0.0387	5.7028	0.0212	5.7239	1.5124	0.0195	1.5319		3,914.6712	3,914.6712	0.0639	0.0828	3,940.9469
Total	**1.6253**	**35.3389**	**21.3639**	**0.1760**	**10.6463**	**0.2314**	**10.8777**	**2.8779**	**0.2206**	**3.0985**		**19,102.0627**	**19,102.0627**	**1.0538**	**2.4718**	**19,865.0059**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Systems [III] - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2995	18.1219	38.4122	0.0829		0.4789	0.4789		0.4789	0.4789		7,848.6219	7,848.6219	0.2924		7,855.9316
Total	**3.2995**	**18.1219**	**38.4122**	**0.0829**		**0.4789**	**0.4789**		**0.4789**	**0.4789**		**7,848.6219**	**7,848.6219**	**0.2924**		**7,855.9316**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0437	2.0233	0.6505	9.0500e-003	0.3709	0.0108	0.3817	0.1067	0.0103	0.1170		979.4728	979.4728	0.0397	0.1411	1,022.5103
Worker	1.0842	0.6096	10.8365	0.0387	5.7028	0.0212	5.7239	1.5124	0.0195	1.5319		3,914.6712	3,914.6712	0.0639	0.0828	3,940.9469
Total	**1.1279**	**2.6329**	**11.4870**	**0.0478**	**6.0737**	**0.0319**	**6.1056**	**1.6191**	**0.0298**	**1.6489**		**4,894.1440**	**4,894.1440**	**0.1036**	**0.2239**	**4,963.4572**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Systems [III] - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9718	9.5070	44.0563	0.0829		0.0166	0.0166		0.0166	0.0166	0.0000	7,848.6219	7,848.6219	0.2924		7,855.9316
Total	**0.9718**	**9.5070**	**44.0563**	**0.0829**		**0.0166**	**0.0166**		**0.0166**	**0.0166**	**0.0000**	**7,848.6219**	**7,848.6219**	**0.2924**		**7,855.9316**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0437	2.0233	0.6505	9.0500e-003	0.3709	0.0108	0.3817	0.1067	0.0103	0.1170		979.4728	979.4728	0.0397	0.1411	1,022.5103
Worker	1.0842	0.6096	10.8365	0.0387	5.7028	0.0212	5.7239	1.5124	0.0195	1.5319		3,914.6712	3,914.6712	0.0639	0.0828	3,940.9469
Total	**1.1279**	**2.6329**	**11.4870**	**0.0478**	**6.0737**	**0.0319**	**6.1056**	**1.6191**	**0.0298**	**1.6489**		**4,894.1440**	**4,894.1440**	**0.1036**	**0.2239**	**4,963.4572**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.12 Stations [III] - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.6934	26.8933	46.3907	0.1188		0.6969	0.6969		0.6969	0.6969		11,184.2899	11,184.2899	0.4152		11,194.6704
Total	**4.6934**	**26.8933**	**46.3907**	**0.1188**		**0.6969**	**0.6969**		**0.6969**	**0.6969**		**11,184.2899**	**11,184.2899**	**0.4152**		**11,194.6704**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0437	2.0233	0.6505	9.0500e-003	0.3709	0.0108	0.3817	0.1067	0.0103	0.1170		979.4728	979.4728	0.0397	0.1411	1,022.5103
Worker	1.0842	0.6096	10.8365	0.0387	5.7028	0.0212	5.7239	1.5124	0.0195	1.5319		3,914.6712	3,914.6712	0.0639	0.0828	3,940.9469
Total	**1.1279**	**2.6329**	**11.4870**	**0.0478**	**6.0737**	**0.0319**	**6.1056**	**1.6191**	**0.0298**	**1.6489**		**4,894.1440**	**4,894.1440**	**0.1036**	**0.2239**	**4,963.4572**

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.12 Stations [III] - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4649	7.3169	58.2887	0.1188		0.0556	0.0556		0.0556	0.0556	0.0000	11,184.2899	11,184.2899	0.4152		11,194.6704
Total	**1.4649**	**7.3169**	**58.2887**	**0.1188**		**0.0556**	**0.0556**		**0.0556**	**0.0556**	**0.0000**	**11,184.2899**	**11,184.2899**	**0.4152**		**11,194.6704**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0437	2.0233	0.6505	9.0500e-003	0.3709	0.0108	0.3817	0.1067	0.0103	0.1170		979.4728	979.4728	0.0397	0.1411	1,022.5103
Worker	1.0842	0.6096	10.8365	0.0387	5.7028	0.0212	5.7239	1.5124	0.0195	1.5319		3,914.6712	3,914.6712	0.0639	0.0828	3,940.9469
Total	**1.1279**	**2.6329**	**11.4870**	**0.0478**	**6.0737**	**0.0319**	**6.1056**	**1.6191**	**0.0298**	**1.6489**		**4,894.1440**	**4,894.1440**	**0.1036**	**0.2239**	**4,963.4572**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.523127	0.069299	0.195397	0.127437	0.025049	0.007382	0.011793	0.007546	0.000932	0.000553	0.027399	0.000749	0.003336

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

LACMTA West Santa Ana Branch - LPA Construction Emissions (AQ) - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

LACMTA West Santa Ana Branch Construction - Early Relocations

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1,710.72	1000sqft	39.27	1,710,720.00	0
Other Non-Asphalt Surfaces	432.74	1000sqft	9.93	432,740.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2034
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction only

Land Use - Freight Relocations: Approx 8.1 miles x 40 ft work area width = 1,710,720 sq ft = 39.3 acres.
Utility relocation area based on early duration (~224 days) out of 809 total days x 14.8 miles x 20 ft width.

Construction Phase - Updated Schedule provided by Metro April 2023

Off-road Equipment - Metro Inventory. "Other materiald handling equipment" = specialized rail/ties/ballast installation equipment.

Off-road Equipment - Metro Inventory

Trips and VMT - Conservatively assumed up to 250 workers per day & 50 material/equipment deliveries per day.

Grading - Defaults

Area Coating -

Construction Off-road Equipment Mitigation - Compliance with Metro Green Construction Policy
(use renewable diesel not accounted for)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	30.00	230.00
tblConstructionPhase	NumDays	30.00	550.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	VendorTripLength	6.90	15.00
tblTripsAndVMT	VendorTripLength	6.90	15.00
tblTripsAndVMT	VendorTripNumber	0.00	100.00
tblTripsAndVMT	VendorTripNumber	0.00	100.00
tblTripsAndVMT	WorkerTripLength	14.70	20.00
tblTripsAndVMT	WorkerTripLength	14.70	20.00
tblTripsAndVMT	WorkerTripNumber	40.00	500.00
tblTripsAndVMT	WorkerTripNumber	40.00	500.00

2.0 Emissions Summary

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	4.7919	32.5631	53.2008	0.1623	8.9915	1.1224	10.1139	2.4156	1.0607	3.4763	0.0000	16,351.8151	16,351.8151	1.7119	0.7344	16,613.4589
2025	5.0675	37.5727	51.5998	0.1595	20.1456	1.2965	21.4421	7.6100	1.1955	8.8055	0.0000	16,066.6617	16,066.6617	2.1765	0.7143	16,321.8626
2026	4.9594	37.3952	44.6367	0.1561	20.1456	1.2943	21.4399	7.6100	1.1934	8.8034	0.0000	15,743.3016	15,743.3016	2.1659	0.6959	16,004.8375
2027	4.8603	37.2348	43.6129	0.1537	20.1456	1.2917	21.4373	7.6100	1.1910	8.8010	0.0000	15,503.4407	15,503.4407	2.1565	0.6785	15,759.5377
Maximum	**5.0675**	**37.5727**	**53.2008**	**0.1623**	**20.1456**	**1.2965**	**21.4421**	**7.6100**	**1.1955**	**8.8055**	**0.0000**	**16,351.8151**	**16,351.8151**	**2.1765**	**0.7344**	**16,613.4589**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	2.8807	11.9153	60.5536	0.1623	8.9915	0.1813	9.1728	2.4156	0.1761	2.5917	0.0000	16,351.8151	16,351.8151	1.7119	0.7344	16,613.4589
2025	2.8374	12.2114	59.0914	0.1595	13.3416	0.1972	13.5388	4.4414	0.1921	4.6335	0.0000	16,066.6617	16,066.6617	2.1765	0.7143	16,321.8626
2026	2.7292	12.0339	53.6070	0.1561	13.3416	0.1950	13.5366	4.4414	0.1901	4.6315	0.0000	15,743.3016	15,743.3016	2.1659	0.6959	16,004.8375
2027	2.6302	11.8735	52.5832	0.1537	13.3416	0.1924	13.5340	4.4414	0.1877	4.6291	0.0000	15,503.4407	15,503.4407	2.1565	0.6785	15,759.5377
Maximum	**2.8807**	**12.2114**	**60.5536**	**0.1623**	**13.3416**	**0.1972**	**13.5388**	**4.4414**	**0.1921**	**4.6335**	**0.0000**	**16,351.8151**	**16,351.8151**	**2.1765**	**0.7344**	**16,613.4589**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**43.71**	**66.82**	**-16.98**	**0.00**	**29.40**	**84.70**	**33.12**	**37.65**	**83.93**	**44.84**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.9425	1.9600e-003	0.2178	2.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004		0.4691	0.4691	1.2100e-003		0.4993
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.9425**	**1.9600e-003**	**0.2178**	**2.0000e-005**	**0.0000**	**7.7000e-004**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**7.7000e-004**		**0.4691**	**0.4691**	**1.2100e-003**	**0.0000**	**0.4993**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.9425	1.9600e-003	0.2178	2.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004		0.4691	0.4691	1.2100e-003		0.4993
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.9425**	**1.9600e-003**	**0.2178**	**2.0000e-005**	**0.0000**	**7.7000e-004**	**7.7000e-004**	**0.0000**	**7.7000e-004**	**7.7000e-004**		**0.4691**	**0.4691**	**1.2100e-003**	**0.0000**	**0.4993**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Early Utility Relocation	Site Preparation	12/16/2024	10/31/2025	5	230	
2	Early Freight Relocation	Site Preparation	11/3/2025	12/10/2027	5	550	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 49.2

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Early Utility Relocation	Bore/Drill Rigs	1	6.00	221	0.50
Early Utility Relocation	Concrete/Industrial Saws	2	6.00	81	0.73
Early Utility Relocation	Cranes	1	6.00	231	0.29
Early Utility Relocation	Excavators	2	6.00	158	0.38
Early Utility Relocation	Generator Sets	2	6.00	84	0.74
Early Utility Relocation	Paving Equipment	2	6.00	132	0.36
Early Utility Relocation	Rollers	2	6.00	80	0.38
Early Utility Relocation	Rubber Tired Loaders	2	6.00	203	0.36
Early Utility Relocation	Tractors/Loaders/Backhoes	2	6.00	97	0.37

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Early Freight Relocation	Crawler Tractors	2	6.00	212	0.43
Early Freight Relocation	Excavators	2	6.00	158	0.38
Early Freight Relocation	Graders	2	4.00	187	0.41
Early Freight Relocation	Other Material Handling Equipment	2	6.00	168	0.40
Early Freight Relocation	Plate Compactors	2	6.00	8	0.43
Early Freight Relocation	Rollers	2	6.00	80	0.38
Early Freight Relocation	Rubber Tired Dozers	2	6.00	247	0.40
Early Freight Relocation	Rubber Tired Loaders	2	6.00	203	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Early Utility Relocation	16	500.00	100.00	0.00	20.00	15.00	20.00	LD_Mix	HDT_Mix	HHDT
Early Freight Relocation	16	500.00	100.00	0.00	20.00	15.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Early Utility Relocation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.6365	23.7911	30.9556	0.0626		1.0378	1.0378		0.9813	0.9813		6,014.9133	6,014.9133	1.4356		6,050.8041
Total	**2.6365**	**23.7911**	**30.9556**	**0.0626**	**0.0000**	**1.0378**	**1.0378**	**0.0000**	**0.9813**	**0.9813**		**6,014.9133**	**6,014.9133**	**1.4356**		**6,050.8041**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1643	7.3562	2.1298	0.0381	1.3894	0.0416	1.4310	0.3997	0.0398	0.4396		4,107.6585	4,107.6585	0.1394	0.5888	4,286.6029
Worker	1.9911	1.4158	20.1155	0.0616	7.6021	0.0430	7.6450	2.0159	0.0396	2.0554		6,229.2434	6,229.2434	0.1369	0.1456	6,276.0520
Total	**2.1554**	**8.7721**	**22.2452**	**0.0998**	**8.9915**	**0.0846**	**9.0761**	**2.4156**	**0.0794**	**2.4950**		**10,336.9018**	**10,336.9018**	**0.2763**	**0.7344**	**10,562.6549**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Early Utility Relocation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7254	3.1432	38.3084	0.0626		0.0967	0.0967		0.0967	0.0967	0.0000	6,014.9133	6,014.9133	1.4356		6,050.8041
Total	**0.7254**	**3.1432**	**38.3084**	**0.0626**	**0.0000**	**0.0967**	**0.0967**	**0.0000**	**0.0967**	**0.0967**	**0.0000**	**6,014.9133**	**6,014.9133**	**1.4356**		**6,050.8041**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1643	7.3562	2.1298	0.0381	1.3894	0.0416	1.4310	0.3997	0.0398	0.4396		4,107.6585	4,107.6585	0.1394	0.5888	4,286.6029
Worker	1.9911	1.4158	20.1155	0.0616	7.6021	0.0430	7.6450	2.0159	0.0396	2.0554		6,229.2434	6,229.2434	0.1369	0.1456	6,276.0520
Total	**2.1554**	**8.7721**	**22.2452**	**0.0998**	**8.9915**	**0.0846**	**9.0761**	**2.4156**	**0.0794**	**2.4950**		**10,336.9018**	**10,336.9018**	**0.2763**	**0.7344**	**10,562.6549**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Early Utility Relocation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.4513	21.4569	30.8168	0.0626		0.8966	0.8966		0.8474	0.8474		6,015.2000	6,015.2000	1.4293		6,050.9327
Total	**2.4513**	**21.4569**	**30.8168**	**0.0626**	**0.0000**	**0.8966**	**0.8966**	**0.0000**	**0.8474**	**0.8474**		**6,015.2000**	**6,015.2000**	**1.4293**		**6,050.9327**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1582	7.3205	2.0842	0.0374	1.3894	0.0418	1.4312	0.3997	0.0400	0.4397		4,033.6826	4,033.6826	0.1405	0.5786	4,209.6098
Worker	1.8701	1.2687	18.6989	0.0595	7.6021	0.0409	7.6430	2.0159	0.0377	2.0535		6,017.7791	6,017.7791	0.1232	0.1358	6,061.3201
Total	**2.0283**	**8.5893**	**20.7830**	**0.0970**	**8.9915**	**0.0827**	**9.0742**	**2.4156**	**0.0776**	**2.4932**		**10,051.4616**	**10,051.4616**	**0.2637**	**0.7143**	**10,270.9299**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Early Utility Relocation - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.7254	3.1432	38.3084	0.0626		0.0967	0.0967		0.0967	0.0967	0.0000	6,015.2000	6,015.2000	1.4293		6,050.9327
Total	**0.7254**	**3.1432**	**38.3084**	**0.0626**	**0.0000**	**0.0967**	**0.0967**	**0.0000**	**0.0967**	**0.0967**	**0.0000**	**6,015.2000**	**6,015.2000**	**1.4293**		**6,050.9327**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1582	7.3205	2.0842	0.0374	1.3894	0.0418	1.4312	0.3997	0.0400	0.4397		4,033.6826	4,033.6826	0.1405	0.5786	4,209.6098
Worker	1.8701	1.2687	18.6989	0.0595	7.6021	0.0409	7.6430	2.0159	0.0377	2.0535		6,017.7791	6,017.7791	0.1232	0.1358	6,061.3201
Total	**2.0283**	**8.5893**	**20.7830**	**0.0970**	**8.9915**	**0.0827**	**9.0742**	**2.4156**	**0.0776**	**2.4932**		**10,051.4616**	**10,051.4616**	**0.2637**	**0.7143**	**10,270.9299**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Early Freight Relocation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					11.1541	0.0000	11.1541	5.1944	0.0000	5.1944			0.0000			0.0000
Off-Road	3.0392	28.9835	25.0604	0.0617		1.2138	1.2138		1.1179	1.1179		5,949.3491	5,949.3491	1.9128		5,997.1687
Total	**3.0392**	**28.9835**	**25.0604**	**0.0617**	**11.1541**	**1.2138**	**12.3679**	**5.1944**	**1.1179**	**6.3122**		**5,949.3491**	**5,949.3491**	**1.9128**		**5,997.1687**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1582	7.3205	2.0842	0.0374	1.3894	0.0418	1.4312	0.3997	0.0400	0.4397		4,033.6826	4,033.6826	0.1405	0.5786	4,209.6098
Worker	1.8701	1.2687	18.6989	0.0595	7.6021	0.0409	7.6430	2.0159	0.0377	2.0535		6,017.7791	6,017.7791	0.1232	0.1358	6,061.3201
Total	**2.0283**	**8.5893**	**20.7830**	**0.0970**	**8.9915**	**0.0827**	**9.0742**	**2.4156**	**0.0776**	**2.4932**		**10,051.4616**	**10,051.4616**	**0.2637**	**0.7143**	**10,270.9299**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Early Freight Relocation - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3501	0.0000	4.3501	2.0258	0.0000	2.0258			0.0000			0.0000
Off-Road	0.8091	3.6221	34.0307	0.0617		0.1145	0.1145		0.1145	0.1145	0.0000	5,949.3491	5,949.3491	1.9128		5,997.1686
Total	**0.8091**	**3.6221**	**34.0307**	**0.0617**	**4.3501**	**0.1145**	**4.4646**	**2.0258**	**0.1145**	**2.1403**	**0.0000**	**5,949.3491**	**5,949.3491**	**1.9128**		**5,997.1686**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1582	7.3205	2.0842	0.0374	1.3894	0.0418	1.4312	0.3997	0.0400	0.4397		4,033.6826	4,033.6826	0.1405	0.5786	4,209.6098
Worker	1.8701	1.2687	18.6989	0.0595	7.6021	0.0409	7.6430	2.0159	0.0377	2.0535		6,017.7791	6,017.7791	0.1232	0.1358	6,061.3201
Total	**2.0283**	**8.5893**	**20.7830**	**0.0970**	**8.9915**	**0.0827**	**9.0742**	**2.4156**	**0.0776**	**2.4932**		**10,051.4616**	**10,051.4616**	**0.2637**	**0.7143**	**10,270.9299**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Early Freight Relocation - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					11.1541	0.0000	11.1541	5.1944	0.0000	5.1944			0.0000			0.0000
Off-Road	3.0392	28.9835	25.0604	0.0617		1.2138	1.2138		1.1179	1.1179		5,949.3491	5,949.3491	1.9128		5,997.1687
Total	**3.0392**	**28.9835**	**25.0604**	**0.0617**	**11.1541**	**1.2138**	**12.3679**	**5.1944**	**1.1179**	**6.3122**		**5,949.3491**	**5,949.3491**	**1.9128**		**5,997.1687**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1529	7.2627	2.0506	0.0367	1.3894	0.0417	1.4311	0.3998	0.0399	0.4396		3,958.9041	3,958.9041	0.1415	0.5681	4,131.7475
Worker	1.7673	1.1490	17.5257	0.0577	7.6021	0.0388	7.6408	2.0159	0.0357	2.0516		5,835.0484	5,835.0484	0.1117	0.1278	5,875.9213
Total	**1.9202**	**8.4117**	**19.5763**	**0.0944**	**8.9915**	**0.0805**	**9.0720**	**2.4156**	**0.0755**	**2.4912**		**9,793.9525**	**9,793.9525**	**0.2532**	**0.6959**	**10,007.6689**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Early Freight Relocation - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3501	0.0000	4.3501	2.0258	0.0000	2.0258			0.0000			0.0000
Off-Road	0.8091	3.6221	34.0307	0.0617		0.1145	0.1145		0.1145	0.1145	0.0000	5,949.3491	5,949.3491	1.9128		5,997.1686
Total	**0.8091**	**3.6221**	**34.0307**	**0.0617**	**4.3501**	**0.1145**	**4.4646**	**2.0258**	**0.1145**	**2.1403**	**0.0000**	**5,949.3491**	**5,949.3491**	**1.9128**		**5,997.1686**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1529	7.2627	2.0506	0.0367	1.3894	0.0417	1.4311	0.3998	0.0399	0.4396		3,958.9041	3,958.9041	0.1415	0.5681	4,131.7475
Worker	1.7673	1.1490	17.5257	0.0577	7.6021	0.0388	7.6408	2.0159	0.0357	2.0516		5,835.0484	5,835.0484	0.1117	0.1278	5,875.9213
Total	**1.9202**	**8.4117**	**19.5763**	**0.0944**	**8.9915**	**0.0805**	**9.0720**	**2.4156**	**0.0755**	**2.4912**		**9,793.9525**	**9,793.9525**	**0.2532**	**0.6959**	**10,007.6689**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Early Freight Relocation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					11.1541	0.0000	11.1541	5.1944	0.0000	5.1944			0.0000			0.0000
Off-Road	3.0392	28.9835	25.0604	0.0617		1.2138	1.2138		1.1179	1.1179		5,949.3491	5,949.3491	1.9128		5,997.1687
Total	**3.0392**	**28.9835**	**25.0604**	**0.0617**	**11.1541**	**1.2138**	**12.3679**	**5.1944**	**1.1179**	**6.3122**		**5,949.3491**	**5,949.3491**	**1.9128**		**5,997.1687**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1484	7.2035	2.0232	0.0359	1.3895	0.0415	1.4309	0.3998	0.0397	0.4394		3,880.8810	3,880.8810	0.1419	0.5574	4,050.5225
Worker	1.6728	1.0478	16.5293	0.0561	7.6021	0.0364	7.6384	2.0159	0.0335	2.0493		5,673.2106	5,673.2106	0.1018	0.1211	5,711.8466
Total	**1.8211**	**8.2513**	**18.5525**	**0.0921**	**8.9915**	**0.0779**	**9.0694**	**2.4156**	**0.0732**	**2.4888**		**9,554.0916**	**9,554.0916**	**0.2437**	**0.6785**	**9,762.3691**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Early Freight Relocation - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3501	0.0000	4.3501	2.0258	0.0000	2.0258			0.0000			0.0000
Off-Road	0.8091	3.6221	34.0307	0.0617		0.1145	0.1145		0.1145	0.1145	0.0000	5,949.3491	5,949.3491	1.9128		5,997.1686
Total	**0.8091**	**3.6221**	**34.0307**	**0.0617**	**4.3501**	**0.1145**	**4.4646**	**2.0258**	**0.1145**	**2.1403**	**0.0000**	**5,949.3491**	**5,949.3491**	**1.9128**		**5,997.1686**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1484	7.2035	2.0232	0.0359	1.3895	0.0415	1.4309	0.3998	0.0397	0.4394		3,880.8810	3,880.8810	0.1419	0.5574	4,050.5225
Worker	1.6728	1.0478	16.5293	0.0561	7.6021	0.0364	7.6384	2.0159	0.0335	2.0493		5,673.2106	5,673.2106	0.1018	0.1211	5,711.8466
Total	**1.8211**	**8.2513**	**18.5525**	**0.0921**	**8.9915**	**0.0779**	**9.0694**	**2.4156**	**0.0732**	**2.4888**		**9,554.0916**	**9,554.0916**	**0.2437**	**0.6785**	**9,762.3691**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.523127	0.069299	0.195397	0.127437	0.025049	0.007382	0.011793	0.007546	0.000932	0.000553	0.027399	0.000749	0.003336

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.9425	1.9600e-003	0.2178	2.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004		0.4691	0.4691	1.2100e-003		0.4993
Unmitigated	0.9425	1.9600e-003	0.2178	2.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004		0.4691	0.4691	1.2100e-003		0.4993

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7592					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0199	1.9600e-003	0.2178	2.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004		0.4691	0.4691	1.2100e-003		0.4993
Total	**0.9424**	**1.9600e-003**	**0.2178**	**2.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**		**0.4691**	**0.4691**	**1.2100e-003**		**0.4993**

LACMTA West Santa Ana Branch Construction - Early Relocations - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1633					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7592					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0199	1.9600e-003	0.2178	2.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004		0.4691	0.4691	1.2100e-003		0.4993
Total	**0.9424**	**1.9600e-003**	**0.2178**	**2.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**		**0.4691**	**0.4691**	**1.2100e-003**		**0.4993**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Construction Emissions

Bellflower Site Option Maintenance & Storage Facility (MSF) CalEEMod Output – Daily Emissions

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

LACMTA West Santa Ana Branch MSF - Bellflower Site

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	4.60	1000sqft	0.11	4,600.00	0
General Light Industry	12.10	1000sqft	0.28	12,100.00	0
Industrial Park	103.44	1000sqft	2.37	103,440.00	0
Unrefrigerated Warehouse-Rail	11.90	1000sqft	0.27	11,900.00	0
Other Asphalt Surfaces	3.00	Acre	3.00	130,680.00	0
Other Non-Asphalt Surfaces	12.50	Acre	12.50	544,500.00	0
Parking Lot	307.00	Space	2.76	122,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2040
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	260.79	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Analysis for Operational Year 2042. Construction 2029-2031. SCE CO2 factor from CalEEMod 2022.1.1.3 User's Guide.

Land Use -

Construction Phase - Preliminary Schedule Updated: March 2029 - April 2031.

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - Metro Inventory

Off-road Equipment - Metro Inventory

Off-road Equipment - Project Inventory

Trips and VMT - Maximum Daily Workers = 150.
Daily Haul Trips = 30 x 60 = 1800 (Demo), 60 x 90 = 5400

Grading - Equip = 1 scraper (1 acre/day), 2 graders (1 acres/day), 1 crawler tractor (0.5 acres/day) = 2.5 acres/day x 90 days = 315 acres

Architectural Coating - SCAQMD Rule 1113 = 50 g/L max for building envelope

Vehicle Trips - 250 trips/day

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - SCAQMD Rule 1113 - Building Envelope = 50 g/L

Energy Use -

Construction Off-road Equipment Mitigation - Metro GCP Compliance

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	66,020.00	40,000.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	10.00	90.00
tblConstructionPhase	NumDays	370.00	450.00
tblConstructionPhase	NumDays	20.00	60.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	260.79
tblTripsAndVMT	HaulingTripNumber	910.00	1,800.00
tblTripsAndVMT	HaulingTripNumber	0.00	5,400.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	152.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	25.00	300.00
tblTripsAndVMT	WorkerTripNumber	25.00	300.00
tblTripsAndVMT	WorkerTripNumber	391.00	300.00
tblTripsAndVMT	WorkerTripNumber	20.00	200.00
tblTripsAndVMT	WorkerTripNumber	78.00	100.00
tblVehicleTrips	DV_TP	19.00	5.00
tblVehicleTrips	PB_TP	2.00	3.00
tblVehicleTrips	PR_TP	79.00	92.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	2.54	2.42
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	1.24	2.42
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	3.37	2.42
tblVehicleTrips	WD_TR	1.74	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2029	4.4368	45.4071	37.4128	0.1313	20.4158	1.5063	21.9222	8.2723	1.3879	9.6602	0.0000	13,325.3773	13,325.3773	2.4838	0.7048	13,597.4990
2030	2.6134	13.6342	30.3203	0.0726	3.6095	0.2483	3.8578	0.9631	0.2469	1.2100	0.0000	7,041.9429	7,041.9429	0.2376	0.1526	7,093.3550
2031	43.9469	13.5991	30.2685	0.0721	3.7377	0.4217	4.1593	1.0000	0.4202	1.4202	0.0000	7,106.6625	7,106.6625	0.2507	0.1992	7,172.2921
Maximum	**43.9469**	**45.4071**	**37.4128**	**0.1313**	**20.4158**	**1.5063**	**21.9222**	**8.2723**	**1.3879**	**9.6602**	**0.0000**	**13,325.3773**	**13,325.3773**	**2.4838**	**0.7048**	**13,597.4990**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2029	1.7318	13.5043	46.2762	0.1313	10.8047	0.0875	10.8922	3.9894	0.0839	4.0733	0.0000	13,325.3773	13,325.3773	2.4838	0.7048	13,597.4990
2030	1.4241	5.9628	31.9230	0.0726	3.6095	0.0334	3.6429	0.9631	0.0320	0.9951	0.0000	7,041.9429	7,041.9429	0.2376	0.1526	7,093.3550
2031	42.4334	5.9276	31.7449	0.0721	3.7377	0.0324	3.7693	1.0000	0.0311	1.0302	0.0000	7,106.6625	7,106.6625	0.2507	0.1992	7,172.2921
Maximum	**42.4334**	**13.5043**	**46.2762**	**0.1313**	**10.8047**	**0.0875**	**10.8922**	**3.9894**	**0.0839**	**4.0733**	**0.0000**	**13,325.3773**	**13,325.3773**	**2.4838**	**0.7048**	**13,597.4990**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	10.60	65.04	-12.19	0.00	34.62	92.96	38.86	41.84	92.85	50.38	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2555	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Energy	0.0407	0.3698	0.3106	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.7171	443.7171	8.5000e-003	8.1300e-003	446.3539
Mobile	0.7116	0.6889	7.2729	0.0163	2.3355	8.1900e-003	2.3437	0.6224	7.6400e-003	0.6300		1,665.4706	1,665.4706	0.1196	0.0715	1,689.7653
Total	**4.0078**	**1.0591**	**7.6296**	**0.0185**	**2.3355**	**0.0365**	**2.3719**	**0.6224**	**0.0359**	**0.6583**		**2,109.2872**	**2,109.2872**	**0.1284**	**0.0796**	**2,136.2251**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.2555	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Energy	0.0407	0.3698	0.3106	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.7171	443.7171	8.5000e-003	8.1300e-003	446.3539
Mobile	0.7116	0.6889	7.2729	0.0163	2.3355	8.1900e-003	2.3437	0.6224	7.6400e-003	0.6300		1,665.4706	1,665.4706	0.1196	0.0715	1,689.7653
Total	**4.0078**	**1.0591**	**7.6296**	**0.0185**	**2.3355**	**0.0365**	**2.3719**	**0.6224**	**0.0359**	**0.6583**		**2,109.2872**	**2,109.2872**	**0.1284**	**0.0796**	**2,136.2251**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	3/12/2029	5/19/2029	6	60	
2	Site Preparation	Site Preparation	5/21/2029	9/1/2029	6	90	
3	Building Construction & Track Laydown	Building Construction	9/3/2029	2/8/2031	6	450	
4	Paving Parking & Access Roads	Paving	2/10/2031	4/19/2031	6	60	
5	Road Striping & Architectural Coating	Architectural Coating	3/17/2031	4/19/2031	6	30	

Acres of Grading (Site Preparation Phase): 315

Acres of Grading (Grading Phase): 0

Acres of Paving: 18.26

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 198,060; Non-Residential Outdoor: 40,000; Striped Parking Area: 47,879 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rough Terrain Forklifts	2	8.00	100	0.40
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition	Rubber Tired Loaders	2	8.00	203	0.36
Site Preparation	Crawler Tractors	1	8.00	212	0.43

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Excavators	2	8.00	158	0.38
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction & Track Laydown	Cranes	1	8.00	231	0.29
Building Construction & Track Laydown	Generator Sets	1	8.00	84	0.74
Building Construction & Track Laydown	Rough Terrain Forklifts	3	8.00	100	0.40
Building Construction & Track Laydown	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction & Track Laydown	Welders	2	8.00	46	0.45
Paving Parking & Access Roads	Forklifts	2	8.00	89	0.20
Paving Parking & Access Roads	Pavers	2	8.00	130	0.42
Paving Parking & Access Roads	Paving Equipment	2	8.00	132	0.36
Paving Parking & Access Roads	Rollers	2	8.00	80	0.38
Road Striping & Architectural Coating	Air Compressors	2	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	300.00	40.00	1,800.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	10	300.00	40.00	5,400.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction & Track Laydown	10	300.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving Parking & Access Roads	8	200.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Road Striping & Architectural Coating	2	100.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.2812	0.0000	3.2812	0.4968	0.0000	0.4968			0.0000			0.0000
Off-Road	2.8717	26.5303	27.3181	0.0593		1.0827	1.0827		1.0109	1.0109		5,718.6061	5,718.6061	1.5183		5,756.5635
Total	**2.8717**	**26.5303**	**27.3181**	**0.0593**	**3.2812**	**1.0827**	**4.3639**	**0.4968**	**1.0109**	**1.5077**		**5,718.6061**	**5,718.6061**	**1.5183**		**5,756.5635**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0575	3.9064	1.1343	0.0156	0.5252	0.0242	0.5494	0.1440	0.0232	0.1672		1,722.8635	1,722.8635	0.1119	0.2742	1,807.3740
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.8170**	**5.8830**	**8.6324**	**0.0459**	**4.1347**	**0.0461**	**4.1808**	**1.1071**	**0.0436**	**1.1507**		**4,836.9113**	**4,836.9113**	**0.1837**	**0.4306**	**4,969.8192**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2797	0.0000	1.2797	0.1938	0.0000	0.1938			0.0000			0.0000
Off-Road	0.7007	3.0361	34.1122	0.0593		0.0140	0.0140		0.0140	0.0140	0.0000	5,718.6061	5,718.6061	1.5183		5,756.5635
Total	**0.7007**	**3.0361**	**34.1122**	**0.0593**	**1.2797**	**0.0140**	**1.2937**	**0.1938**	**0.0140**	**0.2078**	**0.0000**	**5,718.6061**	**5,718.6061**	**1.5183**		**5,756.5635**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0575	3.9064	1.1343	0.0156	0.5252	0.0242	0.5494	0.1440	0.0232	0.1672		1,722.8635	1,722.8635	0.1119	0.2742	1,807.3740
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.8170**	**5.8830**	**8.6324**	**0.0459**	**4.1347**	**0.0461**	**4.1808**	**1.1071**	**0.0436**	**1.1507**		**4,836.9113**	**4,836.9113**	**0.1837**	**0.4306**	**4,969.8192**

3.3 Site Preparation - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					15.7559	0.0000	15.7559	7.0212	0.0000	7.0212			0.0000			0.0000
Off-Road	3.5623	35.6177	27.6461	0.0699		1.4360	1.4360		1.3211	1.3211		6,765.6025	6,765.6025	2.1881		6,820.3058
Total	**3.5623**	**35.6177**	**27.6461**	**0.0699**	**15.7559**	**1.4360**	**17.1919**	**7.0212**	**1.3211**	**8.3423**		**6,765.6025**	**6,765.6025**	**2.1881**		**6,820.3058**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1150	7.8128	2.2685	0.0311	1.0504	0.0485	1.0989	0.2880	0.0464	0.3344		3,445.7270	3,445.7270	0.2238	0.5484	3,614.7479
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.8745**	**9.7894**	**9.7667**	**0.0615**	**4.6599**	**0.0704**	**4.7303**	**1.2511**	**0.0668**	**1.3179**		**6,559.7748**	**6,559.7748**	**0.2956**	**0.7048**	**6,777.1932**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1448	0.0000	6.1448	2.7383	0.0000	2.7383			0.0000			0.0000
Off-Road	0.8573	3.7149	36.5095	0.0699		0.0172	0.0172		0.0172	0.0172	0.0000	6,765.6025	6,765.6025	2.1881		6,820.3058
Total	**0.8573**	**3.7149**	**36.5095**	**0.0699**	**6.1448**	**0.0172**	**6.1620**	**2.7383**	**0.0172**	**2.7554**	**0.0000**	**6,765.6025**	**6,765.6025**	**2.1881**		**6,820.3058**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1150	7.8128	2.2685	0.0311	1.0504	0.0485	1.0989	0.2880	0.0464	0.3344		3,445.7270	3,445.7270	0.2238	0.5484	3,614.7479
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.8745**	**9.7894**	**9.7667**	**0.0615**	**4.6599**	**0.0704**	**4.7303**	**1.2511**	**0.0668**	**1.3179**		**6,559.7748**	**6,559.7748**	**0.2956**	**0.7048**	**6,777.1932**

3.4 Building Construction & Track Laydown - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7060	16.1058	22.2449	0.0372		0.5823	0.5823		0.5499	0.5499		3,504.1364	3,504.1364	0.8601		3,525.6377
Total	**1.7060**	**16.1058**	**22.2449**	**0.0372**		**0.5823**	**0.5823**		**0.5499**	**0.5499**		**3,504.1364**	**3,504.1364**	**0.8601**		**3,525.6377**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2029

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.7595**	**1.9766**	**7.4982**	**0.0303**	**3.6095**	**0.0219**	**3.6314**	**0.9631**	**0.0204**	**0.9835**		**3,114.0478**	**3,114.0478**	**0.0718**	**0.1564**	**3,162.4453**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8172	4.3204	24.8160	0.0372		0.0198	0.0198		0.0198	0.0198	0.0000	3,504.1364	3,504.1364	0.8601		3,525.6377
Total	**0.8172**	**4.3204**	**24.8160**	**0.0372**		**0.0198**	**0.0198**		**0.0198**	**0.0198**	**0.0000**	**3,504.1364**	**3,504.1364**	**0.8601**		**3,525.6377**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2029

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0380	1.5590	0.5660	6.6500e-003	0.2562	7.6800e-003	0.2639	0.0738	7.3400e-003	0.0811		718.9190	718.9190	0.0276	0.1038	750.5491
Worker	0.7215	0.4176	6.9322	0.0237	3.3533	0.0142	3.3675	0.8893	0.0131	0.9024		2,395.1289	2,395.1289	0.0442	0.0526	2,411.8961
Total	**0.7595**	**1.9766**	**7.4982**	**0.0303**	**3.6095**	**0.0219**	**3.6314**	**0.9631**	**0.0204**	**0.9835**		**3,114.0478**	**3,114.0478**	**0.0718**	**0.1564**	**3,162.4453**

3.4 Building Construction & Track Laydown - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8947	11.6976	23.1133	0.0429		0.2274	0.2274		0.2274	0.2274		3,991.3904	3,991.3904	0.1689		3,995.6120
Total	**1.8947**	**11.6976**	**23.1133**	**0.0429**		**0.2274**	**0.2274**		**0.2274**	**0.2274**		**3,991.3904**	**3,991.3904**	**0.1689**		**3,995.6120**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2030

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0375	1.5492	0.5634	6.5200e-003	0.2562	7.6200e-003	0.2639	0.0738	7.2900e-003	0.0811		705.8418	705.8418	0.0278	0.1020	736.9206
Worker	0.6813	0.3875	6.6437	0.0232	3.3533	0.0133	3.3666	0.8893	0.0122	0.9015		2,344.7107	2,344.7107	0.0409	0.0506	2,360.8225
Total	**0.7187**	**1.9367**	**7.2070**	**0.0297**	**3.6095**	**0.0209**	**3.6304**	**0.9631**	**0.0195**	**0.9826**		**3,050.5525**	**3,050.5525**	**0.0687**	**0.1526**	**3,097.7431**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7054	4.0261	24.7160	0.0429		0.0125	0.0125		0.0125	0.0125	0.0000	3,991.3904	3,991.3904	0.1689		3,995.6120
Total	**0.7054**	**4.0261**	**24.7160**	**0.0429**		**0.0125**	**0.0125**		**0.0125**	**0.0125**	**0.0000**	**3,991.3904**	**3,991.3904**	**0.1689**		**3,995.6120**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2030

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0375	1.5492	0.5634	6.5200e-003	0.2562	7.6200e-003	0.2639	0.0738	7.2900e-003	0.0811		705.8418	705.8418	0.0278	0.1020	736.9206
Worker	0.6813	0.3875	6.6437	0.0232	3.3533	0.0133	3.3666	0.8893	0.0122	0.9015		2,344.7107	2,344.7107	0.0409	0.0506	2,360.8225
Total	**0.7187**	**1.9367**	**7.2070**	**0.0297**	**3.6095**	**0.0209**	**3.6304**	**0.9631**	**0.0195**	**0.9826**		**3,050.5525**	**3,050.5525**	**0.0687**	**0.1526**	**3,097.7431**

3.4 Building Construction & Track Laydown - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8947	11.6976	23.1133	0.0429		0.2274	0.2274		0.2274	0.2274		3,991.3904	3,991.3904	0.1689		3,995.6120
Total	**1.8947**	**11.6976**	**23.1133**	**0.0429**		**0.2274**	**0.2274**		**0.2274**	**0.2274**		**3,991.3904**	**3,991.3904**	**0.1689**		**3,995.6120**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0370	1.5412	0.5628	6.4100e-003	0.2562	7.5000e-003	0.2637	0.0738	7.1700e-003	0.0810		693.3686	693.3686	0.0280	0.1002	723.9179
Worker	0.6414	0.3603	6.3955	0.0228	3.3533	0.0125	3.3658	0.8893	0.0115	0.9008		2,302.7431	2,302.7431	0.0380	0.0490	2,318.2835
Total	**0.6784**	**1.9015**	**6.9583**	**0.0292**	**3.6095**	**0.0200**	**3.6295**	**0.9631**	**0.0186**	**0.9817**		**2,996.1117**	**2,996.1117**	**0.0660**	**0.1491**	**3,042.2014**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7054	4.0261	24.7160	0.0429		0.0125	0.0125		0.0125	0.0125	0.0000	3,991.3904	3,991.3904	0.1689		3,995.6120
Total	**0.7054**	**4.0261**	**24.7160**	**0.0429**		**0.0125**	**0.0125**		**0.0125**	**0.0125**	**0.0000**	**3,991.3904**	**3,991.3904**	**0.1689**		**3,995.6120**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction & Track Laydown - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0370	1.5412	0.5628	6.4100e-003	0.2562	7.5000e-003	0.2637	0.0738	7.1700e-003	0.0810		693.3686	693.3686	0.0280	0.1002	723.9179
Worker	0.6414	0.3603	6.3955	0.0228	3.3533	0.0125	3.3658	0.8893	0.0115	0.9008		2,302.7431	2,302.7431	0.0380	0.0490	2,318.2835
Total	**0.6784**	**1.9015**	**6.9583**	**0.0292**	**3.6095**	**0.0200**	**3.6295**	**0.9631**	**0.0186**	**0.9817**		**2,996.1117**	**2,996.1117**	**0.0660**	**0.1491**	**3,042.2014**

3.5 Paving Parking & Access Roads - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5622	8.0966	18.2348	0.0318		0.3438	0.3438		0.3438	0.3438		3,013.3384	3,013.3384	0.1402		3,016.8442
Paving	0.2515					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8137**	**8.0966**	**18.2348**	**0.0318**		**0.3438**	**0.3438**		**0.3438**	**0.3438**		**3,013.3384**	**3,013.3384**	**0.1402**		**3,016.8442**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving Parking & Access Roads - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0370	1.5412	0.5628	6.4100e-003	0.2562	7.5000e-003	0.2637	0.0738	7.1700e-003	0.0810		693.3686	693.3686	0.0280	0.1002	723.9179
Worker	0.4276	0.2402	4.2637	0.0152	2.2355	8.3100e-003	2.2438	0.5929	7.6400e-003	0.6005		1,535.1621	1,535.1621	0.0254	0.0326	1,545.5223
Total	**0.4646**	**1.7814**	**4.8265**	**0.0216**	**2.4918**	**0.0158**	**2.5076**	**0.6667**	**0.0148**	**0.6815**		**2,228.5307**	**2,228.5307**	**0.0534**	**0.1328**	**2,269.4403**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3181	1.3786	19.6188	0.0318		6.3600e-003	6.3600e-003		6.3600e-003	6.3600e-003	0.0000	3,013.3384	3,013.3384	0.1402		3,016.8442
Paving	0.2515					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5697**	**1.3786**	**19.6188**	**0.0318**		**6.3600e-003**	**6.3600e-003**		**6.3600e-003**	**6.3600e-003**	**0.0000**	**3,013.3384**	**3,013.3384**	**0.1402**		**3,016.8442**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving Parking & Access Roads - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0370	1.5412	0.5628	6.4100e-003	0.2562	7.5000e-003	0.2637	0.0738	7.1700e-003	0.0810		693.3686	693.3686	0.0280	0.1002	723.9179
Worker	0.4276	0.2402	4.2637	0.0152	2.2355	8.3100e-003	2.2438	0.5929	7.6400e-003	0.6005		1,535.1621	1,535.1621	0.0254	0.0326	1,545.5223
Total	**0.4646**	**1.7814**	**4.8265**	**0.0216**	**2.4918**	**0.0158**	**2.5076**	**0.6667**	**0.0148**	**0.6815**		**2,228.5307**	**2,228.5307**	**0.0534**	**0.1328**	**2,269.4403**

3.6 Road Striping & Architectural Coating - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.0876					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3487	2.2834	4.7940	7.9200e-003		0.0542	0.0542		0.0542	0.0542		750.5281	750.5281	0.0304		751.2875
Total	**41.4362**	**2.2834**	**4.7940**	**7.9200e-003**		**0.0542**	**0.0542**		**0.0542**	**0.0542**		**750.5281**	**750.5281**	**0.0304**		**751.2875**

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Road Striping & Architectural Coating - 2031

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0185	0.7706	0.2814	3.2000e-003	0.1281	3.7500e-003	0.1319	0.0369	3.5900e-003	0.0405		346.6843	346.6843	0.0140	0.0501	361.9590
Worker	0.2138	0.1201	2.1318	7.5900e-003	1.1178	4.1500e-003	1.1219	0.2964	3.8200e-003	0.3003		767.5810	767.5810	0.0127	0.0163	772.7612
Total	**0.2323**	**0.8907**	**2.4132**	**0.0108**	**1.2459**	**7.9000e-003**	**1.2538**	**0.3333**	**7.4100e-003**	**0.3407**		**1,114.2653**	**1,114.2653**	**0.0267**	**0.0664**	**1,134.7201**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.0876					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0792	0.3434	4.8864	7.9200e-003		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	750.5281	750.5281	0.0304		751.2875
Total	**41.1668**	**0.3434**	**4.8864**	**7.9200e-003**		**1.5800e-003**	**1.5800e-003**		**1.5800e-003**	**1.5800e-003**	**0.0000**	**750.5281**	**750.5281**	**0.0304**		**751.2875**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Road Striping & Architectural Coating - 2031

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0185	0.7706	0.2814	3.2000e-003	0.1281	3.7500e-003	0.1319	0.0369	3.5900e-003	0.0405		346.6843	346.6843	0.0140	0.0501	361.9590
Worker	0.2138	0.1201	2.1318	7.5900e-003	1.1178	4.1500e-003	1.1219	0.2964	3.8200e-003	0.3003		767.5810	767.5810	0.0127	0.0163	772.7612
Total	**0.2323**	**0.8907**	**2.4132**	**0.0108**	**1.2459**	**7.9000e-003**	**1.2538**	**0.3333**	**7.4100e-003**	**0.3407**		**1,114.2653**	**1,114.2653**	**0.0267**	**0.0664**	**1,134.7201**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7116	0.6889	7.2729	0.0163	2.3355	8.1900e-003	2.3437	0.6224	7.6400e-003	0.6300		1,665.4706	1,665.4706	0.1196	0.0715	1,689.7653
Unmitigated	0.7116	0.6889	7.2729	0.0163	2.3355	8.1900e-003	2.3437	0.6224	7.6400e-003	0.6300		1,665.4706	1,665.4706	0.1196	0.0715	1,689.7653

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Industrial Park	250.32	250.32	250.32	1,108,508	1,108,508
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-Rail	0.00	0.00	0.00		
Total	250.32	250.32	250.32	1,108,508	1,108,508

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-Rail	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Industrial Park	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Other Asphalt Surfaces	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Other Non-Asphalt Surfaces	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Parking Lot	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457
Unrefrigerated Warehouse-Rail	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0407	0.3698	0.3106	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.7171	443.7171	8.5000e-003	8.1300e-003	446.3539
NaturalGas Unmitigated	0.0407	0.3698	0.3106	2.2200e-003		0.0281	0.0281		0.0281	0.0281		443.7171	443.7171	8.5000e-003	8.1300e-003	446.3539

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	226.345	2.4400e-003	0.0222	0.0186	1.3000e-004		1.6900e-003	1.6900e-003		1.6900e-003	1.6900e-003		26.6289	26.6289	5.1000e-004	4.9000e-004	26.7871
General Light Industry	595.386	6.4200e-003	0.0584	0.0490	3.5000e-004		4.4400e-003	4.4400e-003		4.4400e-003	4.4400e-003		70.0455	70.0455	1.3400e-003	1.2800e-003	70.4617
Industrial Park	2921.83	0.0315	0.2865	0.2406	1.7200e-003		0.0218	0.0218		0.0218	0.0218		343.7442	343.7442	6.5900e-003	6.3000e-003	345.7869
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	28.0384	3.0000e-004	2.7500e-003	2.3100e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.2986	3.2986	6.0000e-005	6.0000e-005	3.3182
Total		**0.0407**	**0.3698**	**0.3106**	**2.2200e-003**		**0.0281**	**0.0281**		**0.0281**	**0.0281**		**443.7171**	**443.7171**	**8.5000e-003**	**8.1300e-003**	**446.3539**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.226345	2.4400e-003	0.0222	0.0186	1.3000e-004		1.6900e-003	1.6900e-003		1.6900e-003	1.6900e-003		26.6289	26.6289	5.1000e-004	4.9000e-004	26.7871
General Light Industry	0.595386	6.4200e-003	0.0584	0.0490	3.5000e-004		4.4400e-003	4.4400e-003		4.4400e-003	4.4400e-003		70.0455	70.0455	1.3400e-003	1.2800e-003	70.4617
Industrial Park	2.92183	0.0315	0.2865	0.2406	1.7200e-003		0.0218	0.0218		0.0218	0.0218		343.7442	343.7442	6.5900e-003	6.3000e-003	345.7869
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	0.0280384	3.0000e-004	2.7500e-003	2.3100e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004		3.2986	3.2986	6.0000e-005	6.0000e-005	3.3182
Total		**0.0407**	**0.3698**	**0.3106**	**2.2200e-003**		**0.0281**	**0.0281**		**0.0281**	**0.0281**		**443.7171**	**443.7171**	**8.5000e-003**	**8.1300e-003**	**446.3539**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.2555	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Unmitigated	3.2555	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2200e-003	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Total	**3.2555**	**4.1000e-004**	**0.0461**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0995**	**0.0995**	**2.6000e-004**		**0.1059**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3542					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8970					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.2200e-003	4.1000e-004	0.0461	0.0000		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004		0.0995	0.0995	2.6000e-004		0.1059
Total	**3.2555**	**4.1000e-004**	**0.0461**	**0.0000**		**1.6000e-004**	**1.6000e-004**		**1.6000e-004**	**1.6000e-004**		**0.0995**	**0.0995**	**2.6000e-004**		**0.1059**

7.0 Water Detail

7.1 Mitigation Measures Water

LACMTA West Santa Ana Branch MSF - Bellflower Site - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B TRANSPORTATION CONFORMITY DOCUMENTATION

- SCAG Connect SoCal 2020-2045 RTP/SCS Amendment #3 and 2023 FTIP Consistency Amendment #23-03 Conformity Determination at TCWG Meeting – June 27, 2023
- SCAG Project-Level Conformity Determination: LAOG1094 – Not a POAQC

TRANSPORTATION CONFORMITY WORKING GROUP

Meeting Minutes

June 27, 2023
10:00 a.m. – 12:00 p.m.

The meeting was held via Zoom, teleconference, and in-person. A digital recording of the meeting is available for listening in SCAG's office.

Attendee List

SCAG Staff:

Jimenez, Diego
Lo, Nancy
Sun, Lijin
Whiteaker, Warren

Via Teleconference:

Bade, Rabindra	*Caltrans District 12*
Becha, Karishma	*Caltrans Headquarters*
Carpio, Wellvin	*LA Metro*
Chan, Jenny	*RCTC*
Cooper, Keith	*ERP*
Emery, Edward	*RCTC*
Galbreath, Holly	*Ventura County APCD*
Garfio, Angel	*OCTA*
Huddleston, Lori	*LA Metro*
Kahrs, Jacqueline	*Caltrans Headquarters*
Kang, Peter	*Caltrans Headquarters,*
Kelly, Tom	*US EPA Region 9*
Lee, David	*Caltrans District 8*
Lugaro, Julie	*Caltrans District 12*
Marroquin, Nancy	*LA Metro*
Masters, Martha	*RCTC*
Miranda, Jude	*Caltrans District 12*
Moran, Nohemi	*SBCTA*
Morris, Michael	*FHWA*
Richmai, Michael	*LA Metro*
Tavitas, Rodney	*Caltrans Headquarters*
Yan, Cheng	*FHWA, California Division*
Yoon, Andrew	*Caltrans District 7*

TRANSPORTATION CONFORMITY WORKING GROUP

MEETING SUMMARY

1. CALL TO ORDER AND SELF-INTRODUCTIONS

Andrew Yoon, TCWG Chair, called the meeting to order at 10:02 a.m.

2. PUBLIC COMMENT PERIOD

None.

3. CONSENT CALENDAR

3.1. May 23, 2023 TCWG Meeting Minutes

The meeting minutes were deferred to next TCWG meeting.

4. INFORMATION ITEMS

4.1. RTP Update

Nancy Lo, SCAG, reported the following:

- SCAG received federal approval of the transportation conformity determination for Connect SoCal Amendment No. 3 and 2023 FTIP Consistency Amendment #23-03 on June 9, 2023.
- SCAG staff thanked all involved state and federal agencies staff for the review and approval of Connect SoCal Amendment No. 3 and 2023 FTIP Consistency Amendment #23-03, including the associated transportation conformity analysis.

4.2. FTIP Update

John Asuncion, SCAG, reported the following:

- SCAG staff would present and highlight major changes to the Draft 2025 FTIP Guidelines since the 2023 FTIP Guidelines for interagency consultation at the August 22, 2023 TCWG meeting.
- Project information for the Consistency Amendment to the 2024 RTP is due to SCAG on August 1, 2023.

In response to John Asuncion's question, Jacqueline Kahrs, Caltrans Headquarters, stated that beginning with the 2023 FSTIP cycle, Caltrans Headquarters requested all MPOs to include the conformity documentations as part of the submittals of the 2023 FTIP to Caltrans. At the time of approval of the 2023 FSTIP on December 16, 2022, FHWA also provided approval of each MPO's conformity analysis. This was a new process in California to replace federal approval letters that MPOs received in previous years for their conformity determinations.

Michael Morris, FHWA, confirmed Jacqueline's statements and added that federal approval of conformity determinations for RTP/FTIP and amendments would be provided electronically through the CTIP database, including federal approval date. In contrast, federal approval letters would continue to be produced for project level conformity determinations.

4.3. Status Update on Regional Transportation Conformity Lockdown

Lijin Sun, SCAG, reported the following:

- SCAG staff sincerely thanked all involved EPA and ARB staff, particularly Karina O'Connnor and Nesamani Kalandiyur, for their tremendous effort in resolving the regional transportation conformity lockdown within a very short period of time.
- SCAG's Regional Council adopted the conformity determination as part of their approval of SCAG's Connect SoCal Amendment 3 and 2023 FTIP Consistency Amendment on June 1, 2023.
- Caltrans Headquarters, FHWA, and FTA approved the final conformity determination of the 2020 RTP and 2023 FTIP Amendments on June 9, 2023. With their timely approval, the $26 billion worth of important transportation

projects can now resume their implementation.

4.4. EPA Update

In response to questions from Lijin Sun, SCAG, Tom Kelly, EPA, reported the following:

- There was no imminent release date for EPA's finalized contingency measures guidance at this time.
- There was no update on EPA guidance on the Transportation Control Measures Most Stringent Measure (MSM) analysis. Tom would discuss with Karina O'Connor, EPA, to provide an update at the next TCWG meeting.

4.4a Status Update on the SCAQMD Lawsuit against EPA (Case No. 2:23-cv-02646)

No updates provided.

4.5. ARB Update

No representatives present to provide an update.

4.6. Air Districts Update

4.6.1. Status Update on EPA Final Limited Disapproval of Reasonable Available Control Technology Demonstrations for Sources Covered by the EPA's 2016 Oil and Gas Control Techniques Guidelines for VCAPCD

Holly Galbreath, VCAPCD, reported the following:

- VCAPCD revised Rule 71.1 to meet EPA requirements.
- The revised Rule 71.1 would be presented to VCAPCD Advisory Group on June 27, 2023, with anticipated adoption by the VCAPCD Governing Board in July 2023.

4.6.2. Status Update on EPA Proposed Limited Disapproval of SCAQMD Rules 1106, 1106.1, and 1107; Final Limited Disapproval of SCAQMD Rule 1118; Final Limited Disapproval of Reasonable Available Control Technology Demonstrations for Sources Covered by the EPA's 2016 Oil and Gas Control Techniques Guidelines for SCAQMD; Failure to Submit Contingency Measures for the 2008 8-Hour Ozone NAAQS for Coachella Valley Ozone Nonattainment Area; Failure to Submit State Implementation Plan Submissions for the 2012 Fine Particulate Matter National Ambient Air Quality Standards

No representatives present to provide an update.

4.6.3. Status Update on EPA Final Limited Disapproval of MDAQMD Rule 1160; Final Disapproval of MDAQMD Rule 315; Failure to Submit Contingency Measures for the 2008 8-Hour Ozone NAAQS for San Bernardino County Portion of West Mojave Desert Ozone Nonattainment Area; Proposed Limited Disapproval of MDAQMD Rules 1301, 1302, 1303, 1304, and 1305; and Final Limited Disapproval of MDAQMD Rule 1157

Lijin Sun, SCAG, reported on behalf of MDAQMD:

- The final limited disapproval of MDAQMD Rule 1157 was published in the Federal Register on June 16, 2023 and would become effective July 17, 2023.
- On June 19, 2023, MDAQMD staff provided preliminary draft amended rule language to EPA for review. Upon EPA's satisfaction of the preliminary draft amended rule language, MDAQMD staff would proceed with the public process to develop and adopt the amended Rule 1157.

Tom Kelly, EPA, stated that EPA issued an interim final determination in the Federal Register on April 7, 2023 to defer the sanctions caused by EPA final limited disapproval of MDAQMD Rule 1160.

4.6.4. Status Update on EPA Final Limited Disapproval of AVAQMD Rule 315; Failure to Submit Contingency Measures for the 2008 8-Hour Ozone NAAQS for Antelope Valley Portion of West Mojave Desert Ozone Nonattainment Area; and Proposed Limited Disapproval of AVAQMD Rules 1301, 1302, 1303, 1304, 1305, and 1309

No representatives present to provide an update.

5. INFORMATION SHARING

Lijin Sun, SCAG, acknowledged and thanked Andrew Yoon for chairing the TCWG meetings from July 2022 through June 2023 and announced that Rabindra Bade, Caltrans District 12, would be chairing TCWG meetings for the next fiscal year from July 2023 through June 2024.

6. ADJOURNMENT

The next meeting of the TCWG will be held on Tuesday, July 25, 2023 via in-person, Zoom, and teleconference. Please submit PM Hot Spot Analysis Interagency Review Forms for the next meeting to Lijin Sun, sunl@scag.ca.gov, by Tuesday, July 11, 2023.

REGIONAL CONFORMITY DETERMINATIONS

2020-2045 RTP/SCS (Connect SoCal) Amendment #3 Transportation Conformity Determination

SCAG received approval of the transportation conformity determination for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal) Amendment#3 and the 2023 Federal Transportation Improvement Program (FTIP) Consistency Amendment #23-03 from the FHWA/FTA on June 9, 2023.

2023 FTIP and 2020-2045 RTP/SCS (Connect SoCal) Amendment #2 Transportation Conformity Determination

SCAG received approval of the transportation conformity determination for the 2023 Federal Transportation Improvement Program (FTIP) and the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Amendment No. 2 from the Federal Highway Administration (FHWA) and the Federal Transit

#	COUNTY	LEAD AGENCY	RTP ID	SYSTEM	ROUTE #	DESCRIPTION	COMPLETION YEAR	COST ($1,000's)	FISCAL IMPACT	REASON FOR AMENDMENT
8	IMPERIAL	CALTRANS	IMP0042A	STATE HIGHWAY	98	IN AND NEAR CALEXICO FROM 0.6 KM WEST OF SR 111 EASTERLY TO ALAMO RIVER BRIDGE WIDEN TO 4 LANE HWY (ENV. WORK & DOC. FOR SR98) ENVIRONMENTAL WORK AND DOCUMENTATION FOR SR 98	EXISTING: 2024 REVISED: 2030	$11,621	NONE	REVISED SCHEDULE
9	IMPERIAL	VARIOUS AGENCIES	6120006	TRANSIT		CONSTRUCT CALEXICO INTERMODAL TRANSPORTATION CENTER	2027	EXISTING: $9,467 REVISED: $13,000	PROJECT COST INCREASE	REVISED PROJECT COST
10	IMPERIAL	VARIOUS AGENCIES	6160001	TRANSIT		CALEXICO EAST PORT OF ENTRY INTERMODAL TRANSPORTATION CENTER	EXISTING: 2025 REVISED: 2038	EXISTING: $7,000 REVISED: $10,000	PROJECT COST INCREASE	REVISED SCHEDULE, REVISED PROJECT COST
11	LOS ANGELES	SANTA CLARITA	LA9708004	LOCAL HIGHWAY		SANTA CLARITA PARKWAY FROM BOUQUET CYN RD/SOLEDAD CYN INSTALL NEW ROADWAY (0 TO 4 LANES) (2.5 MILE)	EXISTING: 2025 REVISED: 2029	$17,550	NONE	REVISED SCHEDULE
12	LOS ANGELES	LOS ANGELES COUNTY MTA (METRO)	1TR1011	TRANSIT		WEST SANTA ANA BRANCH TRANSIT CORRIDOR LRT	EXISTING: 2028 REVISED: 2035	EXISTING: $6,433,400 REVISED: $4,902,193	PROJECT COST DECREASE	REVISED SCHEDULE, REVISED PROJECT COST
13	LOS ANGELES	LOS ANGELES COUNTY MTA (METRO)	1162T017	TRANSIT		EXISTING: BRT CONNECTOR ORANGE/RED LINE TO GOLD LINE REVISED: BRT CONNECTOR G LINE (ORANGE)/B LINE (RED) TO PASADENA CITY COLLEGE	EXISTING: 2024 REVISED: 2026	EXISTING: $267,000 REVISED: $317,000	PROJECT COST INCREASE	REVISED PROJECT SCOPE, REVISED SCHEDULE, REVISED PROJECT COST

2023 Federal Transportation Improvement Program
Consistency Amendment #23-03 to the 2020 Connect SoCal (2020 RTP/SCS) Amendment #3
Los Angeles County MTA
Public Comparison Report
(in $000's)

										LTF	'	65,042	0	161,637	226,679										
										MEA_R	'PRIOR	0	0	14,301	14,301										
										MEA_R	'	0	0	14,301	14,301										
										PTMISEA	'PRIOR	0	60,376	74,724	135,100										
										PTMISEA	'	0	60,376	74,724	135,100										
										STIP-AC	'PRIOR	0	0	14,400	14,400										
										STIP-AC	'	0	0	14,400	14,400										
										STP-RIP	'PRIOR	2,590	0	0	2,590										
										STP-RIP	'	2,590	0	0	2,590										
										TIFIA	'PRIOR	0	0	160,000	160,000										
										TIFIA	'	0	0	160,000	160,000										
Agency:	LOS ANGELES COUNTY MTA									Project TOTALS:		67,632	115,889	1,586,621		1,770,142	1,698,484	71,658	0	0	0	0	0		
SCAG Change Reason	NEW PROJECT																								
Pct_Change	+0%		Cost_Difference		+$0		Status			Programmed															

Co.	Sys	RTPID	Project ID	Amd	Ver	Program	Rt	PMB	PME	Total Project Cost															
Los Angeles	Transit	2016A319	LA0G1092	23-00	9	TRN92				$10,500															
Lone Hill Avenue to Control Point (CP) White Double Track. With the proposed 3.9 mile project segment, an existing siding will be lengthened to provide 8.1 miles of continuous double track between Lone Hill Ave and CP Central.																									
										Fund	Fiscal Year	ENG	ROW	CON	Fund Total	Total Programmed	Prior	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28		
										MR03	'22/23	10,500	0	0	10,500										
										MR03	'	10,500	0	0	10,500										
Agency:	LOS ANGELES COUNTY MTA									Project TOTALS:		10,500	0	0		10,500	0	10,500	0	0	0	0	0		
SCAG Change Reason	Carry over from 21TIP																								

Co.	Sys	RTPID	Project ID	Amd	Ver	Program	Rt	PMB	PME	Total Project Cost															
Los Angeles	Transit	2016A319	LA0G1092	23-03	11	TRN92				$10,500															
Lone Hill Avenue to Control Point (CP) White Double Track. With the proposed 3.9 mile project segment, an existing siding will be lengthened to provide 8.1 miles of continuous double track between Lone Hill Ave and CP Central.																									
										Fund	Fiscal Year	ENG	ROW	CON	Fund Total	Total Programmed	Prior	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28		
										MR03	'22/23	10,500	0	0	10,500										
										MR03	'	10,500	0	0	10,500										
Agency:	LOS ANGELES COUNTY MTA									Project TOTALS:		10,500	0	0		10,500	0	10,500	0	0	0	0	0		
SCAG Change Reason	SCHEDULE DELAY																								
Pct_Change	+0%		Cost_Difference		+$0		Status			Programmed															

Co.	Sys	RTPID	Project ID	Amd	Ver	Program	Rt	PMB	PME	Total Project Cost															
Los Angeles	Transit	1TR1017	LA0G1094	23-00	8	PLN40				$57,189															
The West Santa Ana Transit Corridor Project																									
										Fund	Fiscal Year	ENG	ROW	CON	Fund Total	Total Programmed	Prior	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28		
										MEA_R	'PRIOR	18,070	0	0	18,070										
										MEA_R	'22/23	18,500	0	0	18,500										
										MEA_R	'	36,570	0	0	36,570										
										PC25	'PRIOR	119	0	0	119										
										PC25	'	119	0	0	119										
										SB1	'22/23	18,500	0	0	18,500										
										SB1	'	18,500	0	0	18,500										
										TOD	'PRIOR	2,000	0	0	2,000										
										TOD	'	2,000	0	0	2,000										
Agency:	LOS ANGELES COUNTY MTA									Project TOTALS:		57,189	0	0		57,189	20,189	37,000	0	0	0	0	0		
SCAG Change Reason	Carry over from 21TIP																								

2023 Federal Transportation Improvement Program
Consistency Amendment #23-03 to the 2020 Connect SoCal (2020 RTP/SCS) Amendment #3
Los Angeles County MTA
Public Comparison Report
(in $000's)

Co.	Sys	RTPID	Project ID	Amd	Ver	Program	Rt	PMB	PME	Total Project Cost
Los Angeles	Transit	1TR1017	LA0G1094	23-03	10	PLN40				$57,189

LPA of 14.8-mile segment from Pioneer Station in the City of Artesia to the Slauson/A line Station.

Fund	Fiscal Year	ENG	ROW	CON	Fund Total	Total Programmed	Prior	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28
MEA_R	'PRIOR	18,070	0	0	18,070								
MEA_R	'22/23	18,500	0	0	18,500								
MEA_R	'	36,570	0	0	36,570								
PC25	'PRIOR	119	0	0	119								
PC25	'	119	0	0	119								
SB1	'22/23	18,500	0	0	18,500								
SB1	'	18,500	0	0	18,500								
TOD	'PRIOR	2,000	0	0	2,000								
TOD	'	2,000	0	0	2,000								
Project TOTALS:		57,189	0	0		57,189	20,189	37,000	0	0	0	0	0

Agency:	LOS ANGELES COUNTY MTA						
SCAG Change Reason	SCHEDULE DELAY, SCOPE CHANGE						
Pct_Change	+0%	Cost_Difference	+$0	Status	Programmed		

Co.	Sys	RTPID	Project ID	Amd	Ver	Program	Rt	PMB	PME	Total Project Cost
Los Angeles	Transit	1TR0101	LA0G1162	23-00	11	TRNH6				$839,485

Airport Metro Connector.

Fund	Fiscal Year	ENG	ROW	CON	Fund Total	Total Programmed	Prior	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28
5307-TR	'PRIOR	12,542	0	0	12,542								
5307-TR	'	12,542	0	0	12,542								
EARREPU	'PRIOR	2,393	0	0	2,393								
EARREPU	'	2,393	0	0	2,393								
MEA_R	'PRIOR	30,065	0	0	30,065								
MEA_R	'22/23	0	0	70,421	70,421								
MEA_R	'	30,065	0	70,421	100,486								
MM35	'PRIOR	0	81,021	72,703	153,724								
MM35	'22/23	0	0	193,292	193,292								
MM35	'	0	81,021	265,995	347,016								
PC25	'22/23	0	0	62,235	62,235								
PC25	'	0	0	62,235	62,235								
PROPA	'PRIOR	0	0	24,581	24,581								
PROPA	'22/23	0	0	100,232	100,232								
PROPA	'	0	0	124,813	124,813								
SB1-CC	'PRIOR	0	0	150,000	150,000								
SB1-CC	'	0	0	150,000	150,000								
TIRCP	'PRIOR	0	0	40,000	40,000								
TIRCP	'	0	0	40,000	40,000								
Project TOTALS:		45,000	81,021	713,464		839,485	413,305	426,180	0	0	0	0	0

Agency:	LOS ANGELES COUNTY MTA						
SCAG Change Reason	Carry over from 21TIP						

PROJECT LEVEL CONFORMITY

Project-Level Conformity Contact List
PM Hot-Spot Interagency Review Form Template
Caltrans Conformity Streamlining Exemption Form

This is a list of PM hot spot interagency review forms, qualitative analyses, and quantitative analyses that have been or will be reviewed by the Transportation Conformity Working Group (TCWG). The titles include the FTIP Project ID where available, and any determinations made by the TCWG (POAQC = Project of Air Quality Concern).

LAOG1094

All Categories

APPLY

File Description:

LAOG1094 – Not a POAQC – Hot Spot Analysis Not Required

Completion Date:

01/26/2021

Category:

PM Hot Spot

Downloads:

LAOG1094