

West Santa Ana Branch Transit Corridor

Final Greenhouse Gas Emissions Impact Analysis Report



Metro®

WEST SANTA ANA BRANCH TRANSIT CORRIDOR PROJECT

Final Greenhouse Gas Emissions Impact Analysis Report

Prepared for:



Metro[®]

Los Angeles County
Metropolitan Transportation Authority

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Appendix

APPENDIX A: GREENHOUSE GAS EMISSIONS CALCULATION WORKSHEETS

ACRONYMS AND ABBREVIATIONS

Acronyms	Definition
AA	Alternatives Analysis
AB	Assembly Bill
APTA	American Public Transportation Association
Cal/EPA	California Environmental Protection Agency
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CalSTA	California State Transportation Agency
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CAPTl	Climate Action Plan for Transportation Infrastructure
CARB	California Air Resources Board
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CH ₄	methane
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
ECMP	Energy Conservation and Management Plan
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
EMFAC	CARB EMISSION FACTOR
EO	Executive Order
FTA	Federal Transit Administration
GHG	greenhouse gas
GWP	Global Warming Potential
I-	Interstate
IPCC	Intergovernmental Panel on Climate Change
LA	Los Angeles
LAX	Los Angeles International Airport
LEED	Leadership in Energy and Environmental Design
LPA	Locally Preferred Alternative
LRT	light rail transit

Acronyms	Definition
LRTP	Long Range Transportation Plan
LRV	light rail vehicle
Metro	Los Angeles County Metropolitan Transportation Authority
MMTCO ₂ e	million metric tons of CO ₂ e
mph	miles per hour
MSF	maintenance and storage facility
MTCO ₂ e	metric tons of CO ₂ e
N ₂ O	nitrous oxide
NEPA	National Environmental Policy Act
NOP	Notice of Preparation
OPR	Office of Planning and Research
PEROW	Pacific Electric Right-of-Way
Project	West Santa Ana Branch Transit Corridor Project
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
SCE	Southern California Edison
SR	State Route
TPSS	traction power substation
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled
VRM	vehicle revenue miles
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 Report¹ 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 Report Purpose and Structure

This Impact Analysis Report examines the environmental effects of the Project as it relates to greenhouse gas (GHG) emissions. The report is organized into nine sections:

- Section 1 – Introduction
- Section 2 – Project Description
- Section 3 – Regulatory Framework
- Section 4 – Affected Environment / Existing Conditions
- Section 5 – Environmental Consequences / Environmental Impacts
- Section 6 – California Environmental Quality Act Determination
- Section 7 – Construction Impacts
- Section 8 – Project Measures and Mitigation Measures
- Section 9 – References

1.5 General Background

The Affected Area for the GHG emissions analysis is the six-county geographic region under SCAG jurisdiction. The term GHG refers to a group of chemical compounds that are generally believed to affect global climate conditions. The “greenhouse effect” is a process by which certain atmospheric gases absorb energy from sunlight within the Earth’s atmosphere and prevent it from being released back into space. This mechanism is responsible for maintaining a warm, habitable environment on the planet’s surface based on the equilibrium concentrations of the gases. The GHGs most prominently associated with man-made sources include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The global warming potential (GWP) is a metric that indicates the relative climate forcing effect of a kilogram of pollutant emissions averaged over a specified timeframe. GWP has been calculated for each GHG to reflect the atmospheric residence time and how strongly it absorbs energy relative to CO₂ on a per-kilogram basis. Table 1.1 shows 20-year and 100-year horizons used for the GWPs. To account for the higher relative potential, emissions of other GHGs are frequently

expressed in CO₂ equivalents (CO₂e) by multiplying the mass emissions by the corresponding GWP value for the averaging period.

Table 1.1. Global Warming Potential for Selected Greenhouse Gases

Pollutant	Lifetime (Years)	Global Warming Potential (20-Year)	Global Warming Potential (100-Year)
Carbon Dioxide (CO ₂)	100	1	1
Nitrous Oxide (N ₂ O)	121	264	265
Methane (CH ₄)	12	84	28

Source: Intergovernmental Panel on Climate Change, 2014

Long-term and irrevocable shifts in weather—including changes in temperature, precipitation, and seasonal patterns—are referred to as climate change. According to the Intergovernmental Panel on Climate Change (IPCC) (IPCC 2014), anticipated effects of climate change caused by GHG emissions include sea-level rise, climate-related hazards, extinction of species, species migration, reduced food production, exacerbated health problems, slower economic growth, and displacement of people. Possible effects of climate change along the California Coast include:

- Sea-level rise that threatens coastal wetlands, infrastructure, and property
- Increased storm activity, together with sea-level rise, could increase beach erosion and cliff undercutting
- Warmer temperatures and more frequent storms due to El Niño that bring more rain instead of snow to the Sierra Nevada Mountains, reducing the supply of water for summer needs
- Decreased summer runoff and warming ocean temperatures that affect salinity, water circulation, and nutrients in the Pacific Ocean, possibly leading to complex changes in marine life

1.6 Methodology

Environmental impacts and consequences resulting from the generation of GHG emissions were analyzed for the No Build Alternative and the LPA. The NEPA analysis focuses on potential environmental impacts relative to the No Build Alternative in 2042. However, there are no specific criteria or thresholds codified at the federal level for determining whether implementing a proposed light rail project would have an adverse environmental effect related to GHG emissions under NEPA. The Council on Environmental Quality (CEQ) issued interim *NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change* in January 2023 to provide a framework of the analytical approach for NEPA practitioners and agencies to evaluate GHG emissions (CEQ 2023). Consistent with section 102(2)(C) of NEPA, federal agencies must disclose and consider the reasonably foreseeable effects of proposed actions, including the extent to which a proposed action and its reasonable alternatives would result in reasonably foreseeable GHG emissions that contribute to climate change.

In 2017, the Federal Transportation Administration (FTA) published a programmatic study of NEPA transit projects and their associated GHG emissions titled *Greenhouse Gas Emissions from Transit Projects: Programmatic Assessment* (FTA 2017). The programmatic assessment determined that in general, light rail projects with a high proportion of displaced vehicle

miles traveled (VMT) to annual transit VMT, regardless of length, alignment, and number of stations, consistently result in a net reduction in GHG emissions. The FTA encourages including reference to the conclusions of the programmatic assessment in considering GHG emissions from proposed transit planning projects. GHG emissions that will be generated by construction and operation of the LPA—as well as displaced emissions due to transportation mode shift—are quantified and disclosed for informational purposes.

To satisfy CEQA requirements, GHG emission impacts are analyzed in accordance with Appendix G of the *CEQA Guidelines* and considered significant if the Project has the potential to:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions

The state CEQA Guidelines recommend that the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the determinations above. Although South Coast Air Quality Management District (SCAQMD) has a regulatory role in the South Coast Air Basin, it has not adopted or proposed any quantitative thresholds that would be applicable to the proposed LRT corridor. Neither the California Air Resources Board (CARB), Office of Planning and Research (OPR), SCAQMD, nor Metro have officially promulgated specific thresholds for analyzing GHG emissions under CEQA. CARB and OPR acknowledge that transforming public transit systems and reducing VMT is an effective climate adaptation strategy. OPR recommends the streamlining of GHG emissions impacts analyses for transit and active transportation projects because these projects reduce GHG emissions, increase multimodal transportation networks, and facilitate mixed-use development, which are crucial land use planning initiatives for climate adaptation. As such, project GHG emissions are quantified and assessed in the context of the existing GHG emissions inventory, the Metro systemwide GHG emissions displacement, and climate adaptation plans and policies.

Operational GHG emission sources will include indirect GHG emissions through consumption of electricity for rail system propulsion, direct sources associated with MSF operations (i.e., employee vehicle trips and facility energy consumption, water use, and waste disposal), and displaced emissions from changes in on-road vehicular traffic patterns along the LRT corridor resulting from transportation mode shift reflected in roadway network VMT. The MSF is a critical component of the LPA and will not be implemented independently. GHG emissions generated by construction and operation of the MSF are accounted for in each analysis of the LPA and presented separately for informational purposes. Detailed calculations for GHG emissions for both construction and operation are shown in Appendix A.

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) and the CARB Emission FACTor (EMFAC) mobile source emissions inventory model used to complete the GHG emissions analysis for the Draft EIS/EIR.

The Draft EIS/EIR used CalEEMod Version 2016.3.2 and EMFAC2017 to estimate GHG 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 2022c) 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 electricity at LPA stations and parking facilities and the associated indirect GHG emissions. CalEEMod 2020.4.0 was also used to estimate construction GHG emissions, which are discussed in greater detail in Section 7 of this report.

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 2022d]), and whether these regulatory developments were accounted for in the Draft EIS/EIR analysis. The operational on-road mobile source emissions analysis described in the Draft EIS/EIR used the EMFAC2017 version of the CARB mobile source emissions inventory application to estimate GHG emissions, which was released prior to adoption of the Advanced Clear 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. This adjustment within the EMFAC database results in greater reductions in GHG emissions on aggregate average throughout the on-road vehicle fleet between 2017 and 2042. Therefore, the reduction in GHG emissions associated with changes in on-road vehicle travel is higher in the Final EIS/EIR analysis than the reduction described in the Draft EIS/EIR.

Comments were received regarding the methodology for estimating and disclosing indirect GHG emissions that would be generated through the consumption of electricity to power the light rail vehicles (LRVs) traversing the LRT alignment. The Draft EIS/EIR methodology relied on average Metro systemwide energy consumption per vehicle revenue mile to estimate indirect GHG emissions attributed to rail propulsion. The GHG methodology in the Final EIS/EIR is updated to first estimate the specific electricity consumption of LPA rail propulsion, and then quantify the GHG emissions using the estimated electricity consumption and a carbon intensity factor for electricity supplied and delivered by Southern California Edison (SCE) in the operational design year of 2042. Use of the updated methodology results in overall higher energy consumption for LPA operations. However, the associated GHG emissions are still reduced due to the availability of newer SCE delivered power carbon intensity factors available in the CalEEMod default data appendix (CAPCOA 2023).

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 in the *West Santa Ana Branch Transit Corridor Project Construction Methods Report* (Metro 2024a). Construction of the MSF is reduced from three years to two years. Overall, the pushback and extension of the construction schedule results in marginally higher total GHG emissions for construction of the LPA alignment, stations, and parking facilities, while the shortening of MSF construction reduces the overall magnitude of emissions associated with that component of the LPA relative to emissions presented in the Draft EIS/EIR.

For completeness, the Final EIS/EIR characterization of existing conditions is updated to include more recent data pertaining to the statewide GHG emissions inventory that is compiled by CARB. Table 4.6.4 in the Draft EIS/EIR is updated to include emissions data through 2020 (as shown in Table 4.1 of this report). Additionally, the discussion of Metro system GHG emissions is updated to reflect data collected after the established environmental analyses existing conditions year of 2017 up through 2019.

The GHG emissions impact conclusions presented in the Draft EIS/EIR remain unchanged in this Final EIS/EIR, including in respect to Alternative 3. The LPA, including with the MSF, will reduce regional GHG emissions relative to the No Build Alternative in the horizon year of 2042, resulting in a net environmental benefit to the Affected Area. The updated analysis for the Final EIS/EIR determined that the environmental benefit related to GHG emissions reductions will be even greater than those disclosed for Alternative 3 in the Draft EIS/EIR using the updated methodology developed in response to comments submitted on the Draft EIS/EIR and best available data and tools. The LPA with the design option would not change GHG emissions without the design option. Therefore, the LPA will not result in adverse effects related to the consumption of GHG emissions, and no minimization or mitigation measures will be required.

The Final EIS/EIR analysis estimates that construction of the LPA alignment, stations, and parking facilities will generate approximately 25,982 metric tons of carbon dioxide equivalent (MTCO_{2e}), which equates to a 30-year amortized rate of 866 MTCO_{2e} per year. Additionally, construction of the MSF will generate a total of 2,455 MTCO_{2e} over the two-year duration, equating to a 30-year amortized rate of 82 MTCO_{2e} annually. The total amortized GHG emission rate for the LPA including the MSF will be 948 MTCO_{2e} per year, while the Draft EIS/EIR analysis disclosed that construction of Alternative 3 would generate an amortized rate of 828 MTCO_{2e} per year. Temporary GHG emissions will be generated to construct an energy-efficient mass transit line connecting underserved communities that will reduce long-term regional GHG emissions through transportation mode shift and provide substantial environmental benefits during future long-term operation. GHG impact conclusions presented in the Draft EIS/EIR remain unchanged in this Final EIS/EIR, including in respect to Alternative 3. The LPA, including MSF, will not result in adverse effects related to GHG emissions during construction. The LPA with the design option would not change GHG emissions.

1.6.1 Regional Roadway Vehicle Travel

Implementation of the LPA will introduce a new LRT corridor that will provide an alternative mode of transit to automobile use, which will induce transportation mode shift and substitute passenger vehicle trips. Metro recognizes transportation mode shift as the predominant contributor to displacing GHG emissions related to the transportation sector,

which is at the crux of policies to reduce GHG emissions at federal, state, and regional levels of regulation. Regional transportation modeling was performed to determine the change in regional on-road VMT resulting from implementation of the LPA.

Table 1.2 presents a summary of the speed-based annual VMT for the Affected Area under Existing Conditions in 2017 and with implementation of the LPA—if operational in 2017—and Table 1.3 presents the regional transportation modeling results within the Affected Area in the horizon year of 2042. On-road vehicle travel produces GHG emissions through the exhaust byproduct of transportation fuels combustion, as well as minimal secondary evaporative emissions. The CARB maintains a statewide mobile source emissions inventory and forecasting program and provides the EMFAC model for estimating air pollutant and GHG emissions from on-road mobile sources in land use development and transportation projects in California.

Table 1.2. Affected Area Annual Vehicle Miles Traveled (Millions) – 2017 Scenarios

Speed Range (mph)	2017 Scenario (in million VMT)	
	Existing Conditions	Existing + Locally Preferred Alternative
0-5	1,015	1,015
5-10	1,823	1,820
10-15	4,775	4,759
15-20	10,204	10,240
20-25	21,580	21,522
25-30	23,328	23,448
30-35	20,552	20,429
35-40	12,829	12,832
40-45	7,916	7,904
45-50	5,877	5,882
50-55	5,853	5,881
55-60	5,605	5,597
60-65	7,630	7,652
65-70	12,385	12,350
70-75	19,310	19,325
75-80	65	65
Annual Total	160,746	160,721
Change from Existing Conditions¹	–	(25)
Percent Change vs. Existing Condition	–	(0.016%)

Source: WSP 2020

Notes: ¹ Change from Existing Condition = Difference of the Locally Preferred Alternative total and the No Build Alternative annual total

mph = miles per hour; VMT = vehicle miles traveled; () = decrease

Table 1.3. Affected Area Annual Vehicle Miles Traveled (2042 Scenarios)

Speed Range (mph)	2042 Scenario (in million VMT)	
	No Build Alternative	Locally Preferred Alternative
0-5	2,832	2,818
5-10	7,701	7,719
10-15	13,037	13,033
15-20	20,127	20,104
20-25	29,776	29,856
25-30	30,471	30,450
30-35	23,957	23,868
35-40	15,655	15,723
40-45	6,941	6,918
45-50	5,860	5,918
50-55	5,257	5,166
55-60	7,230	7,236
60-65	9,968	9,915
65-70	16,993	17,069
70-75	14,543	14,510
75-80	48	48
Annual Total	210,396	210,351
Change vs. No Build Alternative ¹	—	(45)
Percent Change vs. No Build Alternative	—	(0.022%)

Source: WSP, 2020

Notes: ¹ Change from Existing Condition = Difference of the Locally Preferred Alternative total and the No Build Alternative annual total

mph = miles per hour; VMT = vehicle miles traveled; () = decrease

Mobile source GHG emissions from on-road vehicle travel within the Affected Area in 2042 were quantified using the CARB EMFAC2021 version of the model. The EMFAC2021 model produces GHG emission factors in units of grams of GHG pollutant emitted per VMT (grams/VMT) for CO₂, CH₄, and N₂O based on variables including regional location, vehicle type, and vehicle speed in a specified analysis year using statewide emissions inventory data and accounting for fleet turnover as well as the phasing-in of mandated improvements to fuel efficiency and engine technologies. Regional transportation modeling determined that the vehicle fleet mix within the Affected Area was approximately seven percent trucks, and it is anticipated that implementation of the LPA will predominantly affect vehicle travel within Los Angeles County.

Affected Area emission factors were produced using EMFAC2021 and off-model calculations for a regional fleet mix with seven percent trucks in the Los Angeles County portion of the

South Coast Air Basin region. The emission factors generated by EMFAC correspond to the speed bins presented in Table 1.2 and Table 1.3. The speed-specific emissions factors were multiplied by the corresponding VMT and summed for each scenario to provide a demonstrative comparison of how implementation of the LPA will affect the regional GHG emissions inventory from the transportation sector in the horizon year of 2042.

1.6.2 Rail System Electricity

In addition to induced transportation mode shift that will affect direct-source GHG emissions associated with on-road vehicle travel, implementation of the LPA will generate indirect GHG emissions through electricity consumption required to fuel rail propulsion and power stations, parking, and ancillary facilities throughout the LRT corridor. In its *2018 Energy and Resource Report*—which was prepared in accordance with the American Public Transportation Association’s *Recommended Practice “Quantifying and Reporting Transit Sustainability Metrics”*—Metro characterized its sustainability performance using a normalization factor of vehicle revenue miles (VRM), which refers to the total number of miles Metro’s vehicles travel while in revenue service (i.e., the time when a vehicle is available to the general public and there is an expectation of carrying passengers). Using VRM as the normalization factor means that air pollutant emissions (including GHG emissions) and energy consumption were evaluated on a per-vehicle-revenue-mile basis. As of 2017, electricity consumption for light rail propulsion accounted for approximately 13 percent of Metro’s systemwide GHG emissions.

Under Existing Conditions and the No Build Alternative, there would be no additional LRT system revenue service miles and no additional emissions related to electrical rail propulsion. Table 1.4 presents the additional annual LRV revenue miles that will occur with implementation of the LPA and the corresponding annual electricity consumption that will be required (provided by the SCE). The value presented accounts for a 5 percent buffer corresponding to non-revenue miles that would occur during out-of-service hours. As a conservative approach, the 2017 Metro systemwide average electricity consumption factor of 9.41 kilowatt-hours per rail VRM was used in conjunction with the carbon intensity factor of the Southern California Edison power supply to estimate GHG emissions from light rail propulsion with implementation of the LPA.

Table 1.4. Annual Light Rail Vehicle Revenue Miles – Locally Preferred Alternative

Alternative	Annual LRV Revenue Miles ¹ (VRM/year)	Annual Electricity Consumption ² (MWh/year)
No Build Alternative (2042)	—	—
Locally Preferred Alternative (2042)	1,604,323	15,098

Source: WSP 2023

Notes:

¹ Rounded to nearest hundred

² Based on Metro rail electricity consumption factor of 9.41 kilowatt-hours (kWh) per rail mile traveled.

LRV = light rail vehicle VRM = vehicle revenue miles; MWh/year = megawatt-hours per year

1.6.3 Maintenance and Storage Facility Operations

Operation of an MSF will result in GHG emissions associated with vehicle trips to and from the facility, electricity and natural gas usage, water and wastewater conveyance, and solid waste disposal. The LPA designated the Bellflower site for the location of the MSF. Estimates of GHG emissions that will be generated by sources involved in construction and operation of the MSF were quantified using CalEEMod Version 2020.4.0 (California Air Pollution Control Officers Association [CAPCOA] 2021) for the Bellflower site. The MSF will be constructed on a 21.3-acre site and comprise approximately 137,160 square feet of facility structures.

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 Branch² 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 tracks³ accommodating layover storage for a three-car train will extend approximately 1,000 feet north from the station.

La Habra Branch ROW⁴ (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.

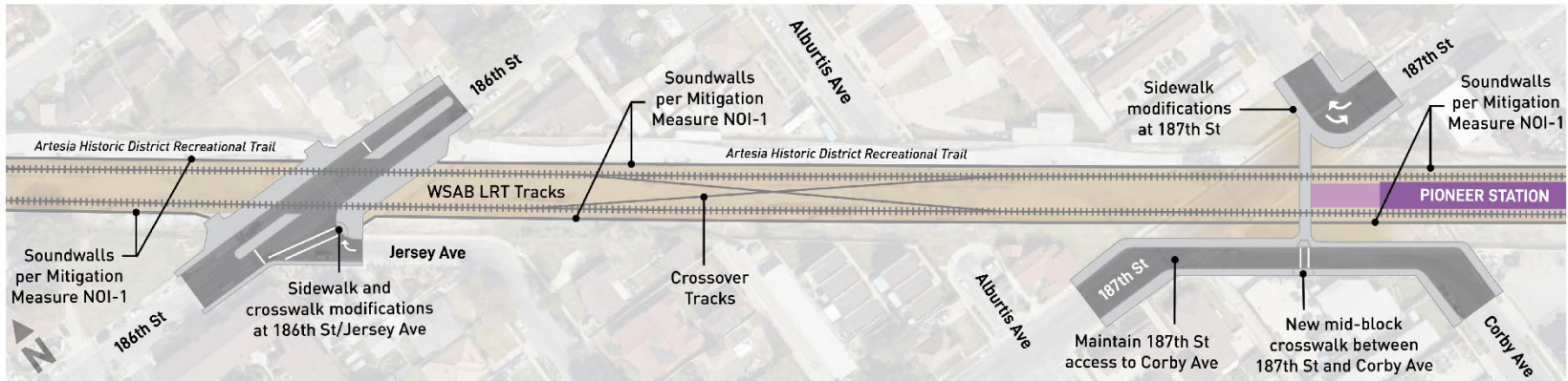
East of Artesia Boulevard, the alignment will cross beneath the I-605 freeway in an existing underpass. Southeast of the underpass, the alignment will continue at-grade, crossing Studebaker Road. North of Gridley Road, the alignment will transition to an aerial configuration to cross over 183rd Street 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

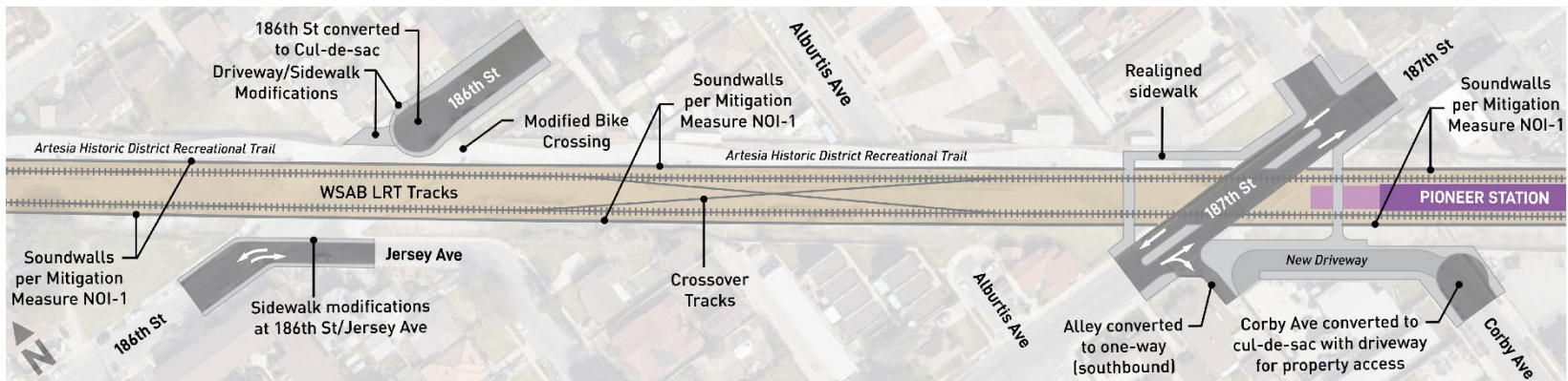
The LPA includes one design option:

- **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

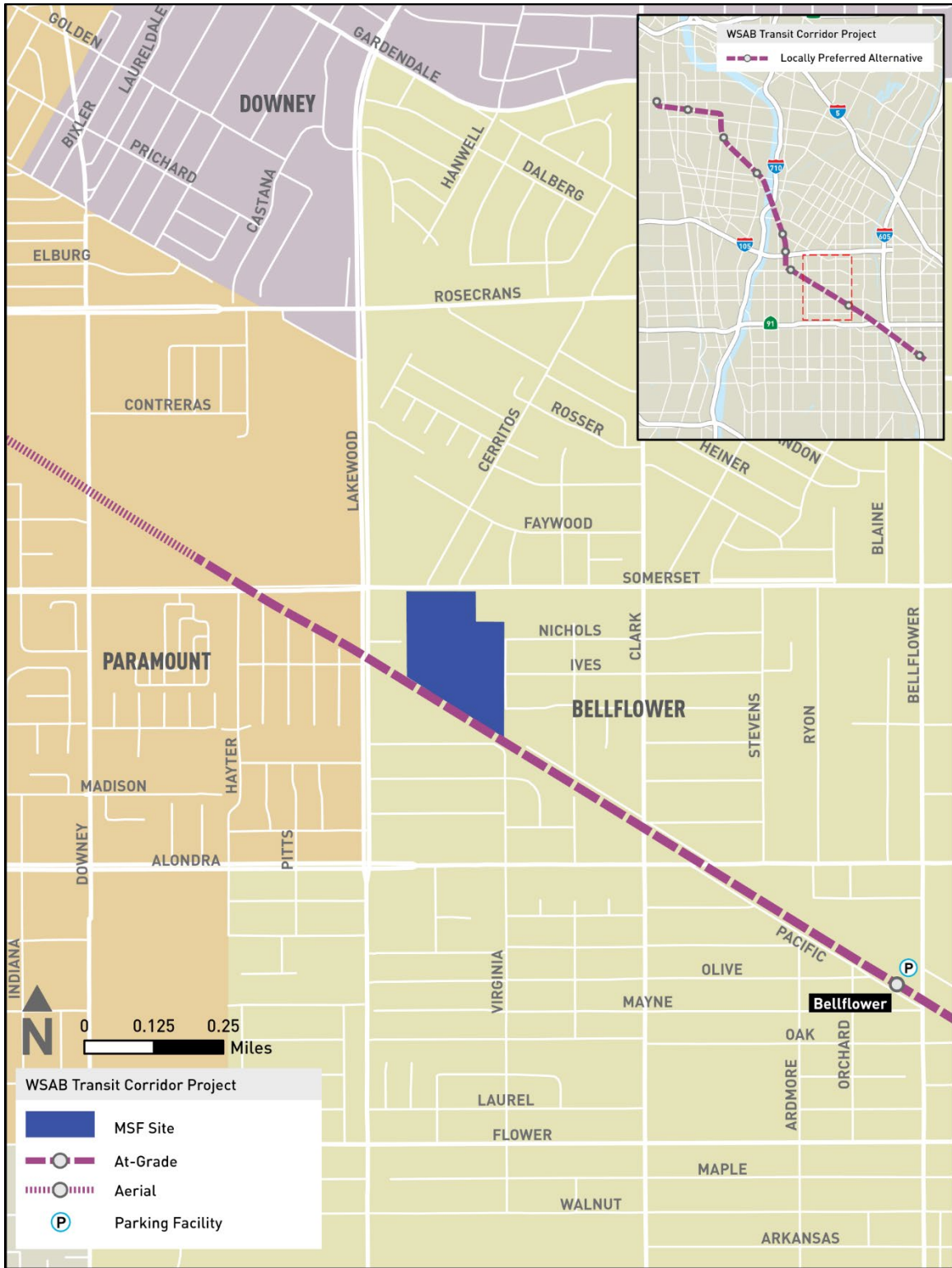
2.2.4 Maintenance and Storage Facility

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

This section identifies applicable regulations, plans, and guidance related to GHG emissions and climate change.

Federal

- Federal Clean Air Act
- United States Department of Transportation Climate Action Plan
- FTA Climate Change Adaptation Initiative
- American Public Transportation Association (APTA)
- CEQ NEPA Guidance

State

- Assembly Bill (AB) 32, Senate Bill (SB) 32, and the Climate Change Scoping Plan
- AB 1493
- SB 375
- State Cap-and-Trade Program
- SB 100
- SBs 1078/107/X 1-2
- CEQA and SB 97
- SB 743
- Executive Order (EO) S-01-07
- EO S-3-05
- EO B-16-12
- EO B-30-15
- EO B-55-18
- EO N-19-19
- EO N-79-20
- California State Transportation Agency Climate Action Plan for Transportation Infrastructure
- California Green Building Standards Code
- California Air Pollution Control Officers Association

Regional

- SCAG RTP/SCS
- SCAQMD Policy on Global Warming and Stratospheric Ozone Depletion
- Metro Energy Conservation and Management Plan
- Metro Green Construction Policy
- Metro Countywide Sustainability Planning Program
- Metro Resiliency Indicator Framework Report
- Metro Climate Action and Adaptation Plan
- Metro Moving Beyond Sustainability Strategic Plan

Local

- City of Los Angeles Green LA Climate Action Plan
- City of Los Angeles ClimateLA Municipal Program
- City of Los Angeles Sustainable City pLAN and LA's Green New Deal
- City of Los Angeles Zero Emissions 2028 Roadmap
- City of Vernon Sustainability Action Plan
- Los Angeles County – Florence-Firestone Community Climate Action Plan
- City of Cudahy 2040 General Plan – Air Quality Element
- City of South Gate General Plan – Green City Element
- City of Downey Green Task Force
- City of Bellflower Climate Action Plan
- City of Artesia General Plan – Air Quality and Climate Change Element

3.1 Federal

3.1.1 Federal Clean Air Act

The Clean Air Act is the law that defines the United States Environmental Protection Agency (USEPA) responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. The United States Supreme Court ruled in *Massachusetts v. Environmental Protection Agency* (2007), 127 S.Ct. 1438, that the USEPA has authority to regulate CO₂ and other GHGs as pollutants under the federal Clean Air Act. On December 7, 2009, the USEPA promulgated two distinct findings regarding GHG emissions: 1) that the current and projected concentrations of the six key GHGs (CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations; and 2) that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare. Although these findings did not themselves impose any requirements, this action was a prerequisite to finalizing the USEPA's GHG emission standards for light-duty vehicles.

EO 14037, issued by President Biden on August 5, 2021, directed the USEPA and the National Highway Traffic Safety Administration to develop standards for fuel economy and GHG emissions for medium- and heavy-duty vehicles by December 2022.

In December 2021, the USEPA adopted revised national GHG emission standards for passenger cars and light trucks for model years 2023–2026.

3.1.2 United States Department of Transportation Climate Action Plan

First published in 2012 and subsequently updated in 2014 and 2021, the latest iteration of the United States Department of Transportation (USDOT) Climate Action Plan focuses on climate adaptation and resilience across agency programs and the management of federal procurement, real property, public lands and water, and financial programs. The USDOT 2012 Climate Action Plan focused on forecasted impacts of climate change on USDOT's facilities and critical mission activities (i.e., safety, state of good repair, and federally owned building environmental sustainability), and the 2014 Climate Action Plan provided an update on USDOT climate adaptation accomplishments to date and outlined commitments in FY2013 and FY2014. The 2021 Climate Action Plan contains the actions and goals presented

in Table 3.1 to address the resilience of the nation’s transportation infrastructure to future effects of climate change.

Table 3.1. USDOT Climate Action Plan 2021 Actions and Goals

Priority Action	Action Goal
Incorporate Resilience into USDOT Grant and Loan Programs	Ensure that projects supported by USDOT discretionary grant and loan programs incorporate effective climate change resiliency protective features, where possible.
Enhance Resilience Throughout Project Planning and Development	Ensure federally funded transportation projects are planned, designed, and constructed to be resilient to future climate change impacts.
Ensure Resiliency of USDOT Facilities and Operational Assets	Ensure that USDOT facilities and operational assets are resilient to the effects of climate, implementing priority adaptation actions at mission critical assets across the nation.
Ensure Climate-Ready Services and Supplies	USDOT will provide education and facilitation to support and encourage program management acquisition of innovative, novel services and supplies to advance the Department’s ability to adapt to climate change.
Improve Climate Education and Research on Resilience	Increase climate change education among internal USDOT employees and ensure continued research in development to help fill gaps in climate change knowledge and use of new technologies.

Source: USDOT 2021

Note: USDOT = United States Department of Transportation

3.1.3 Federal Transit Administration Climate Change Adaptation Initiative

The FTA has implemented a Climate Change Adaptation Initiative program to investigate potential strategies for reducing climate impacts on transit infrastructure and enhancing climate resilience. The program conducted seven climate adaptation pilot studies to increase knowledge of how transit agencies can adapt to climate change, advance the state of the practice in adapting transit assets and operations to the impacts of climate change, and build strategic partnerships between transit agencies and climate adaptation experts. The approach of the pilot projects involved identification of climate hazards and potential climatic events, characterization of risks on transit projects and operations, development of initial adaptation strategies, and linking strategies to organizational structures. Metro was selected as one of the pilot study transit systems and Metro’s *Climate Change Adaptation Pilot Project Report* (USDOT FTA 2013) was prepared to analyze climate adaptation opportunities.

3.1.4 Council on Environmental Quality

The CEQ issued interim *NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change* in January 2023 to provide a framework of the analytical approach for NEPA practitioners and agencies to evaluate GHG emissions (CEQ 2023). Consistent with section 102(2)(C) of NEPA, federal agencies must disclose and consider the reasonably foreseeable effects of proposed actions including the extent to which a proposed action and its reasonable alternatives would result in reasonably foreseeable GHG emissions that contribute to climate

change. The updated CEQ guidance identifies three steps that agencies should take when analyzing a proposed action's climate change effects under NEPA:

- i. Quantify the reasonably foreseeable GHG emissions (including direct and indirect emissions) of a proposed action, the no action alternative, and any reasonable alternatives
- ii. Disclose and provide context for the GHG emissions and alternatives
- iii. Analyze reasonable alternatives, including those that would reduce GHG emissions relative to baseline conditions, and identify available mitigation measures to avoid, minimize, or compensate for climate effects

The updated CEQ guidance states that agencies should use appropriate tools and methodologies to quantify GHG emissions, compare GHG emissions quantities across alternative scenarios, and place emissions in relevant context, including how they relate to climate action commitments and goals. The guidance further provides that agencies should exercise judgment in determining whether to apply the updated guidance to the extent practicable to an ongoing NEPA process.

3.1.5 American Public Transportation Association

The APTA prepared *Recommended Practice for Quantifying Greenhouse Gas Emissions from Transit* (APTA 2018). The report provides guidance to transit agencies for quantifying GHG emissions, including both emissions generated by transit and the potential reduction of emissions through efficiency by laying out a standard methodology for transit agencies to report their GHG emissions in a transparent, consistent, and cost-effective manner. The document was designed to ensure that agencies can provide an accurate public record of emissions; and was intended to help agencies comply with future state and federal legal requirements and potentially gain credit for their early actions to reduce emissions.

3.2 State

California has adopted a variety of statewide legislation to address various aspects of climate change and GHG emissions. The legislation is not directed at citizens or jurisdictions specifically; rather, it establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. The governor has also issued several executive orders related to the state's evolving climate change policy. The following is a summary of GHG legislation applicable to the LPA.

3.2.1 Assembly Bill 32, Senate Bill 32, and the Climate Change Scoping Plan

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required CARB to develop a scoping plan that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Climate Change Scoping Plan was first approved by the CARB in 2008 and must be updated every five years. The first update to the Climate Change Scoping Plan was approved by the Board on May 22, 2014. In 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB is moving forward with a second update to the Scoping Plan to reflect the 2030 target set by EO B-30-15.

The AB 32 Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions, including expanding energy efficiency

programs, increasing electricity production from renewable resources (at least 33 percent of the statewide electricity mix), increasing automobile efficiency, implementing the Low-Carbon Fuel Standard, and developing a cap-and-trade program. Multiple AB 32 Scoping Plan measures address GHG emissions from transportation fuels and energy. Together, the elements of the AB 32 Scoping Plan will ensure that overall statewide emissions will be decreased to the extent necessary to achieve AB 32's emissions reduction goals.

Passed in 2016, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring a reduction goal of 40 percent below 1990 levels by 2030. CARB's *2017 Climate Change Scoping Plan* (2017 Scoping Plan) (CARB 2017) describes California's strategy for achieving the 2030 GHG emissions reduction target established by SB 32. The 2017 Scoping Plan also recognized the critical and complementary role of local government in achieving the state's climate goals. CARB's *Mobile Source Strategy* (CARB 2016b) describes California's strategy for containing air pollutant emissions from vehicles and quantifies growth in VMT that is compatible with achieving state climate targets.

In December 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (CARB 2022a). The 2022 Scoping Plan Update assesses progress toward the statutory 2030 target, while laying out a technologically feasible, cost-effective, and equity-focused path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan Update sets a target of reducing statewide GHG emissions by 85 percent by 2045 to achieve its ambitious goals. Additionally, CARB forecasts that effective implementation of the 2022 Scoping Plan will reduce statewide demand for petroleum by 94 percent and cut air pollution by 71 percent by the 2045 horizon year. The 2022 Scoping Plan includes a commitment to build no new fossil gas-fired power plants and increases support for mass transit.

3.2.2 Assembly Bill 1493

AB 1493 amended the Clean Car Standards (Chapter 200, Statutes of 2002), also known as the "Pavley" regulations, that require reductions in GHG emissions in new passenger vehicles from 2009 through 2016. The amendments are part of California's commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. The Clean Car Standards required CARB to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a "maximum feasible and cost-effective reduction" by January 1, 2005. Pavley I took effect for model years starting in 2009 to 2016; and Pavley II, which is now referred to as Low Emission Vehicle III GHG, will cover 2017 to 2025. Fleet average emission standards would reach 22 percent reduction by 2012 and 30 percent by 2016.

In January 2012, CARB adopted the Advanced Clean Cars program to extend AB 1493 through model years 2017 to 2025. This program will promote all types of clean fuel technologies such as plug-in hybrids, battery electric vehicles, compressed natural gas vehicles, and hydrogen powered vehicles while reducing smog and saving consumers' money in fuel costs. Fuel savings may be up to 25 percent by 2025.

3.2.3 Senate Bill 375

SB 375 was enacted to reduce GHG emissions from automobiles and light trucks through integrated transportation, land use, housing, and environmental planning. Under the law, Metropolitan Planning Organizations are tasked with incorporating Sustainable

Communities Strategies (SCS) as an element in Regional Transportation Plans (RTP). The SCS documents are intended to:

- Identify the general location of uses, residential densities, and building intensities within the region
- Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the RTP taking into account net migration into the region, population growth, household formation and employment growth
- Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region
- Identify a transportation network to service the transportation needs of the region
- Gather and consider the best practically available scientific information regarding resource areas and farmland in the region
- Consider the state housing goals
- Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the GHG emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the GHG emission reduction targets approved by the state board
- Allow the RTP to comply with the Clean Air Act

3.2.4 State Cap-and-Trade Program

This program creates a market-based system with an overall emissions limit for affected sectors, including electric utilities, large industrial facilities and distributors of transportation, natural gas, and other fuels. Landmark checkpoint targets of the State Cap-and-Trade Program include reducing GHG emissions to 1990 levels by 2020, and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under the Cap-and-Trade Program, an overall limit on GHG emissions from capped sectors are established and facilities subject to the cap will be able to trade permits (allowances) to emit GHGs. It is anticipated that the emissions trading system will reduce GHG emissions from regulated entities by more than 16 percent between 2013 and 2020.

3.2.5 Senate Bill 100

SB 100 establishes a state goal of 100 percent clean electricity by 2045 and advances the Renewables Portfolio Standard to 50 percent by 2025 and 60 percent by 2030.

3.2.6 Senate Bills 1078/107/X 1-2

SB 1078 and SB 107, California's Renewables Portfolio Standard, obligated investor-owned energy service providers and Community Choice Aggregations to procure an additional one percent of retail sales per year from eligible renewable sources until 20 percent was reached (by 2010). The California Public Utilities Commission and California Energy Commission are jointly responsible for implementing the program. SB X 1-2, called the California Renewable Energy Resources Act, obligates all California electricity providers to obtain at least 33 percent of their energy from renewable resources by 2020.

3.2.7 California Environmental Quality Act and Senate Bill 97

By enacting SB 97 in 2007, California’s lawmakers expressly recognized the need to analyze GHG emissions as a part of the CEQA process. SB 97 required the OPR to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines addressing the analysis and mitigation of GHG emissions. The CEQA Guidelines amendments clarified several points, including the following CEQA Guidelines and Climate Change:

- Lead agencies must analyze the GHG emissions of proposed projects and must reach a conclusion regarding the significance of those emissions (CEQA Guidelines Section 15064.4)
- When a project’s GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions (CEQA Guidelines Section 15126.4(c))
- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change (CEQA Guidelines Section 15126.2(a))
- Lead agencies may significantly streamline the analysis of GHG on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria (CEQA Guidelines Section 15183.5(b))
- CEQA mandates analysis of a proposed project’s potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives (CEQA Guidelines, Appendix F)

Also related to SB 97, CEQA Guidelines Section 21097 states that failure to analyze the effects of GHG emissions otherwise required to be reduced pursuant to regulations adopted by the CARB in an environmental impact report for either a transportation project funded under the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or a project funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006 does not create a cause of action for a violation of CEQA.

3.2.8 Senate Bill 743

SB 743 encourages land use and transportation planning decisions and investments that reduce vehicle miles traveled that contribute to GHG emissions, as required by AB 32. SB 743 required the OPR to develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects within transit priority areas that promote the reduction of GHG emissions, the development of multi-modal transportation networks, and a diversity of land uses. It also allows OPR to develop alternative metrics outside of transit priority areas.

3.2.9 Climate Change Executive Order S-01-07

EO S-01-07 established a Low-Carbon Fuel Standard and directed the Secretary of the California Environmental Protection Agency (Cal/EPA) to develop and propose protocols for measuring the life-cycle carbon intensity of transportation fuels.

3.2.10 Climate Change Executive Order S-3-05

EO S-3-05 established state GHG emission targets of 1990 levels by 2020 (the same as AB 32, enacted later and discussed above) and 80 percent below 1990 levels by 2050. It calls for the

Secretary of Cal/EPA to be responsible for the coordination of state agencies and progress reporting. In response to the EO S-3-05, the Secretary of the Cal/EPA created the Climate Action Team, which originated as a coordinating council organized by the Secretary of the Cal/EPA.

3.2.11 Climate Change Executive Order B-16-12

EO-B-16-12 specifies a GHG emissions reduction target of 80 percent below 1990 levels by 2050 specifically for transportation.

3.2.12 Climate Change Executive Order B-30-15

EO B-30-15 established a mid-term goal for 2030 of reducing GHG emissions by 40 percent below 1990 levels and required CARB to update its current AB 32 Scoping Plan to identify the measures to meet the 2030 target. EO B-30-15 supports EO S-3-05 and is binding only by state agencies.

3.2.13 Climate Change Executive Order B-55-18

EO B-55-18 directs the state to achieve carbon neutrality no later than 2045 and to achieve and maintain net negative emissions thereafter.

3.2.14 Climate Change Executive Order N-19-19

EO N-19-19 calls for actions from multiple state agencies—including the California State Transportation Agency (CalSTA)—to pursue strategic endeavors to reduce GHG emissions and mitigate impacts of climate change; empowered CalSTA to leverage discretionary state transportation funds to help meet the state's climate goals.

3.2.15 Climate Change Executive Order N-79-20

EO N-79-20 established a target to make all vehicles in the state emission free: cars and passenger trucks by 2035, medium and heavy-duty trucks by 2045.

3.2.16 California State Transportation Agency Climate Action Plan for Transportation Infrastructure

In response to EO's N-19-19 and N-79-20, CalSTA published the Climate Action Plan for Transportation Infrastructure (CAPTI) in 2021 to outline strategies and actions that will advance more sustainable, equitable, and healthy modes of transportation—such as walking, biking, transit, and rail—as well as accelerate the transition to zero emission vehicle technologies. The CAPTI is a product of an Interagency Working Group comprised of staff from the California Department of Transportation (Caltrans), the California Transportation Commission, the Cal/EPA, CARB, and several other state agencies collaborating to organize the guiding principles of the CAPTI Investment Framework aimed at reducing GHG emissions from the transportation sector and mitigating the effects of climate change. The CAPTI framework is built on the following guiding principles to achieve its goals within the transportation sector by 2050:

- Building toward an integrated, statewide rail and transit network
- Investing in networks of safe and accessible infrastructure supporting active transportation
- Including investments in light, medium, and heavy-duty zero emission vehicle infrastructure as part of larger transportation projects

- Strengthening CalSTA’s commitment to social and racial equity by reducing public health and economic harms and maximizing community benefits to disproportionately impacted disadvantaged communities
- Promoting projects that do not significantly increase passenger vehicle travel
- Promoting compact infill development while protecting residents and businesses from displacement, by funding transportation projects that support housing for low-income residents near job centers, provide walkable communities, and address affordability to reduce the housing-transportation cost burden and passenger vehicle trips
- Developing a zero emission freight transportation system that avoids and mitigates environmental justice impacts, reduces criteria and toxic air pollutants, improves freight’s economic competitiveness and efficiency, and integrates multimodal design and planning into infrastructure development on freight corridors

3.2.17 California Green Building Standards Code

In January 2010, the California Building Standards Commission adopted the statewide mandatory California Green Building Standards Code (CALGreen) Part 11 of Title 24, California Code of Regulations. The Code was updated in 2016 to require additional energy savings. CALGreen applies to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure. The most recently adopted iteration of CALGreen was in 2022, which went into effect January 1, 2023.

3.2.18 California Air Pollution Control Officers Association

CAPCOA is a non-profit association of the air pollution control officers from all 35 local air quality agencies throughout California. CAPCOA promotes unity and efficiency in state air quality issues and strives to encourage consistency in methods and practices of air pollution control. In 2008, CAPCOA published a white paper intended to serve as a resource for reviewing GHG emissions from projects under CEQA (CAPCOA 2008). It considers the application of thresholds and offers approaches toward determining whether GHG emissions are significant. The paper also evaluates tools and methodologies for estimating impacts and summarizes mitigation measures. In 2021, CAPCOA published a guidance manual outlining GHG emissions mitigation strategies for land use and other development projects.

3.3 Regional

3.3.1 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

SCAG is the Metropolitan Planning Organization for the six-county region that includes Los Angeles, Orange, Riverside, Ventura, San Bernardino, and Imperial counties. SCAG adopted the 2016-2040 RTP/SCS on April 7, 2016, and it includes a strong commitment to reduce emissions from transportation sources to comply with SB 375. SB 375 requires CARB to develop regional CO₂ emission reduction targets (exclusive of Pavley emissions that are counted separately), compared to 2005 emissions, for cars and light trucks for 2020 and 2035 for each Metropolitan Planning Organization. The 2016-2040 RTP/SCS charts a course for closely integrating land use and transportation planning including in areas labeled as High Quality Transit Areas (areas with rail transit service or bus service where lines have peak headways of less than 15 minutes).

On September 3, 2020, SCAG approved the 2020-2045 RTP/SCS, named Connect SoCal. Like 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 Project 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. Connect SoCal provides that regional 2035 per capita emissions would be reduced by 19 percent relative to 2005 emissions.

3.3.2 SCAQMD Policy on Global Warming and Stratospheric Ozone Depletion

SCAQMD adopted a Policy on Global Warming and Stratospheric Ozone Depletion on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy.

SCAQMD released a draft guidance regarding interim CEQA GHG significance thresholds. In its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target (e.g., 30 percent) to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is the lead agency. However, SCAQMD has yet to adopt a GHG significance threshold for land use development or transportation projects and has formed a GHG CEQA Significance Threshold Working Group to further evaluate potential GHG significance thresholds.

The GHG CEQA Significance Threshold Working Group is tasked with providing guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group included government agencies implementing CEQA and representatives from various stakeholder groups that will provide input to the SCAQMD staff on developing CEQA GHG significance thresholds. The working group discussed multiple methodologies for determining project significance. These methodologies included categorical exemptions, consistency with regional GHG budgets in approved plans, a numerical threshold, performance standards, and emissions offsets. The GHG CEQA Significance Threshold Working Group has not convened since 2008.

3.3.3 Metro Energy Conservation and Management Plan

The *Metro Energy Conservation and Management Plan (ECMP)* (Metro 2011b) is a strategic blueprint to guide energy use in a sustainable, cost-effective, and efficient manner. The ECMP complements Metro's Energy and Sustainability Policy, focusing on electricity for rail vehicle propulsion, electricity for rail and bus facility purposes, natural gas for rail and bus facility purposes, and the application of renewable energy (e.g., solar and wind). The ECMP addresses energy needs and plans to meet increasing ridership through system expansion and new facility construction. It identifies opportunities to reduce energy consumption and realize cost savings through the implementation of low-cost operational initiatives and cost-effective capital retrofits. The ECMP also evaluates and recommends an optimal organizational structure and approach for

the focused and effective implementation of an agency-wide ECMP. Finally, the ECMP provides a set of implementation strategies for implementing the plan.

3.3.4 Metro Green Construction Policy

Metro has adopted a *Green Construction Policy* (Metro 2011a) committing to less polluting construction equipment and vehicles and implementing best practices to reduce harmful diesel emissions on all Metro construction projects performed on Metro properties and rights-of-way. Best practices include Tier 4 emission standards for off-road diesel-powered construction equipment greater than 50 horsepower and restricting idling to a maximum of five minutes. The Green Construction Policy was updated in 2018 to require that renewable diesel fuel be used in all off-road equipment engines contracted in construction of Metro projects (Metro 2020).

3.3.5 Metro Countywide Sustainability Planning Program

The Metro Countywide Sustainability Planning Program provides leadership for the implementation of a regional transit system that increases mobility, fosters walkable and livable communities, and minimizes GHG emissions and environmental impacts. The Countywide Sustainability Planning Policy is a tool for defining long-term, desired sustainability outcomes in order to facilitate greater coordination and collaboration across transportation modes, planning disciplines and government agencies. The policy aims to fully integrate sustainability into Metro's planning functions, complement and provide a framework for building upon federal, state, regional and local sustainability policies/plans, and foster collaboration and inspire partnerships that will lead to more sustainable communities. Metro has developed policies directed toward controlling GHG emissions, enhancing sustainability, and adapting to the effects of climate change including the *Metro Countywide Sustainability Planning Policy and Implementation Plan* (Metro 2012).

3.3.6 Metro Resiliency Indicator Framework Report

In 2015, Metro released a *Resiliency Indicator Framework Report* (Metro 2015) to help prioritize and evaluate climate adaptation implementation priorities to ensure infrastructure resilience and maintain a good state of repair. The report outlines metrics referred to as resiliency indicators that facilitate the process of continual improvement and help prioritize actions for Metro's planning, construction, and operational activities. The intent is that the indicators will contribute to the understanding of the progress of Metro's climate management efforts over time and allow the agency to gauge the effectiveness of specific strategies. Indicators pertaining to technical and organizational components of Metro's operations were identified and evaluated in the report.

3.3.7 Metro Climate Action and Adaptation Plan

The *Metro Climate Action and Adaptation Plan* (Metro 2019a) establishes a framework to reduce GHG emissions and prepare for the impacts of climate change. The Plan addresses the need to mitigate climate change by reducing GHG emissions and provides current and forecast emissions, as well as a discussion of actions that Metro can take to further reduce emissions from private vehicles. The Plan also identifies Metro services and assets likely to be affected by climate impacts; and presents adaptation strategies; and next steps for mitigation and adaptation components of the Plan.

3.3.8 Metro Moving Beyond Sustainability 2020 Strategic Plan

The *Metro Countywide Sustainability Planning Policy* was prepared with the expectation that it would be updated periodically. In 2020, rather than simply update the policy, the Metro Board adopted a new 10-year sustainability strategic plan, the Moving Beyond Sustainability Strategic Plan (Metro 2020). The *Metro Countywide Sustainability Planning Policy* updates and consolidates the principles established in Metro's prior sustainability planning documents, including Vision 2028, Long Range Transportation Plan, Equity Platform Framework, and the 2019 CAAP. The *Metro Countywide Sustainability Planning Policy* includes objectives related to energy resource management, water quality and conservation, emissions and pollution control, materials and construction/operations, climate adaptation and resiliency, and equity in economic and workforce development. Specific quantitative targets related to GHG emissions include the 2019 CAAP goals of reducing total agency-wide emissions to 79 percent below the 2017 baseline level and displacing a total of 903,000 MTCO₂e annually, through the expansion of zero emissions transit modes, investment in renewable energy technologies, and prudent transit-oriented land use planning initiatives. In the absence of the Metro network, GHG emissions within Los Angeles County would have been approximately 3.7 percent higher in 2017.

3.4 Local

The following presents a summary of GHG-related plans and policies in cities along the LPA alignment. The cities of Huntington Park, Bell, Paramount, and Cerritos do not have applicable climate change plans.

3.4.1 City of Los Angeles Green LA Climate Action Plan

The City of Los Angeles has issued guidance promoting green building and other planning strategies to reduce GHG emissions. The goal of *Green LA: An Action Plan to Lead the Nation In Fighting Global Warming* (City of Los Angeles 2007) is to reduce GHG emissions 35 percent below 1990 levels by 2030. The Plan identifies objectives and actions designed to make the city a leader in confronting global climate change. The measures would reduce emissions directly from municipal facilities and operations and create a framework to address citywide GHG emissions. The *Green LA Climate Action Plan* lists various focus areas in which to implement GHG reduction strategies. Focus areas include energy, water, transportation, land use, waste, port, airport, and ensuring that changes to the local climate are incorporated into planning and building decisions.

3.4.2 City of Los Angeles ClimateLA Municipal Program

ClimateLA was published in 2008 in the wake of the Green LA Climate Action Plan and presents the existing GHG inventory for the City of Los Angeles at the time of its preparation, includes enforceable GHG reduction requirements, provides mechanisms to monitor and evaluate progress, and includes mechanisms that allow the plan to be revised to meet targets. By 2030, the plan aims to reduce GHG emissions by 35 percent from 1990 levels which were estimated to be approximately 54.1 million metric tons. According to *ClimateLA*, the city will need to lower annual GHG emissions to approximately 35.1 million metric tons per year by 2030. To achieve these reductions the city has developed strategies that focus on energy, water use, transportation, land use, waste, open space and greening, and economic factors.

3.4.3 City of Los Angeles Sustainable City pLAn and LA's Green New Deal

The *Sustainable City pLAn* (the “pLAn,” City of Los Angeles 2015), adopted in April 2015, is a roadmap to achieving short-term results, and sets a path to strengthen and transform the City of Los Angeles in future decades. Recognizing the risks posed by climate change, Mayor Garcetti set time-bound outcomes on climate action, most notably to reduce GHG emissions by 45 percent by 2025, 60 percent by 2035, and 80 percent by 2050, compared to a 1990 baseline. Through the completion and verification of the GHG inventory update, the city concluded that:

- The city accounted for approximately 36.2 million metric tons of CO₂e in 1990
- The most recent inventory shows that emissions fell to 29 million metric tons of CO₂e in 2013
- Emissions are 20 percent below the 1990 baseline as of 2013, putting the city nearly halfway to the 2025 *Sustainable City pLAn* reduction target of 45 percent. In addition, the 20 percent reduction exceeds the 15 percent statewide goal listed in the *First Update to the AB 32 Scoping Plan*

The 2019 version of the pLAn, *LA's Green New Deal* (City of Los Angeles 2019) accelerated the city's reduction targets to 50 percent below 1990 levels by 2025, 73 percent below 1990 levels by 2035, and becoming carbon neutral by 2050. By following the 2019 Green New Deal Pathway, the city would achieve an additional 30 percent decrease in GHG emissions beyond the targets set in the 2015 pLAn.

3.4.4 City of Los Angeles Zero Emissions 2028 Roadmap

In November 2019, the Transportation Electrification Partnership, established by the Los Angeles Cleantech Incubator, released the Zero Emissions 2028 Roadmap Version 2.0 (Transportation Electrification Partnership 2019). This roadmap sets the goal to move toward an additional 25 percent reduction in GHG emissions and air pollution beyond current commitments through accelerating transportation electrification by the time the world arrives in Los Angeles for the 2028 Olympic and Paralympic Games. The Partnership's Leadership Group includes the CARB, Los Angeles Mayor Eric Garcetti, County of Los Angeles, Metro, Los Angeles Department of Water and Power, and the Los Angeles Cleantech Incubator. Construction and operation of the proposed project would not interfere with planned upgrades to the electric grid infrastructure or introduce new non-electric vehicles to the regional transportation network. The goals of the Zero Emissions 2028 Roadmap would not be compromised by implementation of the LPA.

3.4.5 City of Vernon Sustainability Action Plan

The City of Vernon has stated a commitment to stimulating green development within the city, while expanding the city's capacity to grow. The city has prepared a *Sustainability Action Plan* (City of Vernon 2011). The purpose of the *Sustainability Action Plan* was to establish a baseline GHG inventory, identify specific areas in which the city can become more efficient and reduce GHG emissions, and set measurable and achievable GHG reduction targets. Transportation and land use goals in the *Sustainability Action Plan* include reducing traffic congestion and decreasing GHG emissions generated from transportation activities. The City of Vernon is also creating a climate action plan that will provide guidance to the city on how to take advantage of opportunities to reduce emissions of gases linked to climate change.

3.4.6 Los Angeles County – Florence-Firestone Community Climate Action Plan

The *Community Climate Action Plan* (County of Los Angeles 2015) was adopted as part of the *Los Angeles County General Plan 2035* on October 6, 2015. The *Community Climate Action Plan* describes the county’s plan to reduce the impacts of climate change by reducing GHG emissions from community activities in the unincorporated areas of Los Angeles County by at least 11 percent below 2010 levels by 2020. There are 26 actions grouped into five strategy areas: green building and energy; land use and transportation; water conservation and wastewater; waste reduction, reuse, and recycling; and land conservation and tree planting. Many of the local actions are cost effective, particularly in the green building and energy strategy area, with several energy efficiency investments that can recoup initial costs in one to five years. In addition to reducing GHG emissions, all local actions have many co-benefits, such as improved public health.

3.4.7 City of Cudahy 2040 General Plan – Air Quality Element

The *City of Cudahy 2040 General Plan Air Quality Element* (City of Cudahy 2010) includes a section on global warming. The Air Quality Element states that air quality is impacted by land use, local circulation systems, and transportation services. Policies and programs included in the General Plan mirror sustainable development concepts that are effective both in reducing dependence on the private automobile and reducing VMT and hence air pollution. The Land Use and Housing Elements encourage transit-oriented development while the Circulation Element provides for the maintenance of a comprehensive transit framework that will be effective in reducing air quality emissions from local private vehicles.

3.4.8 City of South Gate General Plan – Green City Element

The *City of South Gate General Plan* (December 2009) includes a Green City Element. This element contains goals and policies to create a “greener” city, and includes directions for park, civic plazas, open space, rivers, trails, equestrian facilities, the conservation of natural resources, energy and climate change, and green buildings. The General Plan includes numerous mitigation and adaptation strategies related to climate change. Mobility goals and objectives include improving local and regional transit service in the city and encouraging walking, biking, and use of transit, through a variety of supportive land use development and urban design measures.

3.4.9 City of Downey Green Task Force

The City of Downey has implemented a Green Task Force to educate and inform the city to foster greater environmental awareness and ensure continued implementation of sustainable practices throughout the city. The goals of the Green Task Force are to:

- Improve public and business community knowledge of environmental issues and priorities
- Encourage more sustainable practices to protect the environment, the city, and public health
- Address community environmental concerns and advise city council on potential courses of action
- Focus on both short-term and long-term approaches to greater sustainability in the Downey community

3.4.10 City of Bellflower Climate Action Plan

The City of Bellflower *Climate Action Plan* (City of Bellflower 2012) is a roadmap for achieving communitywide energy and GHG emissions reductions that encourages the city to grow smarter and more sustainably. The *Climate Action Plan*:

- Inventories 2010 GHG emissions to identify and understand the sources and quantities of emissions within the city
- Develops GHG emissions reduction strategies and measures to reduce Bellflower's emissions in order to meet voluntary statewide emissions targets outlined in the California Climate Action Scoping Plan and EO S-03-05
- Outlines an approach for Bellflower to continually monitor progress toward GHG emissions targets and the effectiveness of GHG reduction measures
- Establishes a 2020 emissions target of 17 percent and a 2030 emissions reduction goal of 19 percent
- Serves as a reference document for the streamlined review of project-related GHG emissions under CEQA within the city

3.4.11 City of Artesia General Plan – Air Quality and Climate Change Element

The *City of Artesia General Plan Update – General Plan 2030* (City of Artesia 2014) includes an Air Quality and Climate Change Element. The document includes a Community Planning Principle that states changes in lifestyle and behavior patterns, as well as management practices, can contribute to climate change mitigation and have a positive role in reducing GHG emissions. Community policies include:

- Promote a balance of residential, commercial, institutional, and recreational uses with adjacencies that reduce VMT
- Cooperate with the state, SCAG, and the Gateway Cities Council of Governments to achieve mandates imposed by AB 32, which calls for reduction of GHG emissions to 1990 levels by 2020; by EO S-3-05, which calls for a reduction of GHG emissions to 80 percent below 1990 levels by 2050; and by SB 375, which promotes and prioritizes transit-oriented development

4 AFFECTED ENVIRONMENT/EXISTING CONDITIONS

4.1 California Emissions

The largest source of California GHG emissions is attributed to passenger vehicle exhaust associated with the transportation sector, including public and private vehicles that accounted for 94 million metric tons of CO₂e (MMTCo₂e) in 2020. For comparison, heavy-duty vehicles produced approximately 32 MMTCo₂e in 2020. As shown in Table 4.1, transportation emissions remained fairly stable between 2011–2019, averaging approximately 161 MMTCo₂e, despite population growth and increases in statewide on-road VMT during that period. The steep decline in transportation sector emissions in 2020 resulted from the COVID-19 pandemic.

Table 4.1. California Greenhouse Gas Emissions Inventory

Sector	Annual Emissions (MMTCo ₂ e)									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Transportation	160	157	157	158	162	165	167	165	162	136
Industrial	86	81	83	85	83	82	82	82	80	73
Electric Power	89	99	93	90	86	70	64	65	60	60
Commercial/Residential	46	39	39	36	36	37	38	37	41	39
Agriculture	34	35	34	34	33	32	32	32	31	32
High-GWP	15	16	17	18	19	19	20	21	21	21
Recycling and Waste	8	8	8	8	8	9	9	9	9	9
Emissions Total	437	435	432	428	427	415	411	411	404	369

Source: CARB 2022b

Notes: The emission total may slightly vary within the years due to rounding of the CARB emissions inventory. GWP = Global Warming Potential; MMTCo₂e = million metric tons of CO₂e

Notably, between October 2015 and February 2016, an exceptional natural gas leak event occurred at the Aliso Canyon natural gas storage facility that resulted in unexpected GHG emissions of considerable magnitude. The exceptional incident released approximately 109,000 metric tons of methane, which equated to approximately 1.96 MMTCo₂e of unanticipated emissions in 2015 and an additional 0.52 MMTCo₂e in 2016 (CARB 2016a).

The occurrence of unexpected incidents such as the Aliso Canyon natural gas leak and the exacerbated severity of drought and wildfires throughout the state are impossible to predict and present additional challenges in reducing statewide GHG emissions. According to the CARB, the emissions associated with the unexpected gas leak will be mitigated in the future through projects funded by the Southern California Gas Company based on legal settlement. The emissions are presented alongside but tracked separately from routine inventory emissions. While the GHG emissions produced by these atypical circumstances are not included in the state routine inventory emissions, ultimately California must account for and mitigate the emissions to achieve its climate goals.

4.2 Regional Emissions

At the regional scale, based on SCAG's estimated regional transportation GHG emissions presented in the 2016-2040 RTP/SCS, approximately 185,519 tons per day of regional transportation-related CO₂ emissions would occur in 2040, for a total of 67.71 MMTCO₂e annually. Los Angeles County, the largest county in the SCAG region, represents 78,831 tons per day of transportation emissions (50 percent of the regional transportation total).

4.3 Metro Transit System Emissions

Metro has prepared detailed emissions inventories covering 2012 through 2019 (Metro 2020), as summarized in Table 4.2 for the five-year period between 2015–2019.

Table 4.2. Metro Transit System Greenhouse Gas Emissions Inventory

Source/Sector	Annual MMTCO ₂ e Emissions				
	2015	2016	2017	2018	2019
<i>Operational and Non-Modal Emissions</i>					
Rail Propulsion	51,736	54,177	69,399	71,848	64,529
Bus (Operated)	251,439	245,360	234,662	207,925	160,804
CNG Compression	7,950	7,802	12,066	10,781	10,583
Bus (Contracted)	16,158	16,274	13,381	9,895	5,965
Vanpool	18,254	17,655	15,703	14,967	14,884
Non-Revenue Vehicles	9,915	9,969	9,730	9,102	10,272
Facility Electricity	22,110	22,941	30,965	24,051	21,955
Facility Natural Gas	4,906	5,881	5,519	5,255	6,849
Water Consumption	895	717	757	750	665
Refrigerants	7,911	10,065	9,844	2,261	8,771
Employee Commuting ¹	-	-	13,846	15,076	21,675
Emissions Total	391,275	390,840	415,872	371,911	326,953
<i>Emissions Displacement</i>					
Mode Shift to Transit	(465,101)	(448,301)	(207,374)	(200,669)	(186,515)
Land Use Orientation ¹	-	-	(813,110)	(786,820)	(731,561)
Displacement Total	(465,101)	(448,301)	(1,020,485)	(987,490)	(918,076)
<i>Net Annual Emissions</i>					
Metro Operations	(73,827)	(57,461)	(604,613)	(615,579)	(591,123)

Source: Metro 2020; Metro 2022

¹ Employee commuting emissions and land use orientation offsets were not tracked and quantified prior to 2017.

CNG = compressed natural gas; MMTCO₂e = Million metric tons of CO₂e

In 2019, the combination of transportation mode shift associated with operation of the Metro transit system and land use planning resulted in a net operational reduction in GHG emissions of 591,123 metric tons per year (Metro 2020). New fleet technologies powered by renewable energy and reduced building energy usage can reduce Metro's emissions over the long term.

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, 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. The No Build Alternative excludes the facilities and infrastructure of the LPA that would increase GHG emissions. The No Build Alternative would not reduce regional GHG emissions to the same degree as the LPA. The reduction in regional GHG emissions under the No Build Alternative is attributed to improvements in fuel and engine technologies mandated by regulatory programs that are built into the emissions modeling software. Nonetheless, the No Build Alternative would not result in an adverse effect related to GHG emissions during construction.

5.2 Locally Preferred Alternative

As discussed in Section 1.6.1, implementation of the LPA will introduce a new LRT alignment that will provide an alternative mode of transportation to automobile use, which will spur transportation mode shift and ultimately reduce on-road VMT, as demonstrated in Table 1.2 and Table 1.3. Metro has recognized that transportation mode shift is the most effective mechanism of displacing GHG emissions from on-road motor vehicles. In addition to induced transportation mode shift, operational GHG emissions will be generated indirectly through electricity consumption and directly through mobile and facility sources involved in MSF operations, as well as amortized construction emissions.

Table 5.1 presents a summary of the GHG emissions analysis for the No Build Alternative and the LPA in 2042. The GHG emissions for the LPA include emissions from construction of the LRT alignment and all support infrastructure and facilities amortized over a 30-year operational lifetime. The updated GHG emissions analysis for the 2042 scenario year determined that implementation of the LPA will reduce annual regional GHG emissions by 8,202 MTCO_{2e}. The results of the analysis are similar to the analysis described in the Draft EIS/EIR and demonstrate that the LPA will provide a greater environmental benefit based on newer iterations of the modeling tools and supporting datasets. The results and conclusions of this analysis are consistent with those described in the Draft EIS/EIR.

Table 5.1. Annual Operational GHG Emissions (2042)

Emissions Source	Annual MTCO ₂ e		
	Existing [2017]	No Build Alternative [2042]	Locally Preferred Alternative [2042]
Regional On-Road Vehicle Travel	69,522,545	62,843,002	62,830,852
LRT Vehicle Propulsion (Indirect)	–	–	1,800
Stations and Parking Energy (Indirect)	–	–	496
Amortized Alignment Construction ¹	–	–	858
MSF Operations	–	–	712
Amortized MSF Construction ¹	–	–	82
Total Emissions	69,522,545	62,843,002	62,834,800
Change from No Build Alternative	–	–	(8,202)
Percent Change from No Build Alternative	–	–	(0.013%)

Source: TAHA 2023

Notes ¹ Per SCAQMD guidance (2008), construction emissions are averaged over a 30-year operational lifetime and assessed in combination with emissions associated with project operations; the total amortized construction emissions include 82 MTCO₂e that will be generated by construction of the MSF.

Notes: GHG = greenhouse gas; LRT = light rail transit; MSF = maintenance and storage facility; MTCO₂e = metric tons of CO₂e; VMT = vehicle miles traveled; () = decrease/reduction

The GHG emissions assessment presented in the Draft EIS/EIR disclosed that implementation of Alternative 3 would reduce annual GHG emissions by 1,681 MTCO₂e in 2042, and that indirect emissions generated at SCE facilities to supply electricity to the LRT system and ancillary facilities would be 6,633 MTCO₂e annually. Updates to the methodology, as described in 1.6.2, (i.e., quantifying rail propulsion electricity and availability of more recently published carbon intensity factors for SCE-delivered electricity) account for these differences. An updated SCE carbon intensity factor from the CalEEMod appendix (CAPCOA 2022) is used in this Final EIS/EIR analysis—263 lbs CO₂e/MWh compared to 705 lbs CO₂e/MWh in the Draft EIS/EIR—resulting in the total indirect emissions for LRT propulsion, stations, and parking decreasing to 2,296 MTCO₂e (CAPCOA 2023). This carbon intensity factor was also applied to electricity that will be used at the MSF, resulting in a decrease relative to the Draft EIS/EIR analysis.

As shown in Table 1.3 in Section 1.6.1, the LPA will result in a reduction of approximately 45 million VMT annually compared to the No Build Alternative for the 2042 transportation modeling scenario year. Transportation planning initiatives have determined that displacing on-road VMT through public transit is fundamental to improving regional transportation and reducing GHG emissions from transportation sources. The decrease in annual operational GHG emissions relative to the No Build Alternative is attributed to increased Metro ridership and enhanced circulation patterns. GHG emissions modeling for the LPA is consistent with the conclusions of the FTA programmatic assessment for light rail projects demonstrating net reductions in GHG emissions for high-ridership LRT projects without diesel bus fleet components (FTA 2017). Thus, the LPA will not result in an adverse effect related to GHG emissions.

5.3 Design Option: Close 186th Street

Implementation of the LPA with the design option would close 186th Street but keep 187th Street open to traffic in the City of Artesia, and Corby Avenue would be turned into a cul-de-sac with an access driveway for the existing business. In terms of sources of GHG emissions, operation of the LPA with the design option would involve similar emissions sources as those described in Table 5.1 for the LPA without the design option. Implementation of the LPA with the design option would include the same number of aerial and at-grade stations as well as parking facilities and the same MSF design as the LPA without the design option. Operation of the LPA with the design option would also be characterized by the same annual LRT VMT as the LPA without the design option. Therefore, implementation of the LPA with the design option would not create adverse effects related to GHG emissions and climate change.

5.4 Maintenance and Storage Facility

The MSF will result in the consumption of fuels and electricity. The MSF is a component of the LPA, as such, energy consumption is accounted for in the overall analysis of the LPA. Operation of the MSF will generate approximately 794 MTCO₂e per year, including approximately 82 MTCO₂e of amortized construction emissions and 712 MTCO₂e of annual operating emissions. As shown in Table 5.1, annual operational emissions will be approximately 712 MTCO₂e in 2034 following the completion of construction activities, and this estimate represents a conservative magnitude of emissions relative to what would be generated in 2042.

These quantities are lower than the emissions described in the Draft EIS/EIR, which estimated that annual MSF emissions would be 1,834 MTCO₂e. As explained previously, this decrease reflects an updated SCE delivered electricity carbon intensity factor from the new CalEEMod appendix: 263 lbs CO₂e/MWh compared to 705 lbs. CO₂e/MWh that was used in the Draft EIS/EIR. The conclusion of the analysis in this Final EIS/EIR is consistent with the Draft EIS/EIR, that even with the annual MSF construction and operating emissions, implementation of the LPA will provide environmental benefits through a net reduction in regional GHG emissions.

The MSF site will comply with mandatory Title 24 and CALGreen Building Code requirements and will achieve a minimum Silver rating from the Leadership in Energy and Environmental Design (LEED) certification, as specified in the ECMP. The MSF will support an LRT system achieving a net GHG emissions reduction compared to the No Build Alternative. Therefore, development of the MSF site as a component of the LPA will not result in an adverse effect related to GHG emissions.

5.5 U.S. Army Corps of Engineers Facilities

The LPA alignment will cross three U.S. Army Corps 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 on aerial structures over USACE facilities is substantially similar to operation of the LPA along other locations of the alignment. These aerial structures will be part of a transit system to serve the residents, visitors, and employees of the surrounding community and cities. As discussed in Section 5.2, the LPA will be generally consistent with regional transportation and land use planning documents and will provide environmental benefits through a net

reduction in annual GHG emissions within the LPA Affected Area. Therefore, no effects related to GHG emissions will occur at the USACE facilities during operation of the LPA.

5.6 California Department of Transportation Facilities

The LPA alignment will cross the following Caltrans facilities from north to south: I-710, I-105, SR-91, and I-605. The LPA is a transit system that will serve the residents, visitors, and employees of the surrounding community and cities and will not conflict with or impede the function of the Caltrans facilities. The LPA will potentially decrease vehicle travel on these Caltrans facilities through the indirect mode shift that occurs when members of the community elect to use the LPA LRT facilities instead of driving passenger vehicles. Ultimately, the LPA will reduce transportation-related GHG emissions in the LPA Affected Area and along Caltrans facility corridors. Therefore, no adverse effects will occur during operation of the LPA crossings at Caltrans facility locations.

6 CALIFORNIA ENVIRONMENTAL QUALITY ACT DETERMINATION

To satisfy CEQA requirements, impacts related to GHG emissions are analyzed in accordance with Appendix G of the *CEQA Guidelines*. A project would have a significant effect on the environment related to GHG emissions if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

The state CEQA Guidelines recommend that the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the determinations above. Although SCAQMD has a regulatory role in the South Coast Air Basin, it has not adopted or proposed any quantitative thresholds that would be applicable to the proposed LRT corridor. Neither CARB, OPR, SCAQMD, nor Metro have officially promulgated specific thresholds for analyzing GHG emissions under CEQA. CARB and OPR acknowledge that transforming public transit systems and reducing VMT is an effective climate adaptation strategy. OPR recommends the streamlining of GHG emissions impacts analyses for transit and active transportation projects because these projects reduce GHG emissions, increase multimodal transportation networks, and facilitate mixed-use development, which are crucial land use planning initiatives for climate adaptation. As such, project GHG emissions are assessed in the context of the existing GHG emissions inventory, the Metro systemwide GHG emissions displacement, and climate adaptation plans and policies.

6.1 Threshold GHG-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

OPR recommends the streamlining of GHG emissions impacts analyses for transit projects because these projects align with the statutory goals of regional transportation planning to reduce GHG emissions, increase multimodal transportation networks, and facilitate mixed-use development, which are all crucial land use planning initiatives for climate adaptation (OPR 2018). Therefore, OPR recognizes that transit projects are presumed to cause a less than significant impact on transportation and transportation-related GHG emissions under CEQA. The impact discussions refer to the 2042 emissions analysis presented in the NEPA portion of the document for informational disclosure.

6.1.1 No Project Alternative

The No Project Alternative would not involve operation of any project-related facilities or infrastructure and would not introduce any new direct or indirect sources of GHG emissions into the region. Under the No Project Alternative, the LPA would not be constructed, and the existing Metro LRT network would remain unchanged. Existing on-road VMT would not be reduced throughout the project corridor (Table 1.2); energy consumption used to power the Metro LRT system would not increase; and sources of GHG emissions involved in MSF operations would not be present.

Climate Change is a significant issue on multiple geographic levels, including regionally and statewide, and ongoing efforts to reduce emissions both locally and regionally would remain in place. Numerous GHG reduction plans and policies have been developed by local, regional, state, and national authorities to reduce emissions. These are discussed in detail in Chapter 3, Regulatory Framework. The No Project Alternative would neither contribute to nor interfere with ongoing endeavors to achieve the GHG emission reduction targets. Additionally, the No Project Alternative includes a wide range of transit projects designed to reduce VMT and regionally significant climate change effects. These projects are accounted for in the approved and adopted SCAG 2016–2040 RTP/SCS, the CARB Climate Change Scoping Plan, and other regional and state GHG reduction plans. Therefore, impacts related to the generation of GHG emissions would be less than significant, and no mitigation measures are required.

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 LPA will generate direct GHG emissions through operations at the MSF, and indirect GHG emissions will be generated through energy use (i.e., LRT propulsion, lighting and accessory equipment at station platforms, and MSF operations). GHG emissions from on-road motor vehicles will also be substantially affected through induced mode shift emissions displacement. The *2022 Climate Change Scoping Plan* (CARB 2022) recognizes that managing total demand for transportation energy by reducing VMT will continue to play an indispensable role in achieving the state’s GHG emissions reduction targets.

Furthermore, Metro identifies VMT reduction as the primary contributor to GHG emissions displacement. As shown in Table 1.2, the LPA—if operational in 2017—would result in a reduction of approximately 25 million annual VMT compared to the Existing (No Project) Conditions. The VMT reduction in 2017 caused by the LPA will further contribute to the Metro transit system, which displaced approximately 1,020,485 MTCO₂e annually and achieved a net reduction of 604,613 MTCO₂e in 2017, as summarized in Table 4.2 (Metro, 20182020). As shown in Table 1.3, the LPA will result in a reduction of approximately 45 million annual VMT in 2042 compared to the No Build Alternative, and the GHG emissions impact will be less than significant in accordance with OPR and CARB guidance based on the decrease in VMT.

As demonstrated by the analysis summarized in Table 5.1, the LPA will reduce regional emissions by 8,202 MTCO₂e annually (a 0.013 percent decrease) in the operational horizon year of 2042. The LPA will constitute a regionally significant transit expansion that induces the displacement of on-road VMT and supports transportation planning efforts to reduce VMT and achieve GHG emissions reduction targets outlined in the CARB Climate Change Scoping Plan and the SCAG RTP/SCS. The LPA is consistent with the objectives of the OPR and CARB plans and policies to reduce GHG emissions from passenger vehicles by providing alternative transportation modes for both local and regional trips. Therefore, the LPA will result in a less than significant impact related to the generation of GHG emissions.

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

Implementation of the LPA with the design option would not alter the analysis or conclusions presented for the LPA without the design option regarding GHG emissions and potentially adverse effects related to climate change. The LPA with the design option would involve the same LRT alignment and would operate with the same annual VMT as the LPA without the design option. The stations, parking facilities, and MSF would be in the same locations with implementation of the design option as with implementation of the LPA without the design option, and the same amount of forecasted ridership and vehicle trip displacement would be anticipated. The LPA with the design option would not introduce any sources of GHG emissions to the Affected Area beyond what was analyzed and disclosed for the LPA without the design option. Therefore, the LPA with the design option would result in a less than significant effect related to the magnitude of long-term GHG emissions that would be generated directly and indirectly by its operation.

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 site will result in the consumption of fuels and electricity and is a component of the LPA in which energy consumption is accounted for in the overall analysis of the LPA. Operation of the MSF site will generate approximately 794 MTCO₂e per year in the horizon year of 2042, including approximately 82 MTCO₂e of amortized construction emissions and 712 MTCO₂e of operational emissions. These emissions estimates are presented in Table 5.1, with the amortized construction emissions being included as part of overall amortized LPA construction emissions. The MSF site will comply with mandatory Title 24 and CALGreen Building Code requirements, will achieve a minimum LEED Silver rating, and will contribute to a net GHG emissions reduction by contributing to implementation of the LRT and the associated VMT reductions. Therefore, the MSF site will result in a less than significant impact related to the generation of GHG emissions.

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 GHG-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG?

6.2.1 No Project Alternative

The No Project Alternative would not include the operation of any project-related facilities or infrastructure. Therefore, no significant impact would occur. The No Project Alternative would not reduce VMT and associated GHG emissions from transportation sources (Table 1.2).

6.2.1.1 Mitigation Measures

No mitigation measures are required.

6.2.1.2 Impacts Remaining After Mitigation

No Impact.

6.2.2 Locally Preferred Alternative

No state, regional, or local GHG reduction plans promote increased passenger vehicles on the roadway network. Reducing VMT is identified in the *2022 Climate Change Scoping Plan* as an indispensable component of achieving the state's GHG emissions reduction targets. Implementation of the LPA will enhance regional transportation planning efforts to reduce VMT and GHG emissions from transportation sources. The LPA is consistent with the objectives of the OPR and CARB plans and policies to reduce GHG emissions from passenger vehicles by providing alternative transportation modes for both local and regional trips.

Implementation of the LPA will reduce annual on-road VMT by approximately 25 million VMT if operational in 2017—as shown in Table 1.2—and will reduce annual on-road VMT by approximately 45 million in 2042. Metro identifies transportation mode shift as the primary mechanism of GHG emissions displacement, and the expansion of public transit infrastructure is an essential element of statewide and regional GHG emissions reduction strategies within long-range planning objectives. The LPA will be consistent with the 2022 Scoping Plan, 2016-2040 RTP/SCS, and other relevant GHG reduction and conservation plans through achieving a net reduction in emissions as analyzed in Table 5.1, which will further advance the Metro transit system's net displacement of GHG emissions. Therefore, the LPA will result in a less than significant impact related to GHG reduction plans.

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

The analysis for the LPA with the design option as it relates to GHG emission reduction plans is similar to the discussion presented above for the LPA without the design option and incorporates the same assumptions. The LPA with the design option would not alter the length or number of stations and parking facilities along the LRT alignment and would not

introduce any new sources of GHG emissions to the Affected Area beyond those analyzed for the LPA without the design option. Operation of the LPA with the design option would result in the same annual net reduction in regional GHG emissions (8,394 MTCO₂e) as the LPA without the design option in the horizon year of 2042 as presented in Table 5.1. Therefore, implementation of the LPA with the design option would result in less than significant impacts regarding consistency with GHG emission reduction plans.

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 will be designed and constructed in compliance with mandatory Title 24 and CALGreen Building Code requirements and will achieve a minimum of a LEED Silver rating, as specified in the ECMP. The MSF is a necessary component of the LPA and will be consistent with applicable policies and plans designed to enhance sustainable development and reduce the regional GHG emissions inventory. Results of the emissions analysis determined that operation of the MSF will generate approximately 794 MTCO₂e annually in the horizon year of 2042, of which 82 MTCO₂e would be amortized construction emissions and operations would produce 712 MTCO₂e, as summarized in Table 5.1. However, the LPA will ultimately result in a substantial net reduction in regional GHG emissions. Therefore, the MSF will result in a less than significant impact related to GHG emission reduction plans.

6.2.4.1 Mitigation Measures

No mitigation measures are required.

6.2.4.2 Impacts Remaining After Mitigation

Less than significant impact.

7 CONSTRUCTION IMPACTS

7.1 Construction Activities

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

7.2 Regulatory Background and Methodology

7.2.1 Regulatory Background

All federal, state, regional, and local regulations and guidelines pertinent to the construction of the WSAB Project would be followed. For additional regulatory information, refer to the *West Santa Ana Branch Transit Corridor Project Construction Methods Report* (Metro 2024a).

7.2.2 Construction Methodology

The analysis of construction effects considered the anticipated construction activities and phasing and identifies where construction staging could occur. Construction would occur in several stages, including site clearing and demolition activities, excavation and grading, utilities and subgrade installations, and paving. During each phase of construction, GHG emissions would be generated from heavy-duty construction equipment, worker travel to and from the project site, and material import and export using haul trucks. GHG emissions associated with construction of the LPA were quantified using the CalEEMod Version 2020.4.0, May 2021. Model default assumptions were incorporated where project-specific details were unavailable.

The CalEEMod program generates estimates of annual GHG emissions using emission factors from the CARB OFFROAD emission factors inventory for heavy-duty equipment (expressed in grams of pollutant emitted per hour of equipment use) and emission factors from the CARB EMFAC mobile source emissions model for on-road vehicles (expressed in grams of pollutant emitted per VMT).

To account for unpredictable circumstances that may arise throughout the construction period, the GHG emissions assessment conservatively evaluated each component and activity for the maximum possible duration, as shown in the *West Santa Ana Branch Transit Corridor Project Construction Methods Report* (Metro 2024a). Construction of the LPA will involve sources of GHG emissions, including off-road equipment exhaust and on-road vehicle exhaust associated with construction workers, material deliveries, and haul trucks. Throughout construction of the LPA, the daily equipment activity intensity may vary substantially. The quantification of GHG emissions associated with construction estimates total annual average GHG emissions, as the atmospheric effects of GHG emissions are cumulative in nature. Therefore, the construction GHG emissions analysis relies on reasonably conservative equipment inventories that will be required to accomplish demolition, excavation, grading, construction, and paving activities throughout the corridor in totality.

In general, it is not anticipated that construction activities will employ more than 60 pieces of heavy-duty off-road equipment on any given day. It was determined that a reasonably foreseeable maximum construction crew would comprise up to 750 workers per day along the 14.5-mile LRT corridor for the LPA, as well as for the LPA with the design option. The

sequencing of the LPA implementation has not been fully determined. At this time, components are likely to be constructed concurrently at various locations along the LPA.

Construction of the LPA will require cut (excavated and exported for off-site disposal) and fill (imported for on-site use) to accommodate the LPA elements. A summary of the soil export and fill import quantities for the LPA is provided in Table 7.1. Daily haul truck activity will fluctuate throughout the course of construction. Based on feasibility constraints and preliminary schedule coordination, maximum daily truck activity will not exceed 120 hauling loads and 80 material deliveries throughout the project corridor during construction of the LPA. Because of project refinements since the release of the Draft EIS/EIR, import and export quantities have been updated to reflect the updated design. Import quantities have decreased and export quantities have increased since the release of the Draft EIS/EIR. Impact conclusions are unchanged as a result of this update.

Table 7.1. Locally Preferred Alternative Export and Import Quantities

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: Metro 2023

Note: 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 imported fill quantities.

Analysis will be updated to match data presented in the *Final Construction Methods Impacts Report* for Admin Draft 2.

CY = cubic yard; LPA = Locally Preferred Alternative

All construction activities would be required to comply with provisions of Metro's *Green Construction Policy* (Metro 2011a, Metro 2018b), which requires stringent equipment and vehicle inspection and maintenance programs to ensure operation within desired manufacturer specifications. All equipment and truck idling would be restricted to five minutes or less in accordance with Metro's *Green Construction Policy* and CARB's In-Use Off-Road Diesel Vehicle Regulation and Truck and Bus Rule. Furthermore, the updated *Green Construction Policy* requires that all equipment be outfitted with engines that run on renewable diesel fuel. Adherence to these requirements would minimize GHG emissions during construction.

7.3 Construction Impacts

7.3.1 No Build Alternative

The No Build Alternative would not include construction of any project-related facilities or infrastructure. Therefore, the No Build Alternative would not result in an adverse effect related to construction GHG emissions.

7.3.2 Locally Preferred Alternative

Sources of GHG emissions included in the analyses were comprised of heavy-duty construction equipment, haul truck trips used for material import and export, and construction worker vehicle trips. Construction activities for the LPA are anticipated to last up to eight years beginning in the fourth quarter of 2024 and finishing in the third quarter of 2032, with systems testing occurring thereafter. Table 7.2 presents the source contributions to the LPA construction GHG emissions. Construction of the LPA—including the MSF—will generate approximately 28,198 MTCO₂e of GHG emissions, which equates to approximately 940 MTCO₂e annually when amortized over a 30-year operational lifetime in accordance with SCAQMD guidance. The analysis presented in the Draft EIS/EIR identified that construction of Alternative 3 would generate 24,838 MTCO₂e in total, equating to a 30-year amortized rate of 828 MTCO₂e/year.

Table 7.2. Construction GHG Emissions

Emission Source	Greenhouse Gas Emissions (MTCO ₂ e)		
	LPA	Design Option	MSF
Off-Road Equipment	13,102	13,102	1,321
Haul Truck Trips	3,456	3,456	197
Vendor Delivery Trips	2,792	2,792	227
Construction Crew Trips	6,393	6,393	711
Total Emissions	25,743	25,743	2,455
Amortized Construction (30 Years)¹	858	858	82

Source: Metro 2024a

Notes: ¹ Amortized Construction = Total Emissions divided by 30 years consistent with SCAQMD guidance.

GHG = greenhouse gas; MSF = maintenance and storage facility; MTCO₂e = million metric tons of CO₂e

Construction emissions for the MSF were modeled separately and are also shown in Table 7.2. Due to the cumulative nature of GHG emissions and their influence on climate, the SCAQMD advises that GHG emissions generated by temporary use of on- and off-road equipment and vehicles during construction activities be assessed in combination with long-term operational emissions for CEQA projects to characterize a more holistic representation of the environmental impacts. The amortized construction emissions of 940 MTCO₂e accounts for the combined amortized LRT corridor construction emissions of 858 MTCO₂e and the amortized MSF construction emissions of 82 MTCO₂e, as summarized in Table 7.2.

The increase in construction-related GHG emissions for the LPA is primarily attributed to the refined conceptual construction schedule extending the utility and freight track relocations and parking facilities construction activities. The extension of the schedule resulted in increases in emissions associated with vendor delivery and construction worker trips; however, total bulk material hauling truck trip emissions are lower than those described in the Draft EIS/EIR analysis due to the later construction start date, as more stringent CARB standards for heavy-duty trucks were implemented in 2023 through the Truck and Bus Regulation.

Although construction of the LPA will result in marginally higher total GHG emissions than those described in the Draft EIS/EIR, when those emissions are amortized and considered in conjunction with the operational effects of the LPA, a net environmental benefit of reducing GHG emissions by 8,202 MTCO₂e annually is the cumulative effect of implementing the LPA. This is consistent with the conclusion in the Draft EIS/EIR. The LPA will provide a high-quality transit service to a currently underserved area and will reduce regional GHG emissions through increased transit ridership and induced mode shift.

Construction activities will be conducted in accordance with Metro's Green Construction Policy to prevent excessive emissions per Project Measure AQ PM-1 (Metro Green Construction Policy). Temporary GHG emissions will be generated to construct an energy-efficient mass transit system that will reduce long-term regional GHG emissions. Metro recognizes transportation mode shift as the primary contributor to GHG emissions displacement, and direct emissions generated through construction activities will be more than offset by the future benefits of transportation mode shift that will occur with implementation of the LPA. Therefore, the LPA will not result in an adverse effect related to the generation of GHG emissions during construction.

7.3.3 Design Option: Close 186th Street

Construction of the LPA with the design option would involve the same emissions sources as those itemized in Table 7.2 for the LPA without the design option. Construction of the LPA with the design option would not alter the duration or intensity of equipment and vehicle activities relative to the construction of the LPA without the design option. The LPA with the design option would require the same amount of import/export activities as the LPA without the design option, as shown in Table 7.1. Construction of the LPA with the design option would implement Project Measure AQ PM-1 (Metro Green Construction Policy) similar to the LPA without the design option and would not result in adverse effects related to GHG emissions.

7.3.4 Maintenance and Storage Facility

The data presented here correspond solely to construction of the MSF independent of the remainder of the LPA construction. As shown in Table 7.2, construction of the MSF will generate approximately 2,455 MTCO₂e during the 25-month construction period. Total construction emissions have been amortized over a 30-year operational lifetime and included in the operational emissions analysis for the LPA (82 MTCO₂e/year). Independently, the generation of emissions is not considered significant as the emissions are related to the construction of a mass transit system, which has been identified by state and regional agencies as an efficient method of reducing statewide emissions. Temporary GHG emissions will be generated to construct an energy-efficient mass transit system that will reduce long-term regional GHG emissions. Therefore, the MSF will not result in an adverse effect related to the generation of GHG emissions during construction.

7.3.5 U.S. Army Corps of Engineers Facilities

The generation of GHG emissions during construction of the LPA over the USACE facilities is substantially similar to construction of the LPA along other locations of the alignment. The Project will implement Project Measure AQ PM-1 (Metro Green Construction Policy) to control GHG emissions during construction. Therefore, no adverse effects will occur during construction of the LPA at the USACE facilities.

7.3.6 California Department of Transportation Facilities

LPA construction activities will include the development of a new freight bridge over the I-105 corridor, and it is possible that commuting construction crew vehicles and commercial material delivery and bulk hauling trucks could traverse Caltrans facilities during construction of the LPA. However, Metro and all contractors shall comply with the provisions of the Metro Green Construction Policy to ensure that any traffic disruption and any indirect effects to vehicle travel on the Caltrans facilities will be strategically managed to the extent feasible.

7.4 California Environmental Quality Act Determination

To satisfy CEQA requirements, greenhouse gas impacts were also analyzed in accordance with Appendix G of the *CEQA Guidelines*.

7.4.1 Threshold GHG-CON-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

7.4.1.1 No Project Alternative

The No Project Alternative would not include construction of any project-related facilities or infrastructure. Therefore, no significant impact would occur.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.1.2 Locally Preferred Alternative

Construction activities involved in implementation of the LPA are anticipated to last up to eight years, preliminarily forecasted to be from the fourth quarter of 2024 to the third quarter of 2032. Construction activities for the LPA will generate GHG emissions through off-road heavy-duty equipment exhaust and on-road vehicle exhaust associated with construction workers, material deliveries, and hauling of materials. The Project 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* to prevent excessive emissions. In addition, construction activities to implement the LPA will comply with the CARB In-Use Off-Road Diesel Vehicle Regulation and CARB Truck and Bus Rule, which will ensure GHG emissions generated by these sources will be minimized to the maximum extent feasible. All equipment and vehicles will be maintained in accordance with optimal manufacturer specifications and restricting the idling of equipment and vehicles to less than five minutes.

Construction of the LPA alignment, stations, and parking facilities will generate approximately 25,743 MTCO₂e and construction of the MSF will generate approximately 2,455 MTCO₂e, combined totaling 28,198 MTCO₂e over the eight-year construction period. This mass quantity equates to approximately 940 MTCO₂e annually when amortized over a 30-year operational lifetime. Due to the cumulative nature of GHG emissions and their influence on climate, the SCAQMD advises that GHG emissions generated by temporary use of on- and off-road equipment and vehicles during construction activities be assessed in

combination with long-term operational emissions to disclose a more holistic representation of the environmental impacts. Emissions related to construction activities will be temporary, and ultimately implementation of the LPA will reduce regional GHG emissions through substantial displacement of on-road VMT. Therefore, construction of the LPA will not generate GHG emissions that may have a significant impact on the environment, and this impact will be less than significant.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.1.3 Design Option: Close 186th Street

The LPA with the design option would comprise the same 14.5-mile LRT alignment, stations, and parking facilities at the same locations as the LPA without the design option. Construction of the LPA with the design option would not extend or shorten the duration of activities relative to the LPA without the design option and would involve the same amount of equipment and vehicle use to build the LPA components. The analysis of construction-related GHG emissions presented in Table 7.2 for the LPA without the design option would also apply to the LPA with the design option. Construction of the LPA with the design option would produce the same amount of GHG emissions as construction of the LPA without the design option. Due to the cumulative nature of the effects of climate change resulting from GHG emissions, the emissions estimates were amortized over a 30-year operational lifetime of the LPA with the design option and are evaluated in conjunction with future emissions during operations following the completion of construction. Similar to the LPA without the design option, Project Measure AQ PM-1 (Metro Green Construction Policy) will also be implemented. Therefore, construction of the LPA with the design option would result in a less than significant impact related to GHG emissions.

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 site will generate approximately 2,455 MTCO₂e in total. Total construction emissions have been amortized over 30 years (approximately 82 MTCO₂e annual average) and included in the operational analysis with the amortized LRT construction emissions. Independently, the generation of emissions that will occur during construction of the MSF is not considered significant as the emissions are related to the construction of a mass transit system, which has been identified by state and regional agencies as an efficient method of reducing statewide emissions. Temporary GHG emissions will be generated to construct an energy-efficient mass transit system that will reduce long-term regional GHG emissions. Therefore, construction of the MSF will not generate GHG emissions that may have a significant impact on the environment, and this impact will be less than significant.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.2 Threshold GHG-CON-2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG?**7.4.2.1 No Project Alternative**

The No Project Alternative would not include construction of any project-related facilities or infrastructure. Therefore, no significant impact would occur.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

No impact.

7.4.2.2 Locally Preferred Alternative

Construction activities will be conducted in accordance with Metro's Green Construction Policy to prevent excessive emissions per Project Measure AQ PM-1 (Metro Green Construction Policy). The *Green Construction Policy* commits Metro contractors to using less polluting construction equipment and vehicles and implementing best practices to reduce harmful diesel emissions on all Metro construction projects performed on Metro properties and right-of-way. Best practices include Tier 4 emission standards for off-road diesel-powered construction equipment with more than 50 horsepower and restricting idling to a maximum of five minutes. In addition, Metro must comply with the CALGreen Code, which requires reduction, disposal, and recycling of at least 50 percent of nonhazardous construction and demolition debris. Temporary GHG emissions will be generated to construct an energy-efficient mass transit system that will reduce long-term regional GHG emissions. Therefore, construction of the LPA will not interfere with GHG reduction plans, policies, or regulations and impacts will be less than significant.

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 GHG reduction plan consistency for the LPA with the design option is similar to the discussion presented above for the LPA without the design option. Project Measure AQ PM-1 (Metro Green Construction Policy) will be implemented during construction of the LPA with the design option to control GHG emissions during construction. Therefore, construction of the LPA with the design option would not interfere with GHG reduction plans, policies, or regulations, and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

7.4.2.4 Maintenance and Storage Facility

During construction of the MSF, Project Measure AQ PM-1 (Metro Green Construction Policy) will be implemented and construction activities will be conducted in accordance with Metro's *Green Construction Policy* to prevent excessive emissions. MSF construction activities will be conducted in accordance with CALGreen Code and other applicable policies and regulations. Temporary GHG emissions will be generated to construct an energy-efficient mass transit system that will reduce long-term regional GHG emissions. Therefore, construction of the MSF will not interfere with GHG reduction plans, policies, or regulations, and impacts will be less than significant.

Mitigation Measures

No mitigation measures are required.

Impacts Remaining After Mitigation

Less than significant impact.

8 PROJECT MEASURES AND MITIGATION MEASURES

8.1 Project Measures

There are no project measures or mitigation measures required related to GHG emissions. Refer to the *West Santa Ana Branch Transit Corridor Project Final Air Quality Impact Analysis Report* (Metro 2024b) for Project Measure AQ PM-1 (Metro Green Construction Policy).

8.1.1 Operation

No mitigation measures are required.

8.1.2 Construction

No mitigation measures are required.

9 REFERENCES

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APPENDIX A: GREENHOUSE GAS EMISSIONS

- Operational Emissions
 - Annual Greenhouse Gas Emissions Summary Table
 - Regional On-Road Vehicle Miles Traveled Summary Table
 - Regional On-Road Vehicle Travel Emissions Calculations
 - EMFAC2021 Mobile Source Emissions Factors for the Project Area
 - Rail Propulsion GHG Emissions Calculations
 - Maintenance and Storage Facility (MSF) Annual CalEEMod Output Files: 2042 & 2017 Operations
- Construction Emissions
 - Construction Emissions Calculations Summary Sheet
 - CalEEMod Output Files

Operational Emissions

Annual Greenhouse Gas Emissions Summary Table

Annual Greenhouse Gas Emissions Summary Table

Emissions Source	Annual MTCO ₂ e		
	Existing [2017]	No Build Alternative [2042]	Locally Preferred Alternative [2042]
Regional On-Road Vehicle Travel	69,522,545	62,843,002	62,830,852
Rail Propulsion	–	–	1,800
Station & Parking Facilities Energy			496
Amortized LRT Corridor Construction	–	–	858
MSF Operations	–	–	712
Amortized MSF Construction			82
Total Emissions	69,522,545	62,843,002	62,834,800
	<i>Change from Existing</i>	-6,679,543	-6,687,745
	<i>% Change from Existing</i>	-9.608%	-9.620%
		Change from No Build Alternative	-8,202
		% Change from No Build Alternative	-0.013%

Operational Emissions
Regional On-Road Vehicle Miles Traveled
Summary Table

Regional On-Road Vehicle Miles Traveled Summary Table

**Regional Transportation Model Output:
Daily On-Road Vehicle Miles Traveled in the Project Area**

Annual On-Road Vehicle Miles Traveled in the Project Area

2017 Scenario Year					2042 Scenario Year				
Speed Range	Existing Conditions	Locally Preferred Alternative	No Build Alternative	Locally Preferred Alternative	Speed Range	Existing Conditions	Locally Preferred Alternative	No Build Alternative	Locally Preferred Alternative
0-5	2,925,006	2,924,597	8,161,300	8,120,095	0-5	1,014,976,971	1,014,835,127	2,831,971,180	2,817,672,867
5-10	5,252,940	5,245,489	22,192,831	22,245,691	5-10	1,822,770,225	1,820,184,598	7,700,912,319	7,719,254,915
10-15	13,759,521	13,715,106	37,570,046	37,558,820	10-15	4,774,553,895	4,759,141,940	13,036,805,820	13,032,910,444
15-20	29,405,409	29,510,250	58,002,358	57,936,698	15-20	10,203,676,784	10,240,056,603	20,126,818,240	20,104,034,362
20-25	62,189,909	62,022,759	85,809,742	86,039,526	20-25	21,579,898,288	21,521,897,492	29,775,980,408	29,855,715,530
25-30	67,226,815	67,573,243	87,812,528	87,751,214	25-30	23,327,704,677	23,447,915,454	30,470,947,140	30,449,671,200
30-35	59,226,864	58,873,089	69,039,178	68,783,376	30-35	20,551,721,638	20,428,961,937	23,956,594,811	23,867,831,485
35-40	36,971,117	36,979,119	45,115,846	45,312,052	35-40	12,828,977,557	12,831,754,260	15,655,198,680	15,723,282,116
40-45	22,813,405	22,776,688	20,004,278	19,936,347	40-45	7,916,251,403	7,903,510,602	6,941,484,449	6,917,912,309
45-50	16,937,617	16,951,438	16,888,941	17,054,865	45-50	5,877,353,168	5,882,148,874	5,860,462,385	5,918,038,172
50-55	16,868,433	16,947,536	15,149,076	14,888,433	50-55	5,853,346,171	5,880,795,071	5,256,729,480	5,166,286,183
55-60	16,152,280	16,129,597	20,835,805	20,854,238	55-60	5,604,841,132	5,596,970,135	7,230,024,300	7,236,420,465
60-65	21,987,684	22,051,930	28,725,713	28,572,364	60-65	7,629,726,334	7,652,019,753	9,967,822,387	9,914,610,439
65-70	35,691,030	35,592,063	48,972,338	49,191,189	65-70	12,384,787,257	12,350,445,885	16,993,401,286	17,069,342,689
70-75	55,649,717	55,693,001	41,911,351	41,815,668	70-75	19,310,451,855	19,325,471,452	14,543,238,783	14,510,036,909
75-80	188,076	188,070	138,580	138,464	75-80	65,262,296	65,260,254	48,087,295	48,046,985
Totals	463,245,820	463,173,975	606,329,911	606,199,041	Totals	160,746,299,651	160,721,369,436	210,396,478,961	210,351,067,071
Change from Existing		-71,845	143,084,090	142,953,220	Change from Existing		-24,930,215	49,650,179,310	49,604,767,420
% Change from Existing		-0.016%	30.887%	30.859%	% Change from Existing		-0.016%	30.887%	30.859%
		Change from No Build		(130,870)			Change from No Build		(45,411,890)
		% Change from No Build		-0.022%			% Change from No Build		-0.022%

Operational Emissions

Regional On-Road Vehicle Travel Emissions Calculations

Regional On-Road Vehicle Travel Emissions Calculations

Year	Scenario	Speed	Daily VMT	CO ₂ e (MTCO ₂ e/year)	CO ₂ (MTCO ₂ e/year)
2017	Existing	5	2,925,006	987,434.6	972,615.4
2017	Existing	10	5,252,940	1,450,079.3	1,427,877.8
2017	Existing	15	13,759,521	3,096,391.4	3,049,248.9
2017	Existing	20	29,405,409	5,532,560.9	5,446,035.9
2017	Existing	25	62,189,909	10,058,984.7	9,896,470.4
2017	Existing	30	67,226,815	9,690,488.8	9,530,866.0
2017	Existing	35	59,226,864	7,903,016.9	7,772,459.2
2017	Existing	40	36,971,117	4,742,090.4	4,665,402.5
2017	Existing	45	22,813,405	2,906,507.4	2,861,075.1
2017	Existing	50	16,937,617	2,198,823.4	2,165,567.3
2017	Existing	55	16,868,433	2,262,850.3	2,229,270.5
2017	Existing	60	16,152,280	2,247,694.7	2,214,186.8
2017	Existing	65	21,987,684	3,158,979.6	3,111,001.4
2017	Existing	70	35,691,030	5,181,033.9	5,101,410.6
2017	Existing	75	55,649,717	8,078,306.3	7,954,157.2
2017	Existing	80	188,076	27,301.7	26,882.2
	Existing Total		463,245,820	69,522,544.4	68,424,527.0
2017	Existing + LPA	5	2,924,597	987,296.6	972,479.4
2017	Existing + LPA	10	5,245,489	1,448,022.3	1,425,852.4
2017	Existing + LPA	15	13,715,106	3,086,396.5	3,039,406.1
2017	Existing + LPA	20	29,510,250	5,552,286.5	5,465,453.0
2017	Existing + LPA	25	62,022,759	10,031,949.0	9,869,871.4
2017	Existing + LPA	30	67,573,243	9,740,425.2	9,579,979.8
2017	Existing + LPA	35	58,873,089	7,855,810.6	7,726,032.7
2017	Existing + LPA	40	36,979,119	4,743,116.7	4,666,412.3
2017	Existing + LPA	45	22,776,688	2,901,829.5	2,856,470.3
2017	Existing + LPA	50	16,951,438	2,200,617.5	2,167,334.3
2017	Existing + LPA	55	16,947,536	2,273,461.8	2,239,724.5
2017	Existing + LPA	60	16,129,597	2,244,538.2	2,211,077.4
2017	Existing + LPA	65	22,051,930	3,168,209.8	3,120,091.5
2017	Existing + LPA	70	35,592,063	5,166,667.5	5,087,265.1
2017	Existing + LPA	75	55,693,001	8,084,589.6	7,960,343.9
2017	Existing + LPA	80	188,070	27,300.9	26,881.3
	Existing + LPA Total		463,173,975	69,512,518.4	68,414,675.4

Regional On-Road Vehicle Travel Emissions Calculations

Year	Scenario	Speed	Daily VMT	CO ₂ e (MTCO ₂ e/year)	CO ₂ (MTCO ₂ e/year)
2042	No Build	5	8,161,300	1,770,483.4	1,748,040.0
2042	No Build	10	22,192,831	3,927,318.4	3,876,665.4
2042	No Build	15	37,570,046	5,436,931.3	5,368,829.2
2042	No Build	20	58,002,358	7,041,865.3	6,950,950.8
2042	No Build	25	85,809,742	8,985,549.2	8,866,812.3
2042	No Build	30	87,812,528	8,211,083.4	8,102,085.1
2042	No Build	35	69,039,178	5,987,059.6	5,908,208.7
2042	No Build	40	45,115,846	3,768,192.1	3,720,040.6
2042	No Build	45	20,004,278	1,662,899.0	1,642,458.9
2042	No Build	50	16,888,941	1,432,820.0	1,415,729.7
2042	No Build	55	15,149,076	1,329,817.8	1,314,150.8
2042	No Build	60	20,835,805	1,900,124.1	1,877,544.2
2042	No Build	65	28,725,713	2,709,856.7	2,676,894.4
2042	No Build	70	48,972,338	4,669,527.7	4,612,929.2
2042	No Build	75	41,911,351	3,996,260.4	3,947,822.5
2042	No Build	80	138,580	13,213.7	13,053.5
	No Build Total		606,329,911	62,843,001.9	62,042,215.4
2042	Locally Preferred Alternative	5	8,120,095	1,761,544.4	1,739,214.3
2042	Locally Preferred Alternative	10	22,245,691	3,936,672.8	3,885,899.1
2042	Locally Preferred Alternative	15	37,558,820	5,435,306.7	5,367,225.0
2042	Locally Preferred Alternative	20	57,936,698	7,033,893.8	6,943,082.2
2042	Locally Preferred Alternative	25	86,039,526	9,009,611.0	8,890,556.1
2042	Locally Preferred Alternative	30	87,751,214	8,205,350.1	8,096,427.9
2042	Locally Preferred Alternative	35	68,783,376	5,964,876.5	5,886,317.8
2042	Locally Preferred Alternative	40	45,312,052	3,784,579.8	3,736,218.8
2042	Locally Preferred Alternative	45	19,936,347	1,657,252.1	1,636,881.4
2042	Locally Preferred Alternative	50	17,054,865	1,446,896.6	1,429,638.5
2042	Locally Preferred Alternative	55	14,888,433	1,306,937.9	1,291,540.5
2042	Locally Preferred Alternative	60	20,854,238	1,901,805.0	1,879,205.2
2042	Locally Preferred Alternative	65	28,572,364	2,695,390.5	2,662,604.2
2042	Locally Preferred Alternative	70	49,191,189	4,690,395.2	4,633,543.9
2042	Locally Preferred Alternative	75	41,815,668	3,987,137.0	3,938,809.7
2042	Locally Preferred Alternative	80	138,464	13,202.6	13,042.6
	Locally Preferred Alternative Total		606,199,041	62,830,852.0	62,030,207.2
2017	Existing		463,245,820.3	69,522,544.4	68,424,527.0
	Existing + Alt 3		463,173,975.3	69,512,518.4	68,414,675.4
	[Existing + Alt 3] - [Existing]		(71,845.0)	(10,026.0)	(9,851.7)
2042	NBA		606,329,910.6	62,843,001.9	62,042,215.4
	Alt 3		606,199,040.6	62,830,852.0	62,030,207.2
	Alt 3 - NBA		(130,870.0)	(12,149.9)	(12,008.2)
	% Change				
	NBA - Existing		143,084,090.23	-6,679,542.47	-6,382,311.62
			30.9%	-9.6%	-9.3%

Operational Emissions

EMFAC2021 Mobile Source Emissions Factors for the Project Area

EMFAC2021 Mobile Source Emissions Factors for the Project Area

Project Area EMFAC2021 Emission Factors (grams/mile, 7% truck fleet mix)			
Year	Speed	CO ₂ e	CO ₂
2017	5	972.86207	958.26156
2017	10	795.53438	783.35433
2017	15	648.51823	638.64454
2017	20	542.21140	533.73162
2017	25	466.12660	458.59579
2017	30	415.40604	408.56342
2017	35	384.54205	378.18942
2017	40	369.63825	363.66056
2017	45	367.15630	361.41719
2017	50	374.11721	368.45887
2017	55	386.59012	380.85326
2017	60	401.02657	395.04819
2017	65	414.03493	407.74663
2017	70	418.33770	411.90860
2017	75	418.33771	411.90860
2017	80	418.33771	411.90860
2042	5	625.17579	617.25080
2042	10	509.97990	503.40239
2042	15	417.04390	411.82008
2042	20	349.87404	345.35697
2042	25	301.77113	297.78346
2042	30	269.47200	265.89488
2042	35	249.91229	246.62089
2042	40	240.69861	237.62287
2042	45	239.55909	236.61447
2042	50	244.48875	241.57256
2042	55	252.97385	249.99349
2042	60	262.80966	259.68660
2042	65	271.85991	268.55305
2042	70	274.78421	271.45360
2042	75	274.78421	271.45360
2042	80	274.78421	271.45360

Operational Emissions

Rail Propulsion GHG Emissions Calculations

Rail Propulsion GHG Emissions Calculations

Rail Propulsion										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Rail Propulsion (kWh)	172,000,000	178,556,320	199,093,552	229,866,745	210,937,939	199,799,058	197,554,651	215,284,093	227,049,584	217,103,112

Total Vehicle Revenue Miles										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total Rail Vehicle Revenue Miles	15,531,064	16,062,424	17,299,665	20,104,388	20,832,088	20,438,664	22,049,345	24,509,530	25,513,511	23,064,082
<i>Heavy Rail - Directly Operated (HRDO)</i>	<i>5,885,380</i>	<i>5,907,851</i>	<i>6,156,263</i>	<i>6,865,440</i>	<i>7,013,259</i>	<i>6,929,542</i>	<i>6,902,018</i>	<i>7,047,446</i>	<i>6,928,824</i>	<i>6,874,114</i>
<i>Light Rail - Directly Operated (LRDO)</i>	<i>9,645,684</i>	<i>10,154,573</i>	<i>11,143,402</i>	<i>13,238,948</i>	<i>13,818,829</i>	<i>13,509,122</i>	<i>15,147,327</i>	<i>17,462,084</i>	<i>18,584,687</i>	<i>16,189,968</i>

<i>Rail Propulsion Electricity Consumption Rate (kWh/VRM)</i>	11.07	11.12	11.51	11.43	10.13	9.78	8.96	8.78	8.90	9.41
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Average Rail Propulsion Electricity Consumption Rate 2014-2017 (kWh/VRM) 9.41 < used in FEIR analysis, matches 2019

Locally Preferred Alternative Annual Rail Vehicle Revenue Miles (VRM/year) 1,604,323

Locally Preferred Alternative Annual Rail Propulsion Electricity Consumption (MWh/year) 15,098

	<u>CO2e (lb/MWh)</u>	<u>CH4 (lb/MWh)</u>	<u>CO2 (lb/MWh)</u>	<u>N2O (lb/MWh)</u>
2042 Southern California Edison Electricity Carbon Intensity Factor (lb/MWh, from CalEEModV2022.1)	262.805	0.033	260.788	0.004

Annual Rail Propulsion GHG Emissions (MTCO2e/year) 1,800

LACMTA West Santa Ana Branch Construction - At-Grade LRT & Parking - Los Angeles-South Coast County, Annual

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	2.3936e+006	424.4943	0.0358	4.3400e-003	426.6842
Parking Lot	36400	6.4554	5.4000e-004	7.0000e-005	6.4887
Parking Lot	50400	8.9382	7.5000e-004	9.0000e-005	8.9843
Parking Lot	68600	12.1659	1.0300e-003	1.2000e-004	12.2287
Parking Lot	85960	15.2446	1.2900e-003	1.6000e-004	15.3233
Unenclosed Parking Structure	94500	16.7592	1.4100e-003	1.7000e-004	16.8456
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		484.0576	0.0409	4.9500e-003	486.5548

LACMTA West Santa Ana Branch Construction - Aerial LRT - Los Angeles-South Coast County, Annual

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unenclosed Parking with Elevator	52380	9.2894	7.8000e-004	1.0000e-004	9.3373
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		9.2894	7.8000e-004	1.0000e-004	9.3373

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unenclosed Parking with Elevator	52380	9.2894	7.8000e-004	1.0000e-004	9.3373
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		9.2894	7.8000e-004	1.0000e-004	9.3373

6.0 Area Detail

Operational Emissions

Maintenance and Storage Facility (MSF)

Annual CalEEMod Output Files:

2042 & 2017 Operations

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

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, Annual

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/MW hr)	260.79	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	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, Annual

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

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

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
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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
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
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
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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, Annual

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

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2.0 Emissions Summary

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2029	0.4297	3.9526	4.3135	0.0126	1.3172	0.1328	1.4499	0.4675	0.1235	0.5910	0.0000	1,144.3161	1,144.3161	0.1913	0.0479	1,163.3580
2030	0.3997	2.1355	4.7695	0.0114	0.5539	0.0389	0.5928	0.1480	0.0386	0.1867	0.0000	1,004.5903	1,004.5903	0.0337	0.0218	1,011.9159
2031	0.7348	0.5756	1.3174	3.1200e-003	0.1518	0.0159	0.1677	0.0406	0.0159	0.0565	0.0000	277.0590	277.0590	9.6700e-003	6.8400e-003	279.3388
Maximum	0.7348	3.9526	4.7695	0.0126	1.3172	0.1328	1.4499	0.4675	0.1235	0.5910	0.0000	1,144.3161	1,144.3161	0.1913	0.0479	1,163.3580

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	tons/yr										MT/yr					
2029	0.1971	1.2052	5.0486	0.0126	0.8246	7.8800e-003	0.8325	0.2657	7.5700e-003	0.2733	0.0000	1,144.3154	1,144.3154	0.1913	0.0479	1,163.3573
2030	0.2136	0.9349	5.0204	0.0114	0.5539	5.2200e-003	0.5592	0.1480	5.0000e-003	0.1530	0.0000	1,004.5896	1,004.5896	0.0337	0.0218	1,011.9153
2031	0.6732	0.2145	1.3875	3.1200e-003	0.1518	1.3600e-003	0.1532	0.0406	1.3000e-003	0.0419	0.0000	277.0588	277.0588	9.6700e-003	6.8400e-003	279.3386
Maximum	0.6732	1.2052	5.0486	0.0126	0.8246	7.8800e-003	0.8325	0.2657	7.5700e-003	0.2733	0.0000	1,144.3154	1,144.3154	0.1913	0.0479	1,163.3573

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	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
Percent Reduction	30.71	64.66	-10.15	0.00	24.35	92.29	30.11	30.76	92.21	43.86	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
37	1-22-2029	4-21-2029	0.6314	0.1804
38	4-22-2029	7-21-2029	1.7405	0.5129
39	7-22-2029	10-21-2029	1.3177	0.4286
40	10-22-2029	1-21-2030	0.7715	0.3061
41	1-22-2030	4-21-2030	0.6252	0.2834
42	4-22-2030	7-21-2030	0.6272	0.2817
43	7-22-2030	10-21-2030	0.6356	0.2862
44	10-22-2030	1-21-2031	0.6399	0.2906
45	1-22-2031	4-21-2031	1.1361	0.8001
		Highest	1.7405	0.8001

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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	tons/yr										MT/yr					
Area	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Energy	7.4200e-003	0.0675	0.0567	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	258.3437	258.3437	0.0248	4.1800e-003	260.2102
Mobile	0.1280	0.1271	1.3321	3.0000e-003	0.4168	1.4900e-003	0.4183	0.1112	1.3900e-003	0.1126	0.0000	277.7722	277.7722	0.0197	0.0119	281.8046
Waste						0.0000	0.0000		0.0000	0.0000	32.5131	0.0000	32.5131	1.9215	0.0000	80.5497
Water						0.0000	0.0000		0.0000	0.0000	9.6871	47.0314	56.7186	1.0009	0.0242	88.9572
Total	0.7293	0.1947	1.3945	3.4000e-003	0.4168	6.6400e-003	0.4234	0.1112	6.5400e-003	0.1178	42.2002	583.1586	625.3588	2.9669	0.0403	711.5338

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2.2 Overall Operational

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	tons/yr										MT/yr					
Area	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Energy	7.4200e-003	0.0675	0.0567	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	258.3437	258.3437	0.0248	4.1800e-003	260.2102
Mobile	0.1280	0.1271	1.3321	3.0000e-003	0.4168	1.4900e-003	0.4183	0.1112	1.3900e-003	0.1126	0.0000	277.7722	277.7722	0.0197	0.0119	281.8046
Waste						0.0000	0.0000		0.0000	0.0000	32.5131	0.0000	32.5131	1.9215	0.0000	80.5497
Water						0.0000	0.0000		0.0000	0.0000	9.6871	47.0314	56.7186	1.0009	0.0242	88.9572
Total	0.7293	0.1947	1.3945	3.4000e-003	0.4168	6.6400e-003	0.4234	0.1112	6.5400e-003	0.1178	42.2002	583.1586	625.3588	2.9669	0.0403	711.5338

	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
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	

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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
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

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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

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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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 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	tons/yr										MT/yr					
Fugitive Dust					0.0984	0.0000	0.0984	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0862	0.7959	0.8195	1.7800e-003		0.0325	0.0325		0.0303	0.0303	0.0000	155.6350	155.6350	0.0413	0.0000	156.6680
Total	0.0862	0.7959	0.8195	1.7800e-003	0.0984	0.0325	0.1309	0.0149	0.0303	0.0452	0.0000	155.6350	155.6350	0.0413	0.0000	156.6680

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	tons/yr										MT/yr					
Hauling	1.8000e-003	0.1182	0.0338	4.7000e-004	0.0155	7.3000e-004	0.0162	4.2500e-003	6.9000e-004	4.9500e-003	0.0000	46.8579	46.8579	3.0500e-003	7.4600e-003	49.1566
Vendor	1.1700e-003	0.0469	0.0167	2.0000e-004	7.5600e-003	2.3000e-004	7.7900e-003	2.1800e-003	2.2000e-004	2.4000e-003	0.0000	19.5448	19.5448	7.5000e-004	2.8200e-003	20.4048
Worker	0.0197	0.0128	0.2132	7.2000e-004	0.0986	4.3000e-004	0.0991	0.0262	3.9000e-004	0.0266	0.0000	66.1489	66.1489	1.2000e-003	1.4500e-003	66.6114
Total	0.0227	0.1779	0.2636	1.3900e-003	0.1217	1.3900e-003	0.1231	0.0326	1.3000e-003	0.0339	0.0000	132.5516	132.5516	5.0000e-003	0.0117	136.1728

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3.2 Demolition - 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	tons/yr										MT/yr					
Fugitive Dust					0.0384	0.0000	0.0384	5.8100e-003	0.0000	5.8100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0210	0.0911	1.0234	1.7800e-003		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	155.6348	155.6348	0.0413	0.0000	156.6678
Total	0.0210	0.0911	1.0234	1.7800e-003	0.0384	4.2000e-004	0.0388	5.8100e-003	4.2000e-004	6.2300e-003	0.0000	155.6348	155.6348	0.0413	0.0000	156.6678

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	tons/yr										MT/yr					
Hauling	1.8000e-003	0.1182	0.0338	4.7000e-004	0.0155	7.3000e-004	0.0162	4.2500e-003	6.9000e-004	4.9500e-003	0.0000	46.8579	46.8579	3.0500e-003	7.4600e-003	49.1566
Vendor	1.1700e-003	0.0469	0.0167	2.0000e-004	7.5600e-003	2.3000e-004	7.7900e-003	2.1800e-003	2.2000e-004	2.4000e-003	0.0000	19.5448	19.5448	7.5000e-004	2.8200e-003	20.4048
Worker	0.0197	0.0128	0.2132	7.2000e-004	0.0986	4.3000e-004	0.0991	0.0262	3.9000e-004	0.0266	0.0000	66.1489	66.1489	1.2000e-003	1.4500e-003	66.6114
Total	0.0227	0.1779	0.2636	1.3900e-003	0.1217	1.3900e-003	0.1231	0.0326	1.3000e-003	0.0339	0.0000	132.5516	132.5516	5.0000e-003	0.0117	136.1728

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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	tons/yr										MT/yr					
Fugitive Dust					0.7090	0.0000	0.7090	0.3160	0.0000	0.3160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1603	1.6028	1.2441	3.1400e-003		0.0646	0.0646		0.0595	0.0595	0.0000	276.1943	276.1943	0.0893	0.0000	278.4275
Total	0.1603	1.6028	1.2441	3.1400e-003	0.7090	0.0646	0.7736	0.3160	0.0595	0.3754	0.0000	276.1943	276.1943	0.0893	0.0000	278.4275

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	tons/yr										MT/yr					
Hauling	5.4000e-003	0.3547	0.1013	1.4000e-003	0.0465	2.1800e-003	0.0486	0.0128	2.0800e-003	0.0149	0.0000	140.5737	140.5737	9.1500e-003	0.0224	147.4698
Vendor	1.7600e-003	0.0703	0.0250	3.0000e-004	0.0113	3.4000e-004	0.0117	3.2700e-003	3.3000e-004	3.6000e-003	0.0000	29.3172	29.3172	1.1300e-003	4.2300e-003	30.6072
Worker	0.0296	0.0192	0.3197	1.0800e-003	0.1479	6.4000e-004	0.1486	0.0393	5.9000e-004	0.0399	0.0000	99.2234	99.2234	1.8000e-003	2.1800e-003	99.9172
Total	0.0368	0.4442	0.4461	2.7800e-003	0.2057	3.1600e-003	0.2089	0.0553	3.0000e-003	0.0583	0.0000	269.1143	269.1143	0.0121	0.0288	277.9941

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3.3 Site Preparation - 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	tons/yr										MT/yr					
Fugitive Dust					0.2765	0.0000	0.2765	0.1232	0.0000	0.1232	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0386	0.1672	1.6429	3.1400e-003		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	276.1940	276.1940	0.0893	0.0000	278.4272
Total	0.0386	0.1672	1.6429	3.1400e-003	0.2765	7.7000e-004	0.2773	0.1232	7.7000e-004	0.1240	0.0000	276.1940	276.1940	0.0893	0.0000	278.4272

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	tons/yr										MT/yr					
Hauling	5.4000e-003	0.3547	0.1013	1.4000e-003	0.0465	2.1800e-003	0.0486	0.0128	2.0800e-003	0.0149	0.0000	140.5737	140.5737	9.1500e-003	0.0224	147.4698
Vendor	1.7600e-003	0.0703	0.0250	3.0000e-004	0.0113	3.4000e-004	0.0117	3.2700e-003	3.3000e-004	3.6000e-003	0.0000	29.3172	29.3172	1.1300e-003	4.2300e-003	30.6072
Worker	0.0296	0.0192	0.3197	1.0800e-003	0.1479	6.4000e-004	0.1486	0.0393	5.9000e-004	0.0399	0.0000	99.2234	99.2234	1.8000e-003	2.1800e-003	99.9172
Total	0.0368	0.4442	0.4461	2.7800e-003	0.2057	3.1600e-003	0.2089	0.0553	3.0000e-003	0.0583	0.0000	269.1143	269.1143	0.0121	0.0288	277.9941

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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 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	tons/yr										MT/yr					
Off-Road	0.0879	0.8295	1.1456	1.9100e-003		0.0300	0.0300		0.0283	0.0283	0.0000	163.7133	163.7133	0.0402	0.0000	164.7178
Total	0.0879	0.8295	1.1456	1.9100e-003		0.0300	0.0300		0.0283	0.0283	0.0000	163.7133	163.7133	0.0402	0.0000	164.7178

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.0100e-003	0.0805	0.0287	3.4000e-004	0.0130	3.9000e-004	0.0134	3.7500e-003	3.8000e-004	4.1200e-003	0.0000	33.5519	33.5519	1.2900e-003	4.8500e-003	35.0282
Worker	0.0339	0.0220	0.3659	1.2400e-003	0.1693	7.3000e-004	0.1700	0.0450	6.7000e-004	0.0456	0.0000	113.5556	113.5556	2.0600e-003	2.4900e-003	114.3496
Total	0.0359	0.1024	0.3946	1.5800e-003	0.1823	1.1200e-003	0.1834	0.0487	1.0500e-003	0.0498	0.0000	147.1076	147.1076	3.3500e-003	7.3400e-003	149.3778

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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 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	tons/yr										MT/yr					
Off-Road	0.0421	0.2225	1.2780	1.9100e-003		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	163.7131	163.7131	0.0402	0.0000	164.7177
Total	0.0421	0.2225	1.2780	1.9100e-003		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	163.7131	163.7131	0.0402	0.0000	164.7177

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.0100e-003	0.0805	0.0287	3.4000e-004	0.0130	3.9000e-004	0.0134	3.7500e-003	3.8000e-004	4.1200e-003	0.0000	33.5519	33.5519	1.2900e-003	4.8500e-003	35.0282
Worker	0.0339	0.0220	0.3659	1.2400e-003	0.1693	7.3000e-004	0.1700	0.0450	6.7000e-004	0.0456	0.0000	113.5556	113.5556	2.0600e-003	2.4900e-003	114.3496
Total	0.0359	0.1024	0.3946	1.5800e-003	0.1823	1.1200e-003	0.1834	0.0487	1.0500e-003	0.0498	0.0000	147.1076	147.1076	3.3500e-003	7.3400e-003	149.3778

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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 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	tons/yr										MT/yr					
Off-Road	0.2965	1.8307	3.6172	6.7100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	566.6753	566.6753	0.0240	0.0000	567.2747
Total	0.2965	1.8307	3.6172	6.7100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	566.6753	566.6753	0.0240	0.0000	567.2747

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.0200e-003	0.2429	0.0867	1.0200e-003	0.0395	1.1900e-003	0.0407	0.0114	1.1400e-003	0.0125	0.0000	100.1030	100.1030	3.9600e-003	0.0145	104.5108
Worker	0.0971	0.0619	1.0656	3.6800e-003	0.5145	2.0800e-003	0.5166	0.1367	1.9100e-003	0.1386	0.0000	337.8119	337.8119	5.8000e-003	7.2900e-003	340.1305
Total	0.1032	0.3048	1.1523	4.7000e-003	0.5539	3.2700e-003	0.5572	0.1480	3.0500e-003	0.1511	0.0000	437.9149	437.9149	9.7600e-003	0.0218	444.6413

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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 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	tons/yr										MT/yr					
Off-Road	0.1104	0.6301	3.8680	6.7100e-003		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	566.6746	566.6746	0.0240	0.0000	567.2740
Total	0.1104	0.6301	3.8680	6.7100e-003		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	566.6746	566.6746	0.0240	0.0000	567.2740

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.0200e-003	0.2429	0.0867	1.0200e-003	0.0395	1.1900e-003	0.0407	0.0114	1.1400e-003	0.0125	0.0000	100.1030	100.1030	3.9600e-003	0.0145	104.5108
Worker	0.0971	0.0619	1.0656	3.6800e-003	0.5145	2.0800e-003	0.5166	0.1367	1.9100e-003	0.1386	0.0000	337.8119	337.8119	5.8000e-003	7.2900e-003	340.1305
Total	0.1032	0.3048	1.1523	4.7000e-003	0.5539	3.2700e-003	0.5572	0.1480	3.0500e-003	0.1511	0.0000	437.9149	437.9149	9.7600e-003	0.0218	444.6413

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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	tons/yr										MT/yr					
Off-Road	0.0322	0.1989	0.3929	7.3000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	61.5558	61.5558	2.6000e-003	0.0000	61.6209
Total	0.0322	0.1989	0.3929	7.3000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	61.5558	61.5558	2.6000e-003	0.0000	61.6209

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.5000e-004	0.0263	9.4100e-003	1.1000e-004	4.2900e-003	1.3000e-004	4.4100e-003	1.2400e-003	1.2000e-004	1.3600e-003	0.0000	10.6815	10.6815	4.3000e-004	1.5400e-003	11.1522
Worker	9.9200e-003	6.2500e-003	0.1114	3.9000e-004	0.0559	2.1000e-004	0.0561	0.0148	1.9000e-004	0.0150	0.0000	36.0387	36.0387	5.9000e-004	7.7000e-004	36.2816
Total	0.0106	0.0325	0.1208	5.0000e-004	0.0602	3.4000e-004	0.0605	0.0161	3.1000e-004	0.0164	0.0000	46.7202	46.7202	1.0200e-003	2.3100e-003	47.4338

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3.4 Building Construction & Track Laydown - 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	tons/yr										MT/yr					
Off-Road	0.0120	0.0684	0.4202	7.3000e-004		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	61.5557	61.5557	2.6000e-003	0.0000	61.6208
Total	0.0120	0.0684	0.4202	7.3000e-004		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	61.5557	61.5557	2.6000e-003	0.0000	61.6208

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.5000e-004	0.0263	9.4100e-003	1.1000e-004	4.2900e-003	1.3000e-004	4.4100e-003	1.2400e-003	1.2000e-004	1.3600e-003	0.0000	10.6815	10.6815	4.3000e-004	1.5400e-003	11.1522
Worker	9.9200e-003	6.2500e-003	0.1114	3.9000e-004	0.0559	2.1000e-004	0.0561	0.0148	1.9000e-004	0.0150	0.0000	36.0387	36.0387	5.9000e-004	7.7000e-004	36.2816
Total	0.0106	0.0325	0.1208	5.0000e-004	0.0602	3.4000e-004	0.0605	0.0161	3.1000e-004	0.0164	0.0000	46.7202	46.7202	1.0200e-003	2.3100e-003	47.4338

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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 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	tons/yr										MT/yr					
Off-Road	0.0469	0.2429	0.5470	9.5000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	82.0096	82.0096	3.8200e-003	0.0000	82.1051
Paving	7.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0544	0.2429	0.5470	9.5000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	82.0096	82.0096	3.8200e-003	0.0000	82.1051

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.1400e-003	0.0463	0.0166	1.9000e-004	7.5600e-003	2.2000e-004	7.7900e-003	2.1800e-003	2.1000e-004	2.4000e-003	0.0000	18.8498	18.8498	7.6000e-004	2.7200e-003	19.6803
Worker	0.0117	7.3500e-003	0.1311	4.6000e-004	0.0658	2.5000e-004	0.0660	0.0175	2.3000e-004	0.0177	0.0000	42.3985	42.3985	6.9000e-004	9.0000e-004	42.6843
Total	0.0128	0.0537	0.1477	6.5000e-004	0.0733	4.7000e-004	0.0738	0.0196	4.4000e-004	0.0201	0.0000	61.2482	61.2482	1.4500e-003	3.6200e-003	62.3646

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3.5 Paving Parking & Access Roads - 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	tons/yr										MT/yr					
Off-Road	9.5400e-003	0.0414	0.5886	9.5000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	82.0095	82.0095	3.8200e-003	0.0000	82.1050
Paving	7.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0171	0.0414	0.5886	9.5000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	82.0095	82.0095	3.8200e-003	0.0000	82.1050

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.1400e-003	0.0463	0.0166	1.9000e-004	7.5600e-003	2.2000e-004	7.7900e-003	2.1800e-003	2.1000e-004	2.4000e-003	0.0000	18.8498	18.8498	7.6000e-004	2.7200e-003	19.6803
Worker	0.0117	7.3500e-003	0.1311	4.6000e-004	0.0658	2.5000e-004	0.0660	0.0175	2.3000e-004	0.0177	0.0000	42.3985	42.3985	6.9000e-004	9.0000e-004	42.6843
Total	0.0128	0.0537	0.1477	6.5000e-004	0.0733	4.7000e-004	0.0738	0.0196	4.4000e-004	0.0201	0.0000	61.2482	61.2482	1.4500e-003	3.6200e-003	62.3646

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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	tons/yr										MT/yr					
Archit. Coating	0.6163					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.0343	0.0719	1.2000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	10.2130	10.2130	4.1000e-004	0.0000	10.2234
Total	0.6215	0.0343	0.0719	1.2000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	10.2130	10.2130	4.1000e-004	0.0000	10.2234

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.9000e-004	0.0116	4.1500e-003	5.0000e-005	1.8900e-003	6.0000e-005	1.9500e-003	5.5000e-004	5.0000e-005	6.0000e-004	0.0000	4.7124	4.7124	1.9000e-004	6.8000e-004	4.9201
Worker	2.9200e-003	1.8400e-003	0.0328	1.2000e-004	0.0164	6.0000e-005	0.0165	4.3700e-003	6.0000e-005	4.4200e-003	0.0000	10.5996	10.5996	1.7000e-004	2.3000e-004	10.6711
Total	3.2100e-003	0.0134	0.0369	1.7000e-004	0.0183	1.2000e-004	0.0185	4.9200e-003	1.1000e-004	5.0200e-003	0.0000	15.3121	15.3121	3.6000e-004	9.1000e-004	15.5911

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3.6 Road Striping & Architectural Coating - 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	tons/yr										MT/yr					
Archit. Coating	0.6163					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1900e-003	5.1500e-003	0.0733	1.2000e-004		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	10.2130	10.2130	4.1000e-004	0.0000	10.2233
Total	0.6175	5.1500e-003	0.0733	1.2000e-004		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	10.2130	10.2130	4.1000e-004	0.0000	10.2233

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.9000e-004	0.0116	4.1500e-003	5.0000e-005	1.8900e-003	6.0000e-005	1.9500e-003	5.5000e-004	5.0000e-005	6.0000e-004	0.0000	4.7124	4.7124	1.9000e-004	6.8000e-004	4.9201
Worker	2.9200e-003	1.8400e-003	0.0328	1.2000e-004	0.0164	6.0000e-005	0.0165	4.3700e-003	6.0000e-005	4.4200e-003	0.0000	10.5996	10.5996	1.7000e-004	2.3000e-004	10.6711
Total	3.2100e-003	0.0134	0.0369	1.7000e-004	0.0183	1.2000e-004	0.0185	4.9200e-003	1.1000e-004	5.0200e-003	0.0000	15.3121	15.3121	3.6000e-004	9.1000e-004	15.5911

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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	tons/yr										MT/yr					
Mitigated	0.1280	0.1271	1.3321	3.0000e-003	0.4168	1.4900e-003	0.4183	0.1112	1.3900e-003	0.1126	0.0000	277.7722	277.7722	0.0197	0.0119	281.8046
Unmitigated	0.1280	0.1271	1.3321	3.0000e-003	0.4168	1.4900e-003	0.4183	0.1112	1.3900e-003	0.1126	0.0000	277.7722	277.7722	0.0197	0.0119	281.8046

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

Land Use	Miles			Trip %			Trip Purpose %		
	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

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

Land Use	Miles			Trip %			Trip Purpose %		
	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
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
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

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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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	184.8814	184.8814	0.0234	2.8400e-003	186.3113
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	184.8814	184.8814	0.0234	2.8400e-003	186.3113
Natural Gas Mitigated	7.4200e-003	0.0675	0.0567	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4624	73.4624	1.4100e-003	1.3500e-003	73.8989
Natural Gas Unmitigated	7.4200e-003	0.0675	0.0567	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4624	73.4624	1.4100e-003	1.3500e-003	73.8989

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

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	tons/yr										MT/yr					
General Light Industry	82616	4.5000e-004	4.0500e-003	3.4000e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4087	4.4087	8.0000e-005	8.0000e-005	4.4349
General Light Industry	217316	1.1700e-003	0.0107	8.9500e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.5968	11.5968	2.2000e-004	2.1000e-004	11.6657
Industrial Park	1.06647e+006	5.7500e-003	0.0523	0.0439	3.1000e-004		3.9700e-003	3.9700e-003		3.9700e-003	3.9700e-003	0.0000	56.9107	56.9107	1.0900e-003	1.0400e-003	57.2489
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	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	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	0.0000
Unrefrigerated Warehouse-Rail	10234	6.0000e-005	5.0000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5461	0.5461	1.0000e-005	1.0000e-005	0.5494
Total		7.4300e-003	0.0675	0.0567	3.9000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4624	73.4624	1.4000e-003	1.3400e-003	73.8989

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

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	tons/yr										MT/yr					
General Light Industry	217316	1.1700e-003	0.0107	8.9500e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.5968	11.5968	2.2000e-004	2.1000e-004	11.6657
General Light Industry	82616	4.5000e-004	4.0500e-003	3.4000e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4087	4.4087	8.0000e-005	8.0000e-005	4.4349
Industrial Park	1.06647e+006	5.7500e-003	0.0523	0.0439	3.1000e-004		3.9700e-003	3.9700e-003		3.9700e-003	3.9700e-003	0.0000	56.9107	56.9107	1.0900e-003	1.0400e-003	57.2489
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	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	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	0.0000
Unrefrigerated Warehouse-Rail	10234	6.0000e-005	5.0000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5461	0.5461	1.0000e-005	1.0000e-005	0.5494
Total		7.4300e-003	0.0675	0.0567	3.9000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4624	73.4624	1.4000e-003	1.3400e-003	73.8989

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	131406	15.5443	1.9700e-003	2.4000e-004	15.6646
General Light Industry	49956	5.9094	7.5000e-004	9.0000e-005	5.9551
Industrial Park	1.293e+006	152.9520	0.0194	2.3500e-003	154.1350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	42980	5.0842	6.4000e-004	8.0000e-005	5.1235
Unrefrigerated Warehouse-Rail	45577	5.3914	6.8000e-004	8.0000e-005	5.4331
Total		184.8814	0.0234	2.8400e-003	186.3113

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

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	131406	15.5443	1.9700e-003	2.4000e-004	15.6646
General Light Industry	49956	5.9094	7.5000e-004	9.0000e-005	5.9551
Industrial Park	1.293e+006	152.9520	0.0194	2.3500e-003	154.1350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	42980	5.0842	6.4000e-004	8.0000e-005	5.1235
Unrefrigerated Warehouse-Rail	45577	5.3914	6.8000e-004	8.0000e-005	5.4331
Total		184.8814	0.0234	2.8400e-003	186.3113

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

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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	tons/yr										MT/yr					
Mitigated	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Unmitigated	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120

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	tons/yr										MT/yr					
Architectural Coating	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.3000e-004	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Total	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120

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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	tons/yr										MT/yr					
Architectural Coating	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.3000e-004	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Total	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120

7.0 Water Detail

7.1 Mitigation Measures Water

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

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	56.7186	1.0009	0.0242	88.9572
Unmitigated	56.7186	1.0009	0.0242	88.9572

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

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	3.86187 / 0	7.1736	0.1266	3.0600e-003	11.2510
Industrial Park	23.9205 / 0	44.4333	0.7841	0.0190	69.6890
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	2.75188 / 0	5.1117	0.0902	2.1800e-003	8.0172
Total		56.7185	1.0009	0.0242	88.9572

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

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	3.86187 / 0	7.1736	0.1266	3.0600e-003	11.2510
Industrial Park	23.9205 / 0	44.4333	0.7841	0.0190	69.6890
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	2.75188 / 0	5.1117	0.0902	2.1800e-003	8.0172
Total		56.7185	1.0009	0.0242	88.9572

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	32.5131	1.9215	0.0000	80.5497
Unmitigated	32.5131	1.9215	0.0000	80.5497

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

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	20.71	4.2039	0.2485	0.0000	10.4151
Industrial Park	128.27	26.0377	1.5388	0.0000	64.5072
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	11.19	2.2715	0.1342	0.0000	5.6275
Total		32.5131	1.9215	0.0000	80.5497

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

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	20.71	4.2039	0.2485	0.0000	10.4151
Industrial Park	128.27	26.0377	1.5388	0.0000	64.5072
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	11.19	2.2715	0.1342	0.0000	5.6275
Total		32.5131	1.9215	0.0000	80.5497

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
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Boilers

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

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

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 MSF - Bellflower Option - Los Angeles-South Coast County, Annual

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, Annual

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/MW hr)	531.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	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, Annual

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

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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

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2017	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.5000e-004
Maximum	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.5000e-004

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	tons/yr										MT/yr					
2017	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.5000e-004
Maximum	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.5000e-004

	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
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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

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

		Highest	
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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	tons/yr										MT/yr					
Area	0.5939	6.0000e-005	5.9100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0121
Energy	7.4900e-003	0.0681	0.0572	4.1000e-004		5.1800e-003	5.1800e-003		5.1800e-003	5.1800e-003	0.0000	464.6797	464.6797	0.0257	4.3000e-003	466.6011
Mobile	0.2227	0.4041	2.7674	4.7800e-003	0.4164	6.2500e-003	0.4227	0.1111	5.8800e-003	0.1170	0.0000	441.4752	441.4752	0.0329	0.0217	448.7762
Waste						0.0000	0.0000		0.0000	0.0000	32.5131	0.0000	32.5131	1.9215	0.0000	80.5497
Water						0.0000	0.0000		0.0000	0.0000	9.6871	95.9384	105.6256	1.0009	0.0242	137.8642
Total	0.8241	0.4722	2.8305	5.1900e-003	0.4164	0.0115	0.4279	0.1111	0.0111	0.1222	42.2002	1,002.1047	1,044.3048	2.9810	0.0503	1,133.8033

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2.2 Overall Operational

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	tons/yr										MT/yr					
Area	0.5939	6.0000e-005	5.9100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0121
Energy	7.4900e-003	0.0681	0.0572	4.1000e-004		5.1800e-003	5.1800e-003		5.1800e-003	5.1800e-003	0.0000	464.6797	464.6797	0.0257	4.3000e-003	466.6011
Mobile	0.2227	0.4041	2.7674	4.7800e-003	0.4164	6.2500e-003	0.4227	0.1111	5.8800e-003	0.1170	0.0000	441.4752	441.4752	0.0329	0.0217	448.7762
Waste						0.0000	0.0000		0.0000	0.0000	32.5131	0.0000	32.5131	1.9215	0.0000	80.5497
Water						0.0000	0.0000		0.0000	0.0000	9.6871	95.9384	105.6256	1.0009	0.0242	137.8642
Total	0.8241	0.4722	2.8305	5.1900e-003	0.4164	0.0115	0.4279	0.1111	0.0111	0.1222	42.2002	1,002.1047	1,044.3048	2.9810	0.0503	1,133.8033

	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
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

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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

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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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 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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	0.0000

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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.5000e-004
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.5000e-004

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3.2 Site Preparation - 2017

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	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	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	0.0000

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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.5000e-004
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.1000e-004	3.1000e-004	0.0000	0.0000	3.5000e-004

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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	tons/yr										MT/yr					
Mitigated	0.2227	0.4041	2.7674	4.7800e-003	0.4164	6.2500e-003	0.4227	0.1111	5.8800e-003	0.1170	0.0000	441.4752	441.4752	0.0329	0.0217	448.7762
Unmitigated	0.2227	0.4041	2.7674	4.7800e-003	0.4164	6.2500e-003	0.4227	0.1111	5.8800e-003	0.1170	0.0000	441.4752	441.4752	0.0329	0.0217	448.7762

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

Land Use	Miles			Trip %			Trip Purpose %		
	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

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Land Use	Miles			Trip %			Trip Purpose %		
	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
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
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

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	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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	390.5343	390.5343	0.0242	2.9400e-003	392.0150
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	390.5343	390.5343	0.0242	2.9400e-003	392.0150
Natural Gas Mitigated	7.4900e-003	0.0681	0.0572	4.1000e-004		5.1800e-003	5.1800e-003		5.1800e-003	5.1800e-003	0.0000	74.1455	74.1455	1.4200e-003	1.3600e-003	74.5861
Natural Gas Unmitigated	7.4900e-003	0.0681	0.0572	4.1000e-004		5.1800e-003	5.1800e-003		5.1800e-003	5.1800e-003	0.0000	74.1455	74.1455	1.4200e-003	1.3600e-003	74.5861

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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	tons/yr										MT/yr					
General Light Industry	219010	1.1800e-003	0.0107	9.0200e-003	6.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.6872	11.6872	2.2000e-004	2.1000e-004	11.7567
General Light Industry	83260	4.5000e-004	4.0800e-003	3.4300e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4431	4.4431	9.0000e-005	8.0000e-005	4.4695
Industrial Park	1.07681e+006	5.8100e-003	0.0528	0.0443	3.2000e-004		4.0100e-003	4.0100e-003		4.0100e-003	4.0100e-003	0.0000	57.4627	57.4627	1.1000e-003	1.0500e-003	57.8042
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	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	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	0.0000
Unrefrigerated Warehouse-Rail	10353	6.0000e-005	5.1000e-004	4.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5525	0.5525	1.0000e-005	1.0000e-005	0.5558
Total		7.5000e-003	0.0681	0.0572	4.0000e-004		5.1800e-003	5.1800e-003		5.1800e-003	5.1800e-003	0.0000	74.1455	74.1455	1.4200e-003	1.3500e-003	74.5861

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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	tons/yr										MT/yr					
General Light Industry	83260	4.5000e-004	4.0800e-003	3.4300e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4431	4.4431	9.0000e-005	8.0000e-005	4.4695
General Light Industry	219010	1.1800e-003	0.0107	9.0200e-003	6.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.6872	11.6872	2.2000e-004	2.1000e-004	11.7567
Industrial Park	1.07681e+006	5.8100e-003	0.0528	0.0443	3.2000e-004		4.0100e-003	4.0100e-003		4.0100e-003	4.0100e-003	0.0000	57.4627	57.4627	1.1000e-003	1.0500e-003	57.8042
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	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	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	0.0000
Unrefrigerated Warehouse-Rail	10353	6.0000e-005	5.1000e-004	4.3000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5525	0.5525	1.0000e-005	1.0000e-005	0.5558
Total		7.5000e-003	0.0681	0.0572	4.0000e-004		5.1800e-003	5.1800e-003		5.1800e-003	5.1800e-003	0.0000	74.1455	74.1455	1.4200e-003	1.3500e-003	74.5861

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

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	134310	32.4093	2.0100e-003	2.4000e-004	32.5322
General Light Industry	51060	12.3209	7.6000e-004	9.0000e-005	12.3676
Industrial Park	1.34369e+006	324.2341	0.0201	2.4400e-003	325.4635
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	42980	10.3712	6.4000e-004	8.0000e-005	10.4105
Unrefrigerated Warehouse-Rail	46410	11.1988	6.9000e-004	8.0000e-005	11.2413
Total		390.5343	0.0242	2.9300e-003	392.0150

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

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	134310	32.4093	2.0100e-003	2.4000e-004	32.5322
General Light Industry	51060	12.3209	7.6000e-004	9.0000e-005	12.3676
Industrial Park	1.34369e+006	324.2341	0.0201	2.4400e-003	325.4635
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	42980	10.3712	6.4000e-004	8.0000e-005	10.4105
Unrefrigerated Warehouse-Rail	46410	11.1988	6.9000e-004	8.0000e-005	11.2413
Total		390.5343	0.0242	2.9300e-003	392.0150

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

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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	tons/yr										MT/yr					
Mitigated	0.5939	6.0000e-005	5.9100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0121
Unmitigated	0.5939	6.0000e-005	5.9100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0121

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	tons/yr										MT/yr					
Architectural Coating	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.7000e-004	6.0000e-005	5.9100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0121
Total	0.5939	6.0000e-005	5.9100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0121

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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	tons/yr										MT/yr					
Architectural Coating	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.7000e-004	6.0000e-005	5.9100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0121
Total	0.5939	6.0000e-005	5.9100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0121

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	105.6256	1.0009	0.0242	137.8642
Unmitigated	105.6256	1.0009	0.0242	137.8642

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	3.86187 / 0	13.3592	0.1266	3.0600e-003	17.4366
Industrial Park	23.9205 / 0	82.7469	0.7841	0.0190	108.0027
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	2.75188 / 0	9.5194	0.0902	2.1800e-003	12.4249
Total		105.6255	1.0009	0.0242	137.8642

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

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	3.86187 / 0	13.3592	0.1266	3.0600e-003	17.4366
Industrial Park	23.9205 / 0	82.7469	0.7841	0.0190	108.0027
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	2.75188 / 0	9.5194	0.0902	2.1800e-003	12.4249
Total		105.6255	1.0009	0.0242	137.8642

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	32.5131	1.9215	0.0000	80.5497
Unmitigated	32.5131	1.9215	0.0000	80.5497

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	20.71	4.2039	0.2485	0.0000	10.4151
Industrial Park	128.27	26.0377	1.5388	0.0000	64.5072
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	11.19	2.2715	0.1342	0.0000	5.6275
Total		32.5131	1.9215	0.0000	80.5497

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	20.71	4.2039	0.2485	0.0000	10.4151
Industrial Park	128.27	26.0377	1.5388	0.0000	64.5072
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	11.19	2.2715	0.1342	0.0000	5.6275
Total		32.5131	1.9215	0.0000	80.5497

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

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

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

Equipment Type	Number
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11.0 Vegetation

Construction Emissions
Construction GHG Emissions from
CalEEMod Output Files

Construction GHG Emissions from CalEEMod Output Files

			GHG Emissions					
			Metric Tons (MT)					
			Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Source Category							
Early Utility Relocations - 2024								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	32.74	32.74	0.01	0.00	33
	Total		0.00	32.74	32.74	0.01	0.00	33
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	22.35	22.35	0.00	0.00	23
	Worker		0.00	34.41	34.41	0.00	0.00	35
	Total		0.00	56.76	56.76	0.00	0.00	58
Early Utility Relocations - 2025								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	594.80	594.80	0.14	0.00	598
	Total		0.00	594.80	594.80	0.14	0.00	598
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	398.67	398.67	0.01	0.06	416
	Worker		0.00	603.93	603.93	0.01	0.01	608
	Total		0.00	1,002.60	1,002.60	0.03	0.07	1,024
Early Freight Relocations - 2025								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	116.04	116.04	0.04	0.00	117
	Total		0.00	116.04	116.04	0.04	0.00	117
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	78.64	78.64	0.00	0.01	82
	Worker		0.00	119.12	119.12	0.00	0.00	120
	Total		0.00	197.76	197.76	0.01	0.01	202
Early Freight Relocations - 2026								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	704.33	704.33	0.23	0.00	710
	Total		0.00	704.33	704.33	0.23	0.00	710
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	468.45	468.45	0.02	0.07	489
	Worker		0.00	701.08	701.08	0.01	0.02	706
	Total		0.00	1,169.54	1,169.54	0.03	0.08	1,195

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Early Freight Relocations - 2027								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	663.85	663.85	0.21	0.00	669
	Total		0.00	663.85	663.85	0.21	0.00	669
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	432.83	432.83	0.02	0.06	452
	Worker		0.00	642.45	642.45	0.01	0.01	647
	Total		0.00	1,075.28	1,075.28	0.03	0.08	1,099
Guideway - Foundations - 2028								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	272.40	272.40	0.07	0.00	274
	Total		0.00	272.40	272.40	0.07	0.00	274
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	33.20	33.20	0.00	0.00	35
	Worker		0.00	94.05	94.05	0.00	0.00	95
	Total		0.00	127.24	127.24	0.00	0.01	129
Guideway - Horizontal Support - 2028								
	Off-Road		0.00	417.48	417.48	0.09	0.00	420
	Total		0.00	417.48	417.48	0.09	0.00	420
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	71.37	71.37	0.00	0.01	75
	Worker		0.00	202.20	202.20	0.00	0.00	204
	Total		0.00	273.57	273.57	0.01	0.01	278
Guideway - Horizontal Support - 2029								
	Off-Road		0.00	48.54	48.54	0.01	0.00	49
	Total		0.00	48.54	48.54	0.01	0.00	49
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	8.14	8.14	0.00	0.00	9
	Worker		0.00	22.97	22.97	0.00	0.00	23
	Total		0.00	31.11	31.11	0.00	0.00	32

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Stations - Foundations - 2029								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	331.67	331.67	0.09	0.00	334
	Total		0.00	331.67	331.67	0.09	0.00	334
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	40.72	40.72	0.00	0.01	43
	Worker		0.00	114.84	114.84	0.00	0.00	116
	Total		0.00	155.56	155.56	0.00	0.01	158
3.5 Stations - Platform Construction - 2029								
	Off-Road		0.00	251.69	251.69	0.05	0.00	253
	Total		0.00	251.69	251.69	0.05	0.00	253
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	42.67	42.67	0.00	0.01	45
	Worker		0.00	120.35	120.35	0.00	0.00	121
	Total		0.00	163.03	163.03	0.00	0.01	166
3.5 Stations - Platform Construction - 2030								
	Off-Road		0.00	562.21	562.21	0.02	0.00	563
	Total		0.00	562.21	562.21	0.02	0.00	563
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	83.47	83.47	0.00	0.01	87
	Worker		0.00	234.74	234.74	0.00	0.01	236
	Total		0.00	318.21	318.21	0.01	0.02	324
3.5 Stations - Platform Construction - 2031								
	Off-Road		0.00	71.08	71.08	0.00	0.00	71
	Total		0.00	71.08	71.08	0.00	0.00	71
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	10.37	10.37	0.00	0.00	11
	Worker		0.00	29.15	29.15	0.00	0.00	29
	Total		0.00	39.52	39.52	0.00	0.00	40

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
3.2 At-Grade Guideway Prep - 2028								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	765.33	765.33	0.25	0.00	772
	Total		0.00	765.33	765.33	0.25	0.00	772
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	0.00	0.00	0.00	0.00	0
	Worker		0.00	90.28	90.28	0.00	0.00	91
	Total		0.00	90.28	90.28	0.00	0.00	91
3.3 At-Grade Guideway Construction - 2028								
	Off-Road		0.00	49.65	49.65	0.01	0.00	50
	Total		0.00	49.65	49.65	0.01	0.00	50
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	13.28	13.28	0.00	0.00	14
	Worker		0.00	37.62	37.62	0.00	0.00	38
	Total		0.00	50.90	50.90	0.00	0.00	52
3.3 At-Grade Guideway Construction - 2029								
	Off-Road		0.00	647.92	647.92	0.15	0.00	652
	Total		0.00	647.92	647.92	0.15	0.00	652
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	170.04	170.04	0.01	0.02	178
	Worker		0.00	479.58	479.58	0.01	0.01	483
	Total		0.00	649.62	649.62	0.02	0.04	660
At-Grade Guideway Construction - 2030								
	Off-Road		0.00	449.74	449.74	0.01	0.00	450
	Total		0.00	449.74	449.74	0.01	0.00	450
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	101.70	101.70	0.00	0.01	106
	Worker		0.00	286.01	286.01	0.00	0.01	288
	Total		0.00	387.71	387.71	0.01	0.02	394

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
At-Grade Station Prep - 2029								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	342.74	342.74	0.11	0.00	346
	Total		0.00	342.74	342.74	0.11	0.00	346
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	0.00	0.00	0.00	0.00	0
	Worker		0.00	44.10	44.10	0.00	0.00	44
	Total		0.00	44.10	44.10	0.00	0.00	44
t-Grade Station Construction - 2029								
	Off-Road		0.00	279.82	279.82	0.06	0.00	281
	Total		0.00	279.82	279.82	0.06	0.00	281
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	81.44	81.44	0.00	0.01	85
	Worker		0.00	229.68	229.68	0.00	0.01	231
	Total		0.00	311.12	311.12	0.01	0.02	316
Parking Structure Construction - 2030								
	Off-Road		0.00	534.81	534.81	0.02	0.00	535
	Total		0.00	534.81	534.81	0.02	0.00	535
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	115.13	115.13	0.00	0.02	120
	Worker		0.00	323.78	323.78	0.01	0.01	326
	Total		0.00	438.92	438.92	0.01	0.02	446
Surface Parking Lots Construction - 2030								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	229.25	229.25	0.01	0.00	229
	Total		0.00	229.25	229.25	0.01	0.00	229
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	0.00	0.00	0.00	0.00	0
	Worker		0.00	97.13	97.13	0.00	0.00	98
	Total		0.00	97.13	97.13	0.00	0.00	98

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Utility Relocations - 2027								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	613.75	613.75	0.12	0.00	617
	Total		0.00	613.75	613.75	0.12	0.00	617
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	82.92	82.92	0.00	0.01	87
	Worker		0.00	236.38	236.38	0.00	0.01	238
	Total		0.00	319.30	319.30	0.01	0.02	325
3.2 Utility Relocations - 2028								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	651.33	651.33	0.13	0.00	655
	Total		0.00	651.33	651.33	0.13	0.00	655
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	86.31	86.31	0.00	0.01	90
	Worker		0.00	244.52	244.52	0.00	0.01	246
	Total		0.00	330.83	330.83	0.01	0.02	336
Utility Relocations - 2029								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	200.41	200.41	0.04	0.00	201
	Total		0.00	200.41	200.41	0.04	0.00	201
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	26.06	26.06	0.00	0.00	27
	Worker		0.00	73.50	73.50	0.00	0.00	74
	Total		0.00	99.56	99.56	0.00	0.01	101
Demolition - 2027								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	475.02	475.02	0.15	0.00	479
	Total		0.00	475.02	475.02	0.15	0.00	479
	Hauling		0.00	134.63	134.63	0.01	0.02	141
	Vendor		0.00	0.00	0.00	0.00	0.00	0
	Worker		0.00	207.44	207.44	0.00	0.00	209
	Total		0.00	342.07	342.07	0.01	0.03	350

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Demolition - 2028								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	99.42	99.42	0.03	0.00	100
	Total		0.00	99.42	99.42	0.03	0.00	100
	Hauling		0.00	27.60	27.60	0.00	0.00	29
	Vendor		0.00	0.00	0.00	0.00	0.00	0
	Worker		0.00	42.32	42.32	0.00	0.00	43
	Total		0.00	69.92	69.92	0.00	0.01	72
Freight Track Relocations & Freight Bridge - 2027								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	595.30	595.30	0.14	0.00	599
	Total		0.00	595.30	595.30	0.14	0.00	599
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	72.76	72.76	0.00	0.01	76
	Worker		0.00	207.44	207.44	0.00	0.00	209
	Total		0.00	280.20	280.20	0.01	0.02	285
Freight Track Relocations & Freight Bridge - 2028								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	719.89	719.89	0.17	0.00	724
	Total		0.00	719.89	719.89	0.17	0.00	724
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	86.31	86.31	0.00	0.01	90
	Worker		0.00	244.52	244.52	0.00	0.01	246
	Total		0.00	330.83	330.83	0.01	0.02	336
Freight Track Relocations & Freight Bridge - 2029								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	124.60	124.60	0.03	0.00	125
	Total		0.00	124.60	124.60	0.03	0.00	125
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	14.66	14.66	0.00	0.00	15
	Worker		0.00	41.34	41.34	0.00	0.00	42
	Total		0.00	56.00	56.00	0.00	0.00	57

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
ROW clearing/prep - 2028								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	479.89	479.89	0.16	0.00	484
	Total		0.00	479.89	479.89	0.16	0.00	484
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	0.00	0.00	0.00	0.00	0
	Worker		0.00	202.20	202.20	0.00	0.00	204
	Total		0.00	202.20	202.20	0.00	0.00	204
ROW clearing/prep - 2029								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	100.44	100.44	0.03	0.00	101
	Total		0.00	100.44	100.44	0.03	0.00	101
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	0.00	0.00	0.00	0.00	0
	Worker		0.00	41.34	41.34	0.00	0.00	42
	Total		0.00	41.34	41.34	0.00	0.00	42
2 Signals - 2031								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	278.49	278.49	0.01	0.00	279
	Total		0.00	278.49	278.49	0.01	0.00	279
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	24.03	24.03	0.00	0.00	25
	Worker		0.00	54.06	54.06	0.00	0.00	54
	Total		0.00	78.09	78.09	0.00	0.00	80
3.2 Signals - 2032								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	240.27	240.27	0.01	0.00	241
	Total		0.00	240.27	240.27	0.01	0.00	241
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	20.41	20.41	0.00	0.00	21
	Worker		0.00	45.83	45.83	0.00	0.00	46
	Total		0.00	66.24	66.24	0.00	0.00	67

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
OCS - 2031								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	278.49	278.49	0.01	0.00	279
	Total		0.00	278.49	278.49	0.01	0.00	279
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	24.03	24.03	0.00	0.00	25
	Worker		0.00	54.06	54.06	0.00	0.00	54
	Total		0.00	78.09	78.09	0.00	0.00	80
OCS - 2032								
	Fugitive Dust		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	240.27	240.27	0.01	0.00	241
	Total		0.00	240.27	240.27	0.01	0.00	241
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	20.41	20.41	0.00	0.00	21
	Worker		0.00	45.83	45.83	0.00	0.00	46
	Total		0.00	66.24	66.24	0.00	0.00	67
TPSS - 2031								
	Off-Road		0.00	307.21	307.21	0.01	0.00	307
	Total		0.00	307.21	307.21	0.01	0.00	307
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	24.03	24.03	0.00	0.00	25
	Worker		0.00	54.06	54.06	0.00	0.00	54
	Total		0.00	78.09	78.09	0.00	0.00	80
TPSS - 2032								
	Off-Road		0.00	265.04	265.04	0.01	0.00	265
	Total		0.00	265.04	265.04	0.01	0.00	265
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	20.41	20.41	0.00	0.00	21
	Worker		0.00	45.83	45.83	0.00	0.00	46
	Total		0.00	66.24	66.24	0.00	0.00	67

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
LPA Cut/Fill Import & Export - 2025									
	Hauling		0.00	109.24	109.24	0.01	0.02	115	
LPA Cut/Fill Import & Export - 2026									
	Hauling		0.00	650.32	650.32	0.04	0.10	682	
LPA Cut/Fill Import & Export - 2027									
	Hauling		0.00	637.13	637.13	0.04	0.10	668	
LPA Cut/Fill Import & Export - 2028									
	Hauling		0.00	621.72	621.72	0.04	0.10	652	
LPA Cut/Fill Import & Export - 2029									
	Hauling		0.00	611.24	611.24	0.04	0.10	641	
LPA Cut/Fill Import & Export - 2030									
	Hauling		0.00	502.35	502.35	0.03	0.08	527	
									LRT Corridor Construction Emissions (Excluding MSF)
									13,102 Off-Road
									3,456 Hauling
									2,792 Vendor
									6,393 Worker
Total LRT Corridor Construction Emissions (MTCO2e):									25,743 Total
Amortized LRT Corridor Construction Emissions (MTCO2e/year):									858

Construction GHG Emissions from CalEEMod Output Files

		Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
MSF							
Demolition - 2029							
	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0
	Off-Road	0.00	155.63	155.63	0.04	0.00	157
	Total	0.00	155.63	155.63	0.04	0.00	157
	Hauling	0.00	46.86	46.86	0.00	0.01	49
	Vendor	0.00	19.54	19.54	0.00	0.00	20
	Worker	0.00	66.15	66.15	0.00	0.00	67
	Total	0.00	132.55	132.55	0.01	0.01	136
Site Preparation - 2029							
	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0
	Off-Road	0.00	276.19	276.19	0.09	0.00	278
	Total	0.00	276.19	276.19	0.09	0.00	278
	Hauling	0.00	140.57	140.57	0.01	0.02	147
	Vendor	0.00	29.32	29.32	0.00	0.00	31
	Worker	0.00	99.22	99.22	0.00	0.00	100
	Total	0.00	269.11	269.11	0.01	0.03	278
Building Construction & Track Laydown - 2029							
	Off-Road	0.00	163.71	163.71	0.04	0.00	165
	Total	0.00	163.71	163.71	0.04	0.00	165
	Hauling	0.00	0.00	0.00	0.00	0.00	0
	Vendor	0.00	33.55	33.55	0.00	0.00	35
	Worker	0.00	113.56	113.56	0.00	0.00	114
	Total	0.00	147.11	147.11	0.00	0.01	149
4 Building Construction & Track Laydown - 2030							
	Off-Road	0.00	566.67	566.67	0.02	0.00	567
	Total	0.00	566.67	566.67	0.02	0.00	567
	Hauling	0.00	0.00	0.00	0.00	0.00	0
	Vendor	0.00	100.10	100.10	0.00	0.01	105
	Worker	0.00	337.81	337.81	0.01	0.01	340
	Total	0.00	437.91	437.91	0.01	0.02	445

Construction GHG Emissions from CalEEMod Output Files

			Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Building Construction & Track Laydown - 2031								
	Off-Road		0.00	61.56	61.56	0.00	0.00	62
	Total		0.00	61.56	61.56	0.00	0.00	62
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	10.68	10.68	0.00	0.00	11
	Worker		0.00	36.04	36.04	0.00	0.00	36
	Total		0.00	46.72	46.72	0.00	0.00	47
Paving Parking & Access Roads - 2031								
	Off-Road		0.00	82.01	82.01	0.00	0.00	82
	Paving		0.00	0.00	0.00	0.00	0.00	0
	Total		0.00	82.01	82.01	0.00	0.00	82
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	18.85	18.85	0.00	0.00	20
	Worker		0.00	42.40	42.40	0.00	0.00	43
	Total		0.00	61.25	61.25	0.00	0.00	62
Road Striping & Architectural Coating - 2031								
	Archit.		0.00	0.00	0.00	0.00	0.00	0
	Off-Road		0.00	10.21	10.21	0.00	0.00	10
	Total		0.00	10.21	10.21	0.00	0.00	10
	Hauling		0.00	0.00	0.00	0.00	0.00	0
	Vendor		0.00	4.71	4.71	0.00	0.00	5
	Worker		0.00	10.60	10.60	0.00	0.00	11
	Total		0.00	15.31	15.31	0.00	0.00	16
MSF Totals								
								1,321 Off-Road
								197 Hauling
								226 Vendor
								711 Worker
Total MSF Construction GHG Emissions								2,455 Total
Amortized MSF Construction Emissions (MTCO2e/year)								82
MSF Operations (MTCO2e/year, from CalEEMod Output)								712
Total Annual MSF GHG Emissions (MTCO2/year)								793

Construction GHG Emissions from CalEEMod Output Files

				Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
									LRT Corridor + MSF Total (MTCO2e)
									Total Locally Preferred Alternative Construction GHG Emissions (MTCO2e): 28,198
									<i>Amortized LPA Construction GHG Emissions (MTCO2e/year) 940</i>

Construction Emissions
CalEEMod Output Files

Utility & Freight Track Relocations
Annual CalEEMod Output File

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

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, Annual

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)

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

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, Annual

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2024	0.0277	0.1960	0.3224	9.8000e-004	0.0529	6.7300e-003	0.0597	0.0142	6.3600e-003	0.0206	0.0000	89.5010	89.5010	9.3200e-003	4.0100e-003	90.9290
2025	0.5761	4.0959	6.6748	0.0209	1.9285	0.1346	2.0631	0.4795	0.1265	0.6060	0.0000	1,911.2036	1,911.2036	0.2099	0.0848	1,941.7281
2026	0.6267	4.8926	5.8855	0.0205	2.9131	0.1689	3.0820	1.0207	0.1557	1.1764	0.0000	1,873.8657	1,873.8657	0.2565	0.0826	1,904.8988
2027	0.5792	4.5912	5.4178	0.0190	2.7792	0.1589	2.9380	0.9657	0.1465	1.1121	0.0000	1,739.1278	1,739.1278	0.2407	0.0759	1,767.7662
Maximum	0.6267	4.8926	6.6748	0.0209	2.9131	0.1689	3.0820	1.0207	0.1557	1.1764	0.0000	1,911.2036	1,911.2036	0.2565	0.0848	1,941.7281

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

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2024	0.0163	0.0721	0.3666	9.8000e-004	0.0529	1.0900e-003	0.0540	0.0142	1.0600e-003	0.0153	0.0000	89.5009	89.5009	9.3200e-003	4.0100e-003	90.9289
2025	0.3400	1.5545	7.6842	0.0209	1.4542	0.0238	1.4780	0.3759	0.0231	0.3991	0.0000	1,911.2027	1,911.2027	0.2099	0.0848	1,941.7273
2026	0.3357	1.5830	7.0561	0.0205	1.8382	0.0254	1.8636	0.5870	0.0248	0.6118	0.0000	1,873.8648	1,873.8648	0.2565	0.0826	1,904.8980
2027	0.3049	1.4718	6.5211	0.0190	1.7456	0.0237	1.7693	0.5547	0.0231	0.5778	0.0000	1,739.1270	1,739.1270	0.2407	0.0759	1,767.7654
Maximum	0.3400	1.5830	7.6842	0.0209	1.8382	0.0254	1.8636	0.5870	0.0248	0.6118	0.0000	1,911.2027	1,911.2027	0.2565	0.0848	1,941.7273

	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
Percent Reduction	44.92	66.02	-18.18	0.00	33.66	84.23	36.57	38.23	83.44	44.98	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	12-9-2024	3-8-2025	1.0396	0.4312
2	3-9-2025	6-8-2025	1.1198	0.4614
3	6-9-2025	9-8-2025	1.1150	0.4565
4	9-9-2025	12-8-2025	1.1971	0.4630
5	12-9-2025	3-8-2026	1.3637	0.4769
6	3-9-2026	6-8-2026	1.3775	0.4709
7	6-9-2026	9-8-2026	1.3728	0.4662
8	9-9-2026	12-8-2026	1.3720	0.4753

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

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

9	12-9-2026	3-8-2027	1.3552	0.4683
10	3-9-2027	6-8-2027	1.3694	0.4628
11	6-9-2027	9-8-2027	1.3648	0.4582
12	9-9-2027	9-30-2027	0.3264	0.1096
		Highest	1.3775	0.4769

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	tons/yr										MT/yr					
Area	0.1709	2.5000e-004	0.0272	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566
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	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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1709	2.5000e-004	0.0272	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566

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

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

2.2 Overall Operational

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	tons/yr										MT/yr					
Area	0.1709	2.5000e-004	0.0272	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566
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	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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.1709	2.5000e-004	0.0272	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566

	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
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	

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

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
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

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

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

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0158	0.1428	0.1857	3.8000e-004		6.2300e-003	6.2300e-003		5.8900e-003	5.8900e-003	0.0000	32.7398	32.7398	7.8100e-003	0.0000	32.9352
Total	0.0158	0.1428	0.1857	3.8000e-004	0.0000	6.2300e-003	6.2300e-003	0.0000	5.8900e-003	5.8900e-003	0.0000	32.7398	32.7398	7.8100e-003	0.0000	32.9352

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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 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	tons/yr										MT/yr					
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	0.0000
Vendor	9.9000e-004	0.0446	0.0126	2.3000e-004	8.2000e-003	2.5000e-004	8.4500e-003	2.3700e-003	2.4000e-004	2.6000e-003	0.0000	22.3477	22.3477	7.6000e-004	3.2000e-003	23.3214
Worker	0.0109	8.7000e-003	0.1241	3.8000e-004	0.0447	2.6000e-004	0.0450	0.0119	2.4000e-004	0.0121	0.0000	34.4134	34.4134	7.5000e-004	8.1000e-004	34.6724
Total	0.0119	0.0533	0.1367	6.1000e-004	0.0529	5.1000e-004	0.0534	0.0143	4.8000e-004	0.0147	0.0000	56.7612	56.7612	1.5100e-003	4.0100e-003	57.9938

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3500e-003	0.0189	0.2299	3.8000e-004		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	32.7398	32.7398	7.8100e-003	0.0000	32.9351
Total	4.3500e-003	0.0189	0.2299	3.8000e-004	0.0000	5.8000e-004	5.8000e-004	0.0000	5.8000e-004	5.8000e-004	0.0000	32.7398	32.7398	7.8100e-003	0.0000	32.9351

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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 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	tons/yr										MT/yr					
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	0.0000
Vendor	9.9000e-004	0.0446	0.0126	2.3000e-004	8.2000e-003	2.5000e-004	8.4500e-003	2.3700e-003	2.4000e-004	2.6000e-003	0.0000	22.3477	22.3477	7.6000e-004	3.2000e-003	23.3214
Worker	0.0109	8.7000e-003	0.1241	3.8000e-004	0.0447	2.6000e-004	0.0450	0.0119	2.4000e-004	0.0121	0.0000	34.4134	34.4134	7.5000e-004	8.1000e-004	34.6724
Total	0.0119	0.0533	0.1367	6.1000e-004	0.0529	5.1000e-004	0.0534	0.0143	4.8000e-004	0.0147	0.0000	56.7612	56.7612	1.5100e-003	4.0100e-003	57.9938

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2672	2.3388	3.3590	6.8200e-003		0.0977	0.0977		0.0924	0.0924	0.0000	594.8019	594.8019	0.1413	0.0000	598.3352
Total	0.2672	2.3388	3.3590	6.8200e-003	0.0000	0.0977	0.0977	0.0000	0.0924	0.0924	0.0000	594.8019	594.8019	0.1413	0.0000	598.3352

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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 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	tons/yr										MT/yr					
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	0.0000
Vendor	0.0173	0.8056	0.2246	4.0800e-003	0.1490	4.5500e-003	0.1536	0.0430	4.3500e-003	0.0473	0.0000	398.6689	398.6689	0.0139	0.0572	416.0585
Worker	0.1862	0.1416	2.0948	6.5900e-003	0.8123	4.4600e-003	0.8168	0.2157	4.1000e-003	0.2198	0.0000	603.9330	603.9330	0.0122	0.0137	608.3087
Total	0.2034	0.9472	2.3194	0.0107	0.9613	9.0100e-003	0.9704	0.2587	8.4500e-003	0.2672	0.0000	1,002.6019	1,002.6019	0.0261	0.0709	1,024.3672

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0791	0.3426	4.1756	6.8200e-003		0.0105	0.0105		0.0105	0.0105	0.0000	594.8011	594.8011	0.1413	0.0000	598.3345
Total	0.0791	0.3426	4.1756	6.8200e-003	0.0000	0.0105	0.0105	0.0000	0.0105	0.0105	0.0000	594.8011	594.8011	0.1413	0.0000	598.3345

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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 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	tons/yr										MT/yr					
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	0.0000
Vendor	0.0173	0.8056	0.2246	4.0800e-003	0.1490	4.5500e-003	0.1536	0.0430	4.3500e-003	0.0473	0.0000	398.6689	398.6689	0.0139	0.0572	416.0585
Worker	0.1862	0.1416	2.0948	6.5900e-003	0.8123	4.4600e-003	0.8168	0.2157	4.1000e-003	0.2198	0.0000	603.9330	603.9330	0.0122	0.0137	608.3087
Total	0.2034	0.9472	2.3194	0.0107	0.9613	9.0100e-003	0.9704	0.2587	8.4500e-003	0.2672	0.0000	1,002.6019	1,002.6019	0.0261	0.0709	1,024.3672

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	tons/yr										MT/yr					
Fugitive Dust					0.7775	0.0000	0.7775	0.1697	0.0000	0.1697	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0653	0.6231	0.5388	1.3300e-003		0.0261	0.0261		0.0240	0.0240	0.0000	116.0389	116.0389	0.0373	0.0000	116.9716
Total	0.0653	0.6231	0.5388	1.3300e-003	0.7775	0.0261	0.8036	0.1697	0.0240	0.1938	0.0000	116.0389	116.0389	0.0373	0.0000	116.9716

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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 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	tons/yr										MT/yr					
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	0.0000
Vendor	3.4100e-003	0.1589	0.0443	8.0000e-004	0.0294	9.0000e-004	0.0303	8.4800e-003	8.6000e-004	9.3300e-003	0.0000	78.6365	78.6365	2.7400e-003	0.0113	82.0666
Worker	0.0367	0.0279	0.4132	1.3000e-003	0.1602	8.8000e-004	0.1611	0.0426	8.1000e-004	0.0434	0.0000	119.1244	119.1244	2.4100e-003	2.6900e-003	119.9875
Total	0.0401	0.1868	0.4575	2.1000e-003	0.1896	1.7800e-003	0.1914	0.0510	1.6700e-003	0.0527	0.0000	197.7609	197.7609	5.1500e-003	0.0140	202.0541

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	tons/yr										MT/yr					
Fugitive Dust					0.3032	0.0000	0.3032	0.0662	0.0000	0.0662	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0174	0.0779	0.7317	1.3300e-003		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	116.0388	116.0388	0.0373	0.0000	116.9715
Total	0.0174	0.0779	0.7317	1.3300e-003	0.3032	2.4600e-003	0.3057	0.0662	2.4600e-003	0.0687	0.0000	116.0388	116.0388	0.0373	0.0000	116.9715

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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 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	tons/yr										MT/yr					
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	0.0000
Vendor	3.4100e-003	0.1589	0.0443	8.0000e-004	0.0294	9.0000e-004	0.0303	8.4800e-003	8.6000e-004	9.3300e-003	0.0000	78.6365	78.6365	2.7400e-003	0.0113	82.0666
Worker	0.0367	0.0279	0.4132	1.3000e-003	0.1602	8.8000e-004	0.1611	0.0426	8.1000e-004	0.0434	0.0000	119.1244	119.1244	2.4100e-003	2.6900e-003	119.9875
Total	0.0401	0.1868	0.4575	2.1000e-003	0.1896	1.7800e-003	0.1914	0.0510	1.6700e-003	0.0527	0.0000	197.7609	197.7609	5.1500e-003	0.0140	202.0541

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	tons/yr										MT/yr					
Fugitive Dust					1.7621	0.0000	1.7621	0.7110	0.0000	0.7110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3966	3.7823	3.2704	8.0400e-003		0.1584	0.1584		0.1459	0.1459	0.0000	704.3292	704.3292	0.2265	0.0000	709.9905
Total	0.3966	3.7823	3.2704	8.0400e-003	1.7621	0.1584	1.9205	0.7110	0.1459	0.8568	0.0000	704.3292	704.3292	0.2265	0.0000	709.9905

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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 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	tons/yr										MT/yr					
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	0.0000
Vendor	0.0200	0.9568	0.2645	4.7900e-003	0.1784	5.4300e-003	0.1838	0.0515	5.1900e-003	0.0566	0.0000	468.4533	468.4533	0.0168	0.0672	488.9076
Worker	0.2101	0.1535	2.3505	7.6500e-003	0.9726	5.0600e-003	0.9776	0.2583	4.6600e-003	0.2629	0.0000	701.0832	701.0832	0.0133	0.0154	706.0008
Total	0.2301	1.1103	2.6151	0.0124	1.1510	0.0105	1.1615	0.3097	9.8500e-003	0.3196	0.0000	1,169.5364	1,169.5364	0.0300	0.0826	1,194.9084

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	tons/yr										MT/yr					
Fugitive Dust					0.6872	0.0000	0.6872	0.2773	0.0000	0.2773	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1056	0.4727	4.4410	8.0400e-003		0.0149	0.0149		0.0149	0.0149	0.0000	704.3284	704.3284	0.2265	0.0000	709.9896
Total	0.1056	0.4727	4.4410	8.0400e-003	0.6872	0.0149	0.7022	0.2773	0.0149	0.2922	0.0000	704.3284	704.3284	0.2265	0.0000	709.9896

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

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 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	tons/yr										MT/yr					
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	0.0000
Vendor	0.0200	0.9568	0.2645	4.7900e-003	0.1784	5.4300e-003	0.1838	0.0515	5.1900e-003	0.0566	0.0000	468.4533	468.4533	0.0168	0.0672	488.9076
Worker	0.2101	0.1535	2.3505	7.6500e-003	0.9726	5.0600e-003	0.9776	0.2583	4.6600e-003	0.2629	0.0000	701.0832	701.0832	0.0133	0.0154	706.0008
Total	0.2301	1.1103	2.6151	0.0124	1.1510	0.0105	1.1615	0.3097	9.8500e-003	0.3196	0.0000	1,169.5364	1,169.5364	0.0300	0.0826	1,194.9084

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	tons/yr										MT/yr					
Fugitive Dust					1.6944	0.0000	1.6944	0.6737	0.0000	0.6737	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3738	3.5650	3.0824	7.5800e-003		0.1493	0.1493		0.1375	0.1375	0.0000	663.8505	663.8505	0.2134	0.0000	669.1864
Total	0.3738	3.5650	3.0824	7.5800e-003	1.6944	0.1493	1.8437	0.6737	0.1375	0.8112	0.0000	663.8505	663.8505	0.2134	0.0000	669.1864

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

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 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	tons/yr										MT/yr					
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	0.0000
Vendor	0.0183	0.8944	0.2460	4.4200e-003	0.1682	5.1000e-003	0.1732	0.0485	4.8700e-003	0.0534	0.0000	432.8255	432.8255	0.0159	0.0622	451.7469
Worker	0.1871	0.1319	2.0894	7.0100e-003	0.9167	4.4700e-003	0.9212	0.2434	4.1200e-003	0.2476	0.0000	642.4518	642.4518	0.0114	0.0138	646.8329
Total	0.2054	1.0263	2.3354	0.0114	1.0848	9.5700e-003	1.0944	0.2919	8.9900e-003	0.3009	0.0000	1,075.2773	1,075.2773	0.0273	0.0759	1,098.5798

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	tons/yr										MT/yr					
Fugitive Dust					0.6608	0.0000	0.6608	0.2628	0.0000	0.2628	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0995	0.4455	4.1858	7.5800e-003		0.0141	0.0141		0.0141	0.0141	0.0000	663.8497	663.8497	0.2134	0.0000	669.1856
Total	0.0995	0.4455	4.1858	7.5800e-003	0.6608	0.0141	0.6749	0.2628	0.0141	0.2768	0.0000	663.8497	663.8497	0.2134	0.0000	669.1856

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

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 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	tons/yr										MT/yr					
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	0.0000
Vendor	0.0183	0.8944	0.2460	4.4200e-003	0.1682	5.1000e-003	0.1732	0.0485	4.8700e-003	0.0534	0.0000	432.8255	432.8255	0.0159	0.0622	451.7469
Worker	0.1871	0.1319	2.0894	7.0100e-003	0.9167	4.4700e-003	0.9212	0.2434	4.1200e-003	0.2476	0.0000	642.4518	642.4518	0.0114	0.0138	646.8329
Total	0.2054	1.0263	2.3354	0.0114	1.0848	9.5700e-003	1.0944	0.2919	8.9900e-003	0.3009	0.0000	1,075.2773	1,075.2773	0.0273	0.0759	1,098.5798

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

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	tons/yr										MT/yr					
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	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	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

Land Use	Miles			Trip %			Trip Purpose %		
	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

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

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

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		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, Annual

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	tons/yr										MT/yr					
Mitigated	0.1709	2.5000e-004	0.0272	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566
Unmitigated	0.1709	2.5000e-004	0.0272	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566

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	tons/yr										MT/yr					
Architectural Coating	0.0298					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1386					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4900e-003	2.5000e-004	0.0272	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566
Total	0.1709	2.5000e-004	0.0272	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566

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

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	tons/yr										MT/yr					
Architectural Coating	0.0298					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1386					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4900e-003	2.5000e-004	0.0272	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566
Total	0.1709	2.5000e-004	0.0272	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0532	0.0532	1.4000e-004	0.0000	0.0566

7.0 Water Detail

7.1 Mitigation Measures Water

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

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

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

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

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

Demolition & Right-Of-Way Clearing
Annual CalEEMod Output File

LACMTA West Santa Ana Branch Construction - Demolition & Relocations - Los Angeles-South Coast County, Annual

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 - Demolition & Relocations

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	100.00	Acre	100.00	4,356,000.00	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 -

Land Use - Demolition of structures, clearing of entire ROW, relocations of utilities & tracks.
 Approximate total area = 50 ft wide x 14.8 miles = 90 acres for alignment + 10 for parking facilities (conservative).

Construction Phase - Demo & Site prep = 520 workdays
 Utility & track relocations = 585 workdays
 Metro Construction Methods Report (June 2021), Updated Schedule provided May 2023

Off-road Equipment - LACMTA Construction Methods Report
 Off-road Equipment - Metro Construction Methods Report (June 2021)
 Off-road Equipment - Metro Construction Methods Report (June 2021)
 Off-road Equipment - Metro Construction Methods Report (June 2021)
 Off-road Equipment - Metro Construction Methods Report (June 2021)

Trips and VMT - Material Delivery to Site(s)

Demolition -

LACMTA West Santa Ana Branch Construction - Demolition & Relocations - Los Angeles-South Coast County, Annual

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

Grading - Metro Construction Methods Report (June 2021)

Consumer Products - Construction Only

Area Coating - Construction Only

Landscape Equipment - Construction Only

Construction Off-road Equipment Mitigation - LACMTA Green Construction Policy

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
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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
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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
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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
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
tblConstructionPhase	NumDays	100.00	260.00
tblConstructionPhase	NumDays	155.00	520.00
tblConstructionPhase	NumDays	60.00	585.00
tblConstructionPhase	NumDays	60.00	260.00

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

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	HaulingTripNumber	4,450.00	6,000.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	WorkerTripNumber	30.00	250.00
tblTripsAndVMT	WorkerTripNumber	25.00	250.00
tblTripsAndVMT	WorkerTripNumber	30.00	250.00
tblTripsAndVMT	WorkerTripNumber	25.00	250.00

2.0 Emissions Summary

LACMTA West Santa Ana Branch Construction - Demolition & Relocations - Los Angeles-South Coast County, Annual

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2027	1.0599	8.2565	12.0399	0.0293	1.4234	0.3212	1.7446	0.3343	0.3023	0.6366	0.0000	2,625.6325	2,625.6325	0.4414	0.0587	2,654.1706
2028	1.2102	9.2556	13.3394	0.0324	2.4041	0.3697	2.7738	0.8739	0.3477	1.2215	0.0000	2,884.3172	2,884.3172	0.5067	0.0457	2,910.6039
2029	0.2607	2.0063	2.9593	7.0000e-003	0.6587	0.0807	0.7394	0.2004	0.0761	0.2765	0.0000	622.3511	622.3511	0.1057	9.3100e-003	627.7675
Maximum	1.2102	9.2556	13.3394	0.0324	2.4041	0.3697	2.7738	0.8739	0.3477	1.2215	0.0000	2,884.3172	2,884.3172	0.5067	0.0587	2,910.6039

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	tons/yr										MT/yr					
2027	0.4522	2.0382	14.1864	0.0293	1.1805	0.0129	1.1934	0.2975	0.0124	0.3099	0.0000	2,625.6305	2,625.6305	0.4414	0.0587	2,654.1686
2028	0.5001	1.8053	15.9913	0.0324	1.6348	0.0126	1.6474	0.5269	0.0121	0.5390	0.0000	2,884.3149	2,884.3149	0.5067	0.0457	2,910.6016
2029	0.1056	0.3727	3.5065	7.0000e-003	0.4085	2.6100e-003	0.4112	0.1187	2.5100e-003	0.1212	0.0000	622.3506	622.3506	0.1057	9.3100e-003	627.7670
Maximum	0.5001	2.0382	15.9913	0.0324	1.6348	0.0129	1.6474	0.5269	0.0124	0.5390	0.0000	2,884.3149	2,884.3149	0.5067	0.0587	2,910.6016

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	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
Percent Reduction	58.20	78.40	-18.86	0.00	28.14	96.36	38.15	33.04	96.28	54.55	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-25-2027	4-24-2027	1.8243	0.4720
2	4-25-2027	7-24-2027	2.6797	0.7109
3	7-25-2027	10-24-2027	2.7138	0.7234
4	10-25-2027	1-24-2028	2.7249	0.7344
5	1-25-2028	4-24-2028	2.6185	0.6171
6	4-25-2028	7-24-2028	2.5931	0.5381
7	7-25-2028	10-24-2028	2.6251	0.5475
8	10-25-2028	1-24-2029	2.6331	0.5554
9	1-25-2029	4-24-2029	1.5269	0.3253
		Highest	2.7249	0.7344

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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	tons/yr										MT/yr					
Area	0.3423	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
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	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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.3423	1.0000e-005	1.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

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2.2 Overall Operational

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	tons/yr										MT/yr					
Area	0.3423	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
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	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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.3423	1.0000e-005	1.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

	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
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 Relocations	Site Preparation	1/25/2027	4/20/2029	5	585	Relocate or temporarily reroute utilities.
2	Demolition	Demolition	3/8/2027	3/3/2028	5	260	
3	Freight Track Relocations & Freight Bridge	Grading	3/8/2027	3/2/2029	5	520	

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4	ROW clearing/prep	Site Preparation	3/6/2028	3/2/2029	5	260
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Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 100

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
Utility Relocations	Concrete/Industrial Saws	2	8.00	81	0.73
Utility Relocations	Cranes	2	6.00	231	0.29
Utility Relocations	Excavators	2	8.00	158	0.38
Utility Relocations	Generator Sets	2	8.00	84	0.74
Utility Relocations	Paving Equipment	1	8.00	132	0.36
Utility Relocations	Rollers	1	8.00	80	0.38
Utility Relocations	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Excavators	2	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition	Rubber Tired Loaders	2	8.00	203	0.36
Demolition	Skid Steer Loaders	2	8.00	65	0.37
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
ROW clearing/prep	Excavators	2	8.00	158	0.38
ROW clearing/prep	Graders	2	6.00	187	0.41
ROW clearing/prep	Rollers	2	8.00	80	0.38
ROW clearing/prep	Rubber Tired Dozers	2	6.00	247	0.40
ROW clearing/prep	Rubber Tired Loaders	2	8.00	203	0.36
Freight Track Relocations & Freight Bridge	Air Compressors	2	8.00	78	0.48

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Freight Track Relocations & Freight Bridge	Bore/Drill Rigs	1	6.00	221	0.50
Freight Track Relocations & Freight Bridge	Cranes	1	6.00	231	0.29
Freight Track Relocations & Freight Bridge	Excavators	2	8.00	158	0.38
Freight Track Relocations & Freight Bridge	Paving Equipment	2	8.00	132	0.36
Freight Track Relocations & Freight Bridge	Pumps	2	8.00	84	0.74
Freight Track Relocations & Freight Bridge	Rubber Tired Loaders	2	8.00	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
Utility Relocations	12	250.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	10	250.00	0.00	6,000.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
ROW clearing/prep	10	250.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Freight Track Relocations & Freight	12	250.00	40.00	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

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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

3.2 Utility Relocations - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3031	2.6831	3.9916	7.0600e-003		0.1153	0.1153		0.1098	0.1098	0.0000	613.7502	613.7502	0.1220	0.0000	616.8008
Total	0.3031	2.6831	3.9916	7.0600e-003	0.0000	0.1153	0.1153	0.0000	0.1098	0.1098	0.0000	613.7502	613.7502	0.1220	0.0000	616.8008

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	tons/yr										MT/yr					
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	0.0000
Vendor	4.9600e-003	0.1940	0.0692	8.5000e-004	0.0309	9.5000e-004	0.0318	8.9100e-003	9.1000e-004	9.8200e-003	0.0000	82.9153	82.9153	3.0400e-003	0.0120	86.5574
Worker	0.0753	0.0512	0.7996	2.5800e-003	0.3356	1.6700e-003	0.3373	0.0891	1.5400e-003	0.0907	0.0000	236.3812	236.3812	4.8200e-003	5.3900e-003	238.1088
Total	0.0803	0.2452	0.8688	3.4300e-003	0.3665	2.6200e-003	0.3691	0.0980	2.4500e-003	0.1005	0.0000	319.2966	319.2966	7.8600e-003	0.0174	324.6662

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

3.2 Utility Relocations - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0794	0.3443	4.5734	7.0600e-003		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	613.7495	613.7495	0.1220	0.0000	616.8001
Total	0.0794	0.3443	4.5734	7.0600e-003	0.0000	1.5900e-003	1.5900e-003	0.0000	1.5900e-003	1.5900e-003	0.0000	613.7495	613.7495	0.1220	0.0000	616.8001

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	tons/yr										MT/yr					
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	0.0000
Vendor	4.9600e-003	0.1940	0.0692	8.5000e-004	0.0309	9.5000e-004	0.0318	8.9100e-003	9.1000e-004	9.8200e-003	0.0000	82.9153	82.9153	3.0400e-003	0.0120	86.5574
Worker	0.0753	0.0512	0.7996	2.5800e-003	0.3356	1.6700e-003	0.3373	0.0891	1.5400e-003	0.0907	0.0000	236.3812	236.3812	4.8200e-003	5.3900e-003	238.1088
Total	0.0803	0.2452	0.8688	3.4300e-003	0.3665	2.6200e-003	0.3691	0.0980	2.4500e-003	0.1005	0.0000	319.2966	319.2966	7.8600e-003	0.0174	324.6662

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3.2 Utility Relocations - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3217	2.8473	4.2360	7.4900e-003		0.1224	0.1224		0.1165	0.1165	0.0000	651.3268	651.3268	0.1295	0.0000	654.5641
Total	0.3217	2.8473	4.2360	7.4900e-003	0.0000	0.1224	0.1224	0.0000	0.1165	0.1165	0.0000	651.3268	651.3268	0.1295	0.0000	654.5641

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	tons/yr										MT/yr					
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	0.0000
Vendor	5.1600e-003	0.2045	0.0728	8.8000e-004	0.0328	1.0000e-003	0.0338	9.4600e-003	9.6000e-004	0.0104	0.0000	86.3102	86.3102	3.2400e-003	0.0125	90.1045
Worker	0.0756	0.0500	0.8068	2.6700e-003	0.3561	1.6500e-003	0.3578	0.0946	1.5200e-003	0.0961	0.0000	244.5193	244.5193	4.7100e-003	5.4600e-003	246.2653
Total	0.0808	0.2545	0.8797	3.5500e-003	0.3889	2.6500e-003	0.3916	0.1041	2.4800e-003	0.1065	0.0000	330.8295	330.8295	7.9500e-003	0.0179	336.3698

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3.2 Utility Relocations - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0843	0.3653	4.8534	7.4900e-003		1.6900e-003	1.6900e-003		1.6900e-003	1.6900e-003	0.0000	651.3260	651.3260	0.1295	0.0000	654.5633
Total	0.0843	0.3653	4.8534	7.4900e-003	0.0000	1.6900e-003	1.6900e-003	0.0000	1.6900e-003	1.6900e-003	0.0000	651.3260	651.3260	0.1295	0.0000	654.5633

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	tons/yr										MT/yr					
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	0.0000
Vendor	5.1600e-003	0.2045	0.0728	8.8000e-004	0.0328	1.0000e-003	0.0338	9.4600e-003	9.6000e-004	0.0104	0.0000	86.3102	86.3102	3.2400e-003	0.0125	90.1045
Worker	0.0756	0.0500	0.8068	2.6700e-003	0.3561	1.6500e-003	0.3578	0.0946	1.5200e-003	0.0961	0.0000	244.5193	244.5193	4.7100e-003	5.4600e-003	246.2653
Total	0.0808	0.2545	0.8797	3.5500e-003	0.3889	2.6500e-003	0.3916	0.1041	2.4800e-003	0.1065	0.0000	330.8295	330.8295	7.9500e-003	0.0179	336.3698

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3.2 Utility Relocations - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0990	0.8761	1.3034	2.3000e-003		0.0377	0.0377		0.0359	0.0359	0.0000	200.4082	200.4082	0.0398	0.0000	201.4043
Total	0.0990	0.8761	1.3034	2.3000e-003	0.0000	0.0377	0.0377	0.0000	0.0359	0.0359	0.0000	200.4082	200.4082	0.0398	0.0000	201.4043

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.5600e-003	0.0625	0.0223	2.7000e-004	0.0101	3.1000e-004	0.0104	2.9100e-003	2.9000e-004	3.2000e-003	0.0000	26.0598	26.0598	1.0100e-003	3.7600e-003	27.2064
Worker	0.0219	0.0142	0.2368	8.0000e-004	0.1096	4.7000e-004	0.1101	0.0291	4.4000e-004	0.0295	0.0000	73.4988	73.4988	1.3400e-003	1.6100e-003	74.0127
Total	0.0235	0.0767	0.2591	1.0700e-003	0.1197	7.8000e-004	0.1204	0.0320	7.3000e-004	0.0327	0.0000	99.5585	99.5585	2.3500e-003	5.3700e-003	101.2191

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3.2 Utility Relocations - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0259	0.1124	1.4934	2.3000e-003		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	200.4080	200.4080	0.0398	0.0000	201.4041
Total	0.0259	0.1124	1.4934	2.3000e-003	0.0000	5.2000e-004	5.2000e-004	0.0000	5.2000e-004	5.2000e-004	0.0000	200.4080	200.4080	0.0398	0.0000	201.4041

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.5600e-003	0.0625	0.0223	2.7000e-004	0.0101	3.1000e-004	0.0104	2.9100e-003	2.9000e-004	3.2000e-003	0.0000	26.0598	26.0598	1.0100e-003	3.7600e-003	27.2064
Worker	0.0219	0.0142	0.2368	8.0000e-004	0.1096	4.7000e-004	0.1101	0.0291	4.4000e-004	0.0295	0.0000	73.4988	73.4988	1.3400e-003	1.6100e-003	74.0127
Total	0.0235	0.0767	0.2591	1.0700e-003	0.1197	7.8000e-004	0.1204	0.0320	7.3000e-004	0.0327	0.0000	99.5585	99.5585	2.3500e-003	5.3700e-003	101.2191

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

3.3 Demolition - 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	tons/yr										MT/yr					
Fugitive Dust					0.3981	0.0000	0.3981	0.0603	0.0000	0.0603	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2656	2.5453	2.4376	5.4100e-003		0.1055	0.1055		0.0970	0.0970	0.0000	475.0218	475.0218	0.1536	0.0000	478.8626
Total	0.2656	2.5453	2.4376	5.4100e-003	0.3981	0.1055	0.5036	0.0603	0.0970	0.1573	0.0000	475.0218	475.0218	0.1536	0.0000	478.8626

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	tons/yr										MT/yr					
Hauling	5.0400e-003	0.3329	0.0914	1.3400e-003	0.0427	2.0400e-003	0.0447	0.0117	1.9500e-003	0.0137	0.0000	134.6314	134.6314	8.2600e-003	0.0214	141.2188
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	0.0000
Worker	0.0661	0.0449	0.7017	2.2600e-003	0.2945	1.4600e-003	0.2960	0.0782	1.3500e-003	0.0796	0.0000	207.4366	207.4366	4.2300e-003	4.7300e-003	208.9526
Total	0.0712	0.3778	0.7931	3.6000e-003	0.3372	3.5000e-003	0.3407	0.0900	3.3000e-003	0.0933	0.0000	342.0680	342.0680	0.0125	0.0261	350.1714

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3.3 Demolition - 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	tons/yr										MT/yr					
Fugitive Dust					0.1553	0.0000	0.1553	0.0235	0.0000	0.0235	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0719	0.5139	3.1172	5.4100e-003		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	475.0212	475.0212	0.1536	0.0000	478.8620
Total	0.0719	0.5139	3.1172	5.4100e-003	0.1553	1.3300e-003	0.1566	0.0235	1.3300e-003	0.0248	0.0000	475.0212	475.0212	0.1536	0.0000	478.8620

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	tons/yr										MT/yr					
Hauling	5.0400e-003	0.3329	0.0914	1.3400e-003	0.0427	2.0400e-003	0.0447	0.0117	1.9500e-003	0.0137	0.0000	134.6314	134.6314	8.2600e-003	0.0214	141.2188
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	0.0000
Worker	0.0661	0.0449	0.7017	2.2600e-003	0.2945	1.4600e-003	0.2960	0.0782	1.3500e-003	0.0796	0.0000	207.4366	207.4366	4.2300e-003	4.7300e-003	208.9526
Total	0.0712	0.3778	0.7931	3.6000e-003	0.3372	3.5000e-003	0.3407	0.0900	3.3000e-003	0.0933	0.0000	342.0680	342.0680	0.0125	0.0261	350.1714

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3.3 Demolition - 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	tons/yr										MT/yr					
Fugitive Dust					0.0833	0.0000	0.0833	0.0126	0.0000	0.0126	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0556	0.5327	0.5102	1.1300e-003		0.0221	0.0221		0.0203	0.0203	0.0000	99.4232	99.4232	0.0322	0.0000	100.2271
Total	0.0556	0.5327	0.5102	1.1300e-003	0.0833	0.0221	0.1054	0.0126	0.0203	0.0329	0.0000	99.4232	99.4232	0.0322	0.0000	100.2271

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	tons/yr										MT/yr					
Hauling	1.0500e-003	0.0690	0.0193	2.8000e-004	8.9300e-003	4.2000e-004	9.3600e-003	2.4500e-003	4.1000e-004	2.8600e-003	0.0000	27.6030	27.6030	1.7400e-003	4.3900e-003	28.9552
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	0.0000
Worker	0.0131	8.6500e-003	0.1396	4.6000e-004	0.0616	2.9000e-004	0.0619	0.0164	2.6000e-004	0.0166	0.0000	42.3207	42.3207	8.1000e-004	9.5000e-004	42.6229
Total	0.0141	0.0776	0.1590	7.4000e-004	0.0706	7.1000e-004	0.0713	0.0188	6.7000e-004	0.0195	0.0000	69.9236	69.9236	2.5500e-003	5.3400e-003	71.5781

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3.3 Demolition - 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	tons/yr										MT/yr					
Fugitive Dust					0.0325	0.0000	0.0325	4.9200e-003	0.0000	4.9200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0150	0.1076	0.6524	1.1300e-003		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	99.4231	99.4231	0.0322	0.0000	100.2269
Total	0.0150	0.1076	0.6524	1.1300e-003	0.0325	2.8000e-004	0.0328	4.9200e-003	2.8000e-004	5.2000e-003	0.0000	99.4231	99.4231	0.0322	0.0000	100.2269

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	tons/yr										MT/yr					
Hauling	1.0500e-003	0.0690	0.0193	2.8000e-004	8.9300e-003	4.2000e-004	9.3600e-003	2.4500e-003	4.1000e-004	2.8600e-003	0.0000	27.6030	27.6030	1.7400e-003	4.3900e-003	28.9552
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	0.0000
Worker	0.0131	8.6500e-003	0.1396	4.6000e-004	0.0616	2.9000e-004	0.0619	0.0164	2.6000e-004	0.0166	0.0000	42.3207	42.3207	8.1000e-004	9.5000e-004	42.6229
Total	0.0141	0.0776	0.1590	7.4000e-004	0.0706	7.1000e-004	0.0713	0.0188	6.7000e-004	0.0195	0.0000	69.9236	69.9236	2.5500e-003	5.3400e-003	71.5781

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3.4 Freight Track Relocations & Freight Bridge - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2692	2.1900	3.1863	6.8300e-003		0.0920	0.0920		0.0876	0.0876	0.0000	595.2969	595.2969	0.1385	0.0000	598.7585
Total	0.2692	2.1900	3.1863	6.8300e-003	0.0000	0.0920	0.0920	0.0000	0.0876	0.0876	0.0000	595.2969	595.2969	0.1385	0.0000	598.7585

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	tons/yr										MT/yr					
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	0.0000
Vendor	4.3500e-003	0.1703	0.0607	7.4000e-004	0.0271	8.3000e-004	0.0279	7.8200e-003	8.0000e-004	8.6200e-003	0.0000	72.7624	72.7624	2.6700e-003	0.0105	75.9585
Worker	0.0661	0.0449	0.7017	2.2600e-003	0.2945	1.4600e-003	0.2960	0.0782	1.3500e-003	0.0796	0.0000	207.4366	207.4366	4.2300e-003	4.7300e-003	208.9526
Total	0.0705	0.2152	0.7624	3.0000e-003	0.3216	2.2900e-003	0.3239	0.0860	2.1500e-003	0.0882	0.0000	280.1990	280.1990	6.9000e-003	0.0152	284.9111

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3.4 Freight Track Relocations & Freight Bridge - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0789	0.3419	4.0714	6.8300e-003		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	595.2961	595.2961	0.1385	0.0000	598.7578
Total	0.0789	0.3419	4.0714	6.8300e-003	0.0000	1.5800e-003	1.5800e-003	0.0000	1.5800e-003	1.5800e-003	0.0000	595.2961	595.2961	0.1385	0.0000	598.7578

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	tons/yr										MT/yr					
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	0.0000
Vendor	4.3500e-003	0.1703	0.0607	7.4000e-004	0.0271	8.3000e-004	0.0279	7.8200e-003	8.0000e-004	8.6200e-003	0.0000	72.7624	72.7624	2.6700e-003	0.0105	75.9585
Worker	0.0661	0.0449	0.7017	2.2600e-003	0.2945	1.4600e-003	0.2960	0.0782	1.3500e-003	0.0796	0.0000	207.4366	207.4366	4.2300e-003	4.7300e-003	208.9526
Total	0.0705	0.2152	0.7624	3.0000e-003	0.3216	2.2900e-003	0.3239	0.0860	2.1500e-003	0.0882	0.0000	280.1990	280.1990	6.9000e-003	0.0152	284.9111

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3.4 Freight Track Relocations & Freight Bridge - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3256	2.6484	3.8531	8.2600e-003		0.1113	0.1113		0.1059	0.1059	0.0000	719.8939	719.8939	0.1675	0.0000	724.0801
Total	0.3256	2.6484	3.8531	8.2600e-003	0.0000	0.1113	0.1113	0.0000	0.1059	0.1059	0.0000	719.8939	719.8939	0.1675	0.0000	724.0801

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	tons/yr										MT/yr					
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	0.0000
Vendor	5.1600e-003	0.2045	0.0728	8.8000e-004	0.0328	1.0000e-003	0.0338	9.4600e-003	9.6000e-004	0.0104	0.0000	86.3102	86.3102	3.2400e-003	0.0125	90.1045
Worker	0.0756	0.0500	0.8068	2.6700e-003	0.3561	1.6500e-003	0.3578	0.0946	1.5200e-003	0.0961	0.0000	244.5193	244.5193	4.7100e-003	5.4600e-003	246.2653
Total	0.0808	0.2545	0.8797	3.5500e-003	0.3889	2.6500e-003	0.3916	0.1041	2.4800e-003	0.1065	0.0000	330.8295	330.8295	7.9500e-003	0.0179	336.3698

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3.4 Freight Track Relocations & Freight Bridge - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0954	0.4135	4.9236	8.2600e-003		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	719.8930	719.8930	0.1675	0.0000	724.0792
Total	0.0954	0.4135	4.9236	8.2600e-003	0.0000	1.9100e-003	1.9100e-003	0.0000	1.9100e-003	1.9100e-003	0.0000	719.8930	719.8930	0.1675	0.0000	724.0792

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	tons/yr										MT/yr					
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	0.0000
Vendor	5.1600e-003	0.2045	0.0728	8.8000e-004	0.0328	1.0000e-003	0.0338	9.4600e-003	9.6000e-004	0.0104	0.0000	86.3102	86.3102	3.2400e-003	0.0125	90.1045
Worker	0.0756	0.0500	0.8068	2.6700e-003	0.3561	1.6500e-003	0.3578	0.0946	1.5200e-003	0.0961	0.0000	244.5193	244.5193	4.7100e-003	5.4600e-003	246.2653
Total	0.0808	0.2545	0.8797	3.5500e-003	0.3889	2.6500e-003	0.3916	0.1041	2.4800e-003	0.1065	0.0000	330.8295	330.8295	7.9500e-003	0.0179	336.3698

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3.4 Freight Track Relocations & Freight Bridge - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0564	0.4584	0.6669	1.4300e-003		0.0193	0.0193		0.0183	0.0183	0.0000	124.5970	124.5970	0.0290	0.0000	125.3216
Total	0.0564	0.4584	0.6669	1.4300e-003	0.0000	0.0193	0.0193	0.0000	0.0183	0.0183	0.0000	124.5970	124.5970	0.0290	0.0000	125.3216

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	tons/yr										MT/yr					
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	0.0000
Vendor	8.8000e-004	0.0352	0.0125	1.5000e-004	5.6700e-003	1.7000e-004	5.8400e-003	1.6400e-003	1.6000e-004	1.8000e-003	0.0000	14.6586	14.6586	5.7000e-004	2.1200e-003	15.3036
Worker	0.0123	7.9900e-003	0.1332	4.5000e-004	0.0616	2.7000e-004	0.0619	0.0164	2.4000e-004	0.0166	0.0000	41.3431	41.3431	7.5000e-004	9.1000e-004	41.6322
Total	0.0132	0.0431	0.1457	6.0000e-004	0.0673	4.4000e-004	0.0677	0.0180	4.0000e-004	0.0184	0.0000	56.0017	56.0017	1.3200e-003	3.0300e-003	56.9357

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3.4 Freight Track Relocations & Freight Bridge - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0165	0.0716	0.8522	1.4300e-003		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	124.5969	124.5969	0.0290	0.0000	125.3214
Total	0.0165	0.0716	0.8522	1.4300e-003	0.0000	3.3000e-004	3.3000e-004	0.0000	3.3000e-004	3.3000e-004	0.0000	124.5969	124.5969	0.0290	0.0000	125.3214

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	tons/yr										MT/yr					
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	0.0000
Vendor	8.8000e-004	0.0352	0.0125	1.5000e-004	5.6700e-003	1.7000e-004	5.8400e-003	1.6400e-003	1.6000e-004	1.8000e-003	0.0000	14.6586	14.6586	5.7000e-004	2.1200e-003	15.3036
Worker	0.0123	7.9900e-003	0.1332	4.5000e-004	0.0616	2.7000e-004	0.0619	0.0164	2.4000e-004	0.0166	0.0000	41.3431	41.3431	7.5000e-004	9.1000e-004	41.6322
Total	0.0132	0.0431	0.1457	6.0000e-004	0.0673	4.4000e-004	0.0677	0.0180	4.0000e-004	0.0184	0.0000	56.0017	56.0017	1.3200e-003	3.0300e-003	56.9357

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

3.5 ROW clearing/prep - 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	tons/yr										MT/yr					
Fugitive Dust					1.1779	0.0000	1.1779	0.5561	0.0000	0.5561	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2692	2.5992	2.1546	5.4600e-003		0.1066	0.1066		0.0981	0.0981	0.0000	479.8922	479.8922	0.1552	0.0000	483.7724
Total	0.2692	2.5992	2.1546	5.4600e-003	1.1779	0.1066	1.2845	0.5561	0.0981	0.6542	0.0000	479.8922	479.8922	0.1552	0.0000	483.7724

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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0625	0.0413	0.6672	2.2100e-003	0.2945	1.3600e-003	0.2959	0.0782	1.2600e-003	0.0795	0.0000	202.1986	202.1986	3.8900e-003	4.5200e-003	203.6425
Total	0.0625	0.0413	0.6672	2.2100e-003	0.2945	1.3600e-003	0.2959	0.0782	1.2600e-003	0.0795	0.0000	202.1986	202.1986	3.8900e-003	4.5200e-003	203.6425

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3.5 ROW clearing/prep - 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	tons/yr										MT/yr					
Fugitive Dust					0.4594	0.0000	0.4594	0.2169	0.0000	0.2169	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0672	0.2910	2.9764	5.4600e-003		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	479.8916	479.8916	0.1552	0.0000	483.7718
Total	0.0672	0.2910	2.9764	5.4600e-003	0.4594	1.3400e-003	0.4607	0.2169	1.3400e-003	0.2182	0.0000	479.8916	479.8916	0.1552	0.0000	483.7718

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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0625	0.0413	0.6672	2.2100e-003	0.2945	1.3600e-003	0.2959	0.0782	1.2600e-003	0.0795	0.0000	202.1986	202.1986	3.8900e-003	4.5200e-003	203.6425
Total	0.0625	0.0413	0.6672	2.2100e-003	0.2945	1.3600e-003	0.2959	0.0782	1.2600e-003	0.0795	0.0000	202.1986	202.1986	3.8900e-003	4.5200e-003	203.6425

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

3.5 ROW clearing/prep - 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	tons/yr										MT/yr					
Fugitive Dust					0.4100	0.0000	0.4100	0.1341	0.0000	0.1341	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0563	0.5440	0.4510	1.1400e-003		0.0223	0.0223		0.0205	0.0205	0.0000	100.4426	100.4426	0.0325	0.0000	101.2547
Total	0.0563	0.5440	0.4510	1.1400e-003	0.4100	0.0223	0.4324	0.1341	0.0205	0.1546	0.0000	100.4426	100.4426	0.0325	0.0000	101.2547

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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0123	7.9900e-003	0.1332	4.5000e-004	0.0616	2.7000e-004	0.0619	0.0164	2.4000e-004	0.0166	0.0000	41.3431	41.3431	7.5000e-004	9.1000e-004	41.6322
Total	0.0123	7.9900e-003	0.1332	4.5000e-004	0.0616	2.7000e-004	0.0619	0.0164	2.4000e-004	0.0166	0.0000	41.3431	41.3431	7.5000e-004	9.1000e-004	41.6322

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3.5 ROW clearing/prep - 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	tons/yr										MT/yr					
Fugitive Dust					0.1599	0.0000	0.1599	0.0523	0.0000	0.0523	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0141	0.0609	0.6230	1.1400e-003		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	100.4424	100.4424	0.0325	0.0000	101.2546
Total	0.0141	0.0609	0.6230	1.1400e-003	0.1599	2.8000e-004	0.1602	0.0523	2.8000e-004	0.0526	0.0000	100.4424	100.4424	0.0325	0.0000	101.2546

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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0123	7.9900e-003	0.1332	4.5000e-004	0.0616	2.7000e-004	0.0619	0.0164	2.4000e-004	0.0166	0.0000	41.3431	41.3431	7.5000e-004	9.1000e-004	41.6322
Total	0.0123	7.9900e-003	0.1332	4.5000e-004	0.0616	2.7000e-004	0.0619	0.0164	2.4000e-004	0.0166	0.0000	41.3431	41.3431	7.5000e-004	9.1000e-004	41.6322

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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	tons/yr										MT/yr						
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	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	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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

4.4 Fleet Mix

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

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

LACMTA West Santa Ana Branch Construction - Demolition & Relocations - Los Angeles-South Coast County, Annual

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	tons/yr										MT/yr					
Mitigated	0.3423	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Unmitigated	0.3423	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

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	tons/yr										MT/yr					
Architectural Coating	0.0606					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2816					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Total	0.3423	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

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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	tons/yr										MT/yr					
Architectural Coating	0.0606					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2816					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003
Total	0.3423	1.0000e-005	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4800e-003	2.4800e-003	1.0000e-005	0.0000	2.6400e-003

7.0 Water Detail

7.1 Mitigation Measures Water

LACMTA West Santa Ana Branch Construction - Demolition & Relocations - Los Angeles-South Coast County, Annual

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

LACMTA West Santa Ana Branch Construction - Demolition & Relocations - Los Angeles-South Coast County, Annual

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

LACMTA West Santa Ana Branch Construction - Demolition & Relocations - Los Angeles-South Coast County, Annual

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

LACMTA West Santa Ana Branch Construction - Demolition & Relocations - Los Angeles-South Coast County, Annual

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

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

Bulk Materials Hauling Trips
Annual CalEEMod Output File

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

LACMTA WSAB LPA Construction GHG - Hauling Activities

Los Angeles-South Coast County, Annual

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	100.00	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	2040
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 - Major cut and fill activities anticipated to begin late 2025.

Land Use - Approximate total project area.

Construction Phase - Metro Construction Methods Report (October 2023)

Total Days estimated assuming 45 trucks/day on average with 58,700 total trips (3,950 export & 54,750 import).

Off-road Equipment - Haul Truck Trips Only - no equipment

Off-road Equipment - No Equipment

Trips and VMT - Metro Construction Methods Report (September 2023)

Assumes 20 CY trucks for cut (~78,600 CY total, 3,950 loads), 10 CY trucks for fill (~547,300 CY total, 54,750 loads).

Rounded up to nearest 50 truck trips.

Grading - LPA Cut/Fill volumes (Construction Methods Report October 2023)

Vehicle Trips - Construction haul trips only.

Vehicle Emission Factors - Construction haul trips only.

Vehicle Emission Factors - Construction haul trips only.

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

Vehicle Emission Factors - Construction haul trips only.

Construction Off-road Equipment Mitigation - Compliance with Metro GCP

Fleet Mix - Construction haul trips only.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	155.00	1,305.00
tblGrading	MaterialExported	0.00	78,600.00
tblGrading	MaterialImported	0.00	547,300.00
tblLandUse	LotAcreage	0.00	100.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	78,250.00	117,400.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00

2.0 Emissions Summary

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2025	4.0200e-003	0.2650	0.0698	1.0900e-003	0.0687	1.6100e-003	0.0703	0.0145	1.5400e-003	0.0160	0.0000	109.2373	109.2373	6.3400e-003	0.0174	114.5694
2026	0.0241	1.5918	0.4287	6.5000e-003	0.2374	9.7200e-003	0.2471	0.0609	9.3000e-003	0.0701	0.0000	650.3209	650.3209	0.0389	0.1034	682.1044
2027	0.0239	1.5752	0.4327	6.3600e-003	0.2374	9.6500e-003	0.2471	0.0609	9.2300e-003	0.0701	0.0000	637.1302	637.1302	0.0391	0.1013	668.3042
2028	0.0236	1.5534	0.4352	6.1900e-003	0.2366	9.5400e-003	0.2462	0.0606	9.1200e-003	0.0698	0.0000	621.7218	621.7218	0.0393	0.0989	652.1804
2029	0.0235	1.5423	0.4407	6.0800e-003	0.2374	9.4800e-003	0.2469	0.0609	9.0700e-003	0.0699	0.0000	611.2355	611.2355	0.0398	0.0973	641.2203
2030	0.0195	1.2810	0.3727	4.9900e-003	0.2049	7.8700e-003	0.2128	0.0519	7.5300e-003	0.0595	0.0000	502.3530	502.3530	0.0337	0.0800	527.0289
Maximum	0.0241	1.5918	0.4407	6.5000e-003	0.2374	9.7200e-003	0.2471	0.0609	9.3000e-003	0.0701	0.0000	650.3209	650.3209	0.0398	0.1034	682.1044

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2025	4.0200e-003	0.2650	0.0698	1.0900e-003	0.0687	1.6100e-003	0.0703	0.0145	1.5400e-003	0.0160	0.0000	109.2373	109.2373	6.3400e-003	0.0174	114.5694
2026	0.0241	1.5918	0.4287	6.5000e-003	0.2374	9.7200e-003	0.2471	0.0609	9.3000e-003	0.0701	0.0000	650.3209	650.3209	0.0389	0.1034	682.1044
2027	0.0239	1.5752	0.4327	6.3600e-003	0.2374	9.6500e-003	0.2471	0.0609	9.2300e-003	0.0701	0.0000	637.1302	637.1302	0.0391	0.1013	668.3042
2028	0.0236	1.5534	0.4352	6.1900e-003	0.2366	9.5400e-003	0.2462	0.0606	9.1200e-003	0.0698	0.0000	621.7218	621.7218	0.0393	0.0989	652.1804
2029	0.0235	1.5423	0.4407	6.0800e-003	0.2374	9.4800e-003	0.2469	0.0609	9.0700e-003	0.0699	0.0000	611.2355	611.2355	0.0398	0.0973	641.2203
2030	0.0195	1.2810	0.3727	4.9900e-003	0.2049	7.8700e-003	0.2128	0.0519	7.5300e-003	0.0595	0.0000	502.3530	502.3530	0.0337	0.0800	527.0289
Maximum	0.0241	1.5918	0.4407	6.5000e-003	0.2374	9.7200e-003	0.2471	0.0609	9.3000e-003	0.0701	0.0000	650.3209	650.3209	0.0398	0.1034	682.1044

	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
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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	11-3-2025	2-2-2026	0.4056	0.4056
2	2-3-2026	5-2-2026	0.3841	0.3841
3	5-3-2026	8-2-2026	0.3865	0.3865
4	8-3-2026	11-2-2026	0.3924	0.3924
5	11-3-2026	2-2-2027	0.4015	0.4015

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6	2-3-2027	5-2-2027	0.3801	0.3801
7	5-3-2027	8-2-2027	0.3825	0.3825
8	8-3-2027	11-2-2027	0.3884	0.3884
9	11-3-2027	2-2-2028	0.3974	0.3974
10	2-3-2028	5-2-2028	0.3806	0.3806
11	5-3-2028	8-2-2028	0.3787	0.3787
12	8-3-2028	11-2-2028	0.3845	0.3845
13	11-3-2028	2-2-2029	0.3933	0.3933
14	2-3-2029	5-2-2029	0.3723	0.3723
15	5-3-2029	8-2-2029	0.3745	0.3745
16	8-3-2029	11-2-2029	0.3803	0.3803
17	11-3-2029	2-2-2030	0.3892	0.3892
18	2-3-2030	5-2-2030	0.3685	0.3685
19	5-3-2030	8-2-2030	0.3708	0.3708
20	8-3-2030	9-30-2030	0.2378	0.2378
		Highest	0.4056	0.4056

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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	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
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	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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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

2.2 Overall Operational

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	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
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	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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

	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
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	LPA Cut/Fill Import & Export	Grading	11/3/2025	11/1/2030	5	1305	

Acres of Grading (Site Preparation Phase): 0

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Acres of Grading (Grading Phase): 0

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

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
LPA Cut/Fill Import & Export	Rubber Tired Dozers	1	0.00	247	0.40

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
LPA Cut/Fill Import & Export	1	0.00	0.00	117,400.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

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3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	4.0200e-003	0.2650	0.0698	1.0900e-003	0.0333	1.6100e-003	0.0349	9.1400e-003	1.5400e-003	0.0107	0.0000	109.2373	109.2373	6.3400e-003	0.0174	114.5694
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	0.0000
Worker	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	0.0000
Total	4.0200e-003	0.2650	0.0698	1.0900e-003	0.0333	1.6100e-003	0.0349	9.1400e-003	1.5400e-003	0.0107	0.0000	109.2373	109.2373	6.3400e-003	0.0174	114.5694

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3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	4.0200e-003	0.2650	0.0698	1.0900e-003	0.0333	1.6100e-003	0.0349	9.1400e-003	1.5400e-003	0.0107	0.0000	109.2373	109.2373	6.3400e-003	0.0174	114.5694
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	0.0000
Worker	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	0.0000
Total	4.0200e-003	0.2650	0.0698	1.0900e-003	0.0333	1.6100e-003	0.0349	9.1400e-003	1.5400e-003	0.0107	0.0000	109.2373	109.2373	6.3400e-003	0.0174	114.5694

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

3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0241	1.5918	0.4287	6.5000e-003	0.2020	9.7200e-003	0.2117	0.0555	9.3000e-003	0.0648	0.0000	650.3209	650.3209	0.0389	0.1034	682.1044
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	0.0000
Worker	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	0.0000
Total	0.0241	1.5918	0.4287	6.5000e-003	0.2020	9.7200e-003	0.2117	0.0555	9.3000e-003	0.0648	0.0000	650.3209	650.3209	0.0389	0.1034	682.1044

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3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0241	1.5918	0.4287	6.5000e-003	0.2020	9.7200e-003	0.2117	0.0555	9.3000e-003	0.0648	0.0000	650.3209	650.3209	0.0389	0.1034	682.1044
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	0.0000
Worker	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	0.0000
Total	0.0241	1.5918	0.4287	6.5000e-003	0.2020	9.7200e-003	0.2117	0.0555	9.3000e-003	0.0648	0.0000	650.3209	650.3209	0.0389	0.1034	682.1044

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3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0239	1.5752	0.4327	6.3600e-003	0.2020	9.6500e-003	0.2117	0.0555	9.2300e-003	0.0647	0.0000	637.1302	637.1302	0.0391	0.1013	668.3042
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	0.0000
Worker	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	0.0000
Total	0.0239	1.5752	0.4327	6.3600e-003	0.2020	9.6500e-003	0.2117	0.0555	9.2300e-003	0.0647	0.0000	637.1302	637.1302	0.0391	0.1013	668.3042

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

3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0239	1.5752	0.4327	6.3600e-003	0.2020	9.6500e-003	0.2117	0.0555	9.2300e-003	0.0647	0.0000	637.1302	637.1302	0.0391	0.1013	668.3042
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	0.0000
Worker	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	0.0000
Total	0.0239	1.5752	0.4327	6.3600e-003	0.2020	9.6500e-003	0.2117	0.0555	9.2300e-003	0.0647	0.0000	637.1302	637.1302	0.0391	0.1013	668.3042

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0236	1.5534	0.4352	6.1900e-003	0.2012	9.5400e-003	0.2108	0.0553	9.1200e-003	0.0644	0.0000	621.7218	621.7218	0.0393	0.0989	652.1804
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	0.0000
Worker	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	0.0000
Total	0.0236	1.5534	0.4352	6.1900e-003	0.2012	9.5400e-003	0.2108	0.0553	9.1200e-003	0.0644	0.0000	621.7218	621.7218	0.0393	0.0989	652.1804

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0236	1.5534	0.4352	6.1900e-003	0.2012	9.5400e-003	0.2108	0.0553	9.1200e-003	0.0644	0.0000	621.7218	621.7218	0.0393	0.0989	652.1804
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	0.0000
Worker	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	0.0000
Total	0.0236	1.5534	0.4352	6.1900e-003	0.2012	9.5400e-003	0.2108	0.0553	9.1200e-003	0.0644	0.0000	621.7218	621.7218	0.0393	0.0989	652.1804

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0235	1.5423	0.4407	6.0800e-003	0.2020	9.4800e-003	0.2115	0.0555	9.0700e-003	0.0646	0.0000	611.2355	611.2355	0.0398	0.0973	641.2203
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	0.0000
Worker	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	0.0000
Total	0.0235	1.5423	0.4407	6.0800e-003	0.2020	9.4800e-003	0.2115	0.0555	9.0700e-003	0.0646	0.0000	611.2355	611.2355	0.0398	0.0973	641.2203

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0235	1.5423	0.4407	6.0800e-003	0.2020	9.4800e-003	0.2115	0.0555	9.0700e-003	0.0646	0.0000	611.2355	611.2355	0.0398	0.0973	641.2203
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	0.0000
Worker	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	0.0000
Total	0.0235	1.5423	0.4407	6.0800e-003	0.2020	9.4800e-003	0.2115	0.0555	9.0700e-003	0.0646	0.0000	611.2355	611.2355	0.0398	0.0973	641.2203

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

3.2 LPA Cut/Fill Import & Export - 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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0195	1.2810	0.3727	4.9900e-003	0.1695	7.8700e-003	0.1774	0.0466	7.5300e-003	0.0541	0.0000	502.3530	502.3530	0.0337	0.0800	527.0289
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	0.0000
Worker	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	0.0000
Total	0.0195	1.2810	0.3727	4.9900e-003	0.1695	7.8700e-003	0.1774	0.0466	7.5300e-003	0.0541	0.0000	502.3530	502.3530	0.0337	0.0800	527.0289

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

3.2 LPA Cut/Fill Import & Export - 2030

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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	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	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0354	0.0000	0.0354	5.3600e-003	0.0000	5.3600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	tons/yr										MT/yr					
Hauling	0.0195	1.2810	0.3727	4.9900e-003	0.1695	7.8700e-003	0.1774	0.0466	7.5300e-003	0.0541	0.0000	502.3530	502.3530	0.0337	0.0800	527.0289
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	0.0000
Worker	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	0.0000
Total	0.0195	1.2810	0.3727	4.9900e-003	0.1695	7.8700e-003	0.1774	0.0466	7.5300e-003	0.0541	0.0000	502.3530	502.3530	0.0337	0.0800	527.0289

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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	tons/yr										MT/yr					
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	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	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

Land Use	Miles			Trip %			Trip Purpose %		
	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	0.516633	0.070991	0.195744	0.128836	0.026081	0.007842	0.011970	0.007437	0.000933	0.000540	0.028760	0.000776	0.003457

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	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	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	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	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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LACMTA WSAB LPA Construction GHG - Hauling Activities - Los Angeles-South Coast County, Annual

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

At-Grade Alignment, At-Grade Stations,
& Parking Facilities Construction
Annual CalEEMod Output File

LACMTA West Santa Ana Branch Construction - At-Grade LRT & Parking - Los Angeles-South Coast County, Annual

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 - At-Grade LRT & Parking

Los Angeles-South Coast County, Annual

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	74.00	0.00	0
Enclosed Parking with Elevator	1,100.00	Space	4.00	440,000.00	0
Parking Lot	614.00	Space	5.53	245,600.00	0
Parking Lot	490.00	Space	4.41	196,000.00	0
Parking Lot	360.00	Space	3.24	144,000.00	0
Parking Lot	260.00	Space	2.34	104,000.00	0
Unenclosed Parking Structure	54.00	1000sqft	1.24	54,000.00	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/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total at-grade = 12.2 miles x 50 foot width = approximately 74 acres.

Firestone = 614 spaces; I-105/Green Line = 360 spaces; Paramount/Rosecrans = 490 spaces; Bellflower = 260; Pioneer = 1,100 spaces.

6 at-grade stations @ ~9,000 sq ft each = 54,000 sq ft

Construction Phase - LACMTA Construction Methods Report (June 2021)

Assume at-grade construction is approximately 2/3 of total guideway construction duration (~680 days).

Off-road Equipment - Metro Construction Methods Report (June 2021)

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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
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
tblConstructionPhase	NumDays	60.00	240.00
tblConstructionPhase	NumDays	1,550.00	440.00
tblConstructionPhase	NumDays	60.00	120.00
tblConstructionPhase	NumDays	1,550.00	125.00
tblConstructionPhase	NumDays	1,550.00	180.00
tblConstructionPhase	NumDays	155.00	90.00
tblLandUse	LotAcreage	0.00	74.00
tblLandUse	LotAcreage	9.90	4.00
tblOffRoadEquipment	HorsePower	46.00	51.00
tblOffRoadEquipment	HorsePower	46.00	51.00
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	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	6.00

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tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	194.00	80.00
tblTripsAndVMT	VendorTripNumber	194.00	80.00
tblTripsAndVMT	VendorTripNumber	194.00	80.00
tblTripsAndVMT	WorkerTripNumber	30.00	100.00
tblTripsAndVMT	WorkerTripNumber	497.00	500.00
tblTripsAndVMT	WorkerTripNumber	30.00	100.00
tblTripsAndVMT	WorkerTripNumber	497.00	500.00
tblTripsAndVMT	WorkerTripNumber	497.00	500.00
tblTripsAndVMT	WorkerTripNumber	30.00	300.00

2.0 Emissions Summary

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2028	0.4561	4.0799	3.7784	0.0108	1.8912	0.1623	2.0535	0.8729	0.1496	1.0224	0.0000	956.1659	956.1659	0.2622	4.7800e-003	964.1430
2029	0.8065	5.9604	9.7501	0.0253	1.8579	0.2181	2.0761	0.6346	0.2050	0.8396	0.0000	2,275.3254	2,275.3254	0.3497	0.0528	2,299.8158
2030	0.7289	3.3809	8.7189	0.0240	1.1621	0.0812	1.2433	0.3106	0.0808	0.3914	0.0000	2,137.5559	2,137.5559	0.0616	0.0466	2,152.9782
Maximum	0.8065	5.9604	9.7501	0.0253	1.8912	0.2181	2.0761	0.8729	0.2050	1.0224	0.0000	2,275.3254	2,275.3254	0.3497	0.0528	2,299.8158

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	tons/yr										MT/yr					
2028	0.1545	0.5705	5.2982	0.0108	0.8543	3.2900e-003	0.8576	0.3715	3.2200e-003	0.3747	0.0000	956.1649	956.1649	0.2622	4.7800e-003	964.1420
2029	0.4201	1.8760	11.5206	0.0253	1.4691	0.0112	1.4803	0.4466	0.0107	0.4573	0.0000	2,275.3239	2,275.3239	0.3497	0.0528	2,299.8143
2030	0.3637	1.5221	9.9413	0.0240	1.1621	9.7500e-003	1.1718	0.3106	9.2900e-003	0.3199	0.0000	2,137.5545	2,137.5545	0.0616	0.0466	2,152.9768
Maximum	0.4201	1.8760	11.5206	0.0253	1.4691	0.0112	1.4803	0.4466	0.0107	0.4573	0.0000	2,275.3239	2,275.3239	0.3497	0.0528	2,299.8143

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	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
Percent Reduction	52.89	70.43	-20.28	0.00	29.03	94.74	34.68	37.92	94.67	48.88	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-3-2028	4-2-2028	1.1610	0.1679
2	4-3-2028	7-2-2028	1.1599	0.1668
3	7-3-2028	10-2-2028	1.1726	0.1686
4	10-3-2028	1-2-2029	1.0358	0.2264
5	1-3-2029	4-2-2029	1.7221	0.4835
6	4-3-2029	7-2-2029	1.7541	0.4985
7	7-3-2029	10-2-2029	1.6981	0.6687
8	10-3-2029	1-2-2030	1.5289	0.6185
9	1-3-2030	4-2-2030	1.2472	0.6032
10	4-3-2030	7-2-2030	1.2723	0.6035
11	7-3-2030	9-30-2030	1.0830	0.4687
		Highest	1.7541	0.6687

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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	tons/yr										MT/yr					
Area	0.0963	3.3000e-004	0.0366	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0715	0.0715	1.8000e-004	0.0000	0.0761
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	484.0576	484.0576	0.0409	4.9500e-003	486.5547
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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0963	3.3000e-004	0.0366	0.0000	0.0000	1.3000e-004	1.3000e-004	0.0000	1.3000e-004	1.3000e-004	0.0000	484.1290	484.1290	0.0410	4.9500e-003	486.6308

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

2.2 Overall Operational

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	tons/yr										MT/yr					
Area	0.0963	3.3000e-004	0.0366	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0715	0.0715	1.8000e-004	0.0000	0.0761
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	484.0576	484.0576	0.0409	4.9500e-003	486.5547
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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0963	3.3000e-004	0.0366	0.0000	0.0000	1.3000e-004	1.3000e-004	0.0000	1.3000e-004	1.3000e-004	0.0000	484.1290	484.1290	0.0410	4.9500e-003	486.6308

	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
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	At-Grade Guideway Prep	Site Preparation	1/3/2028	12/1/2028	5	240	Track bed preparation
2	At-Grade Guideway Construction	Building Construction	12/4/2028	8/9/2030	5	440	
3	At-Grade Station Prep	Site Preparation	1/8/2029	6/22/2029	5	120	Foundations & columns

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4	At-Grade Station Construction	Building Construction	6/25/2029	12/14/2029	5	125	Walls, platforms, canopies, accessory features.
5	Parking Structure Construction	Building Construction	1/7/2030	9/13/2030	5	180	
6	Surface Parking Lots Construction	Grading	8/12/2030	12/13/2030	5	90	

Acres of Grading (Site Preparation Phase): 480

Acres of Grading (Grading Phase): 0

Acres of Paving: 20.76

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
At-Grade Guideway Prep	Bore/Drill Rigs	2	6.00	221	0.50
At-Grade Guideway Prep	Excavators	2	8.00	158	0.38
At-Grade Guideway Prep	Graders	2	8.00	187	0.41
At-Grade Guideway Prep	Rollers	2	8.00	80	0.38
At-Grade Guideway Prep	Rubber Tired Dozers	2	8.00	247	0.40
At-Grade Guideway Prep	Rubber Tired Loaders	2	8.00	203	0.36
At-Grade Guideway Construction	Bore/Drill Rigs	2	6.00	221	0.50
At-Grade Guideway Construction	Generator Sets	2	8.00	84	0.74
At-Grade Guideway Construction	Other Material Handling Equipment	2	8.00	168	0.40
At-Grade Guideway Construction	Rough Terrain Forklifts	2	8.00	100	0.40
At-Grade Guideway Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
At-Grade Guideway Construction	Welders	2	8.00	51	0.45
At-Grade Station Prep	Bore/Drill Rigs	2	6.00	221	0.50
At-Grade Station Prep	Excavators	2	8.00	158	0.38
At-Grade Station Prep	Graders	2	6.00	187	0.41
At-Grade Station Prep	Rollers	2	8.00	80	0.38
At-Grade Station Prep	Rubber Tired Dozers	2	6.00	247	0.40

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At-Grade Station Prep	Rubber Tired Loaders	2	8.00	203	0.36
At-Grade Station Construction	Cranes	2	6.00	231	0.29
At-Grade Station Construction	Generator Sets	2	8.00	84	0.74
At-Grade Station Construction	Other Material Handling Equipment	2	8.00	168	0.40
At-Grade Station Construction	Rough Terrain Forklifts	2	8.00	100	0.40
At-Grade Station Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
At-Grade Station Construction	Welders	2	8.00	51	0.45
Parking Structure Construction	Air Compressors	2	8.00	78	0.48
Parking Structure Construction	Bore/Drill Rigs	1	6.00	221	0.50
Parking Structure Construction	Cranes	1	6.00	231	0.29
Parking Structure Construction	Paving Equipment	2	8.00	132	0.36
Parking Structure Construction	Pumps	2	8.00	84	0.74
Parking Structure Construction	Rough Terrain Forklifts	2	8.00	100	0.40
Parking Structure Construction	Rubber Tired Loaders	2	8.00	203	0.36
Surface Parking Lots Construction	Air Compressors	2	8.00	78	0.48
Surface Parking Lots Construction	Paving Equipment	2	8.00	132	0.36
Surface Parking Lots Construction	Pumps	2	8.00	84	0.74
Surface Parking Lots Construction	Rubber Tired Loaders	2	8.00	203	0.36
Surface Parking Lots Construction	Skid Steer Loaders	2	8.00	65	0.37
Surface Parking Lots Construction	Tractors/Loaders/Backhoes	2	8.00	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
At-Grade Guideway Prep	12	100.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
At-Grade Guideway Construction	12	500.00	80.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
At-Grade Station Prep	12	100.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
At-Grade Station Construction	12	500.00	80.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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Parking Structure Construction	12	500.00	80.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Surface Parking Lots Construction	12	300.00	0.00	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

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 At-Grade Guideway Prep - 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	tons/yr										MT/yr					
Fugitive Dust					1.6998	0.0000	1.6998	0.8219	0.0000	0.8219	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3957	3.8425	3.0472	8.7100e-003		0.1541	0.1541		0.1418	0.1418	0.0000	765.3357	765.3357	0.2475	0.0000	771.5238
Total	0.3957	3.8425	3.0472	8.7100e-003	1.6998	0.1541	1.8540	0.8219	0.1418	0.9637	0.0000	765.3357	765.3357	0.2475	0.0000	771.5238

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3.2 At-Grade Guideway Prep - 2028

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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0279	0.0185	0.2979	9.8000e-004	0.1315	6.1000e-004	0.1321	0.0349	5.6000e-004	0.0355	0.0000	90.2840	90.2840	1.7400e-003	2.0200e-003	90.9287
Total	0.0279	0.0185	0.2979	9.8000e-004	0.1315	6.1000e-004	0.1321	0.0349	5.6000e-004	0.0355	0.0000	90.2840	90.2840	1.7400e-003	2.0200e-003	90.9287

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	tons/yr										MT/yr					
Fugitive Dust					0.6629	0.0000	0.6629	0.3206	0.0000	0.3206	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1071	0.4643	4.5028	8.7100e-003		2.1400e-003	2.1400e-003		2.1400e-003	2.1400e-003	0.0000	765.3348	765.3348	0.2475	0.0000	771.5229
Total	0.1071	0.4643	4.5028	8.7100e-003	0.6629	2.1400e-003	0.6651	0.3206	2.1400e-003	0.3227	0.0000	765.3348	765.3348	0.2475	0.0000	771.5229

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3.2 At-Grade Guideway Prep - 2028

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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0279	0.0185	0.2979	9.8000e-004	0.1315	6.1000e-004	0.1321	0.0349	5.6000e-004	0.0355	0.0000	90.2840	90.2840	1.7400e-003	2.0200e-003	90.9287
Total	0.0279	0.0185	0.2979	9.8000e-004	0.1315	6.1000e-004	0.1321	0.0349	5.6000e-004	0.0355	0.0000	90.2840	90.2840	1.7400e-003	2.0200e-003	90.9287

3.3 At-Grade Guideway Construction - 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	tons/yr										MT/yr					
Off-Road	0.0201	0.1799	0.2979	5.7000e-004		7.1700e-003	7.1700e-003		6.8200e-003	6.8200e-003	0.0000	49.6494	49.6494	0.0117	0.0000	49.9412
Total	0.0201	0.1799	0.2979	5.7000e-004		7.1700e-003	7.1700e-003		6.8200e-003	6.8200e-003	0.0000	49.6494	49.6494	0.0117	0.0000	49.9412

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3.3 At-Grade Guideway Construction - 2028

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	tons/yr										MT/yr					
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	0.0000
Vendor	7.9000e-004	0.0315	0.0112	1.4000e-004	5.0400e-003	1.5000e-004	5.2000e-003	1.4600e-003	1.5000e-004	1.6000e-003	0.0000	13.2785	13.2785	5.0000e-004	1.9200e-003	13.8622
Worker	0.0116	7.6900e-003	0.1241	4.1000e-004	0.0548	2.5000e-004	0.0550	0.0146	2.3000e-004	0.0148	0.0000	37.6184	37.6184	7.2000e-004	8.4000e-004	37.8870
Total	0.0124	0.0392	0.1353	5.5000e-004	0.0598	4.0000e-004	0.0602	0.0160	3.8000e-004	0.0164	0.0000	50.8968	50.8968	1.2200e-003	2.7600e-003	51.7492

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	tons/yr										MT/yr					
Off-Road	7.0700e-003	0.0486	0.3621	5.7000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	49.6493	49.6493	0.0117	0.0000	49.9412
Total	7.0700e-003	0.0486	0.3621	5.7000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	49.6493	49.6493	0.0117	0.0000	49.9412

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3.3 At-Grade Guideway Construction - 2028

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	tons/yr										MT/yr					
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	0.0000
Vendor	7.9000e-004	0.0315	0.0112	1.4000e-004	5.0400e-003	1.5000e-004	5.2000e-003	1.4600e-003	1.5000e-004	1.6000e-003	0.0000	13.2785	13.2785	5.0000e-004	1.9200e-003	13.8622
Worker	0.0116	7.6900e-003	0.1241	4.1000e-004	0.0548	2.5000e-004	0.0550	0.0146	2.3000e-004	0.0148	0.0000	37.6184	37.6184	7.2000e-004	8.4000e-004	37.8870
Total	0.0124	0.0392	0.1353	5.5000e-004	0.0598	4.0000e-004	0.0602	0.0160	3.8000e-004	0.0164	0.0000	50.8968	50.8968	1.2200e-003	2.7600e-003	51.7492

3.3 At-Grade Guideway Construction - 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	tons/yr										MT/yr					
Off-Road	0.2622	2.3470	3.8879	7.4300e-003		0.0936	0.0936		0.0889	0.0889	0.0000	647.9240	647.9240	0.1524	0.0000	651.7330
Total	0.2622	2.3470	3.8879	7.4300e-003		0.0936	0.0936		0.0889	0.0889	0.0000	647.9240	647.9240	0.1524	0.0000	651.7330

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3.3 At-Grade Guideway Construction - 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	tons/yr										MT/yr					
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	0.0000
Vendor	0.0102	0.4078	0.1453	1.7300e-003	0.0658	2.0000e-003	0.0678	0.0190	1.9100e-003	0.0209	0.0000	170.0399	170.0399	6.5600e-003	0.0246	177.5215
Worker	0.1432	0.0927	1.5454	5.2300e-003	0.7150	3.0900e-003	0.7181	0.1899	2.8400e-003	0.1928	0.0000	479.5795	479.5795	8.7100e-003	0.0105	482.9330
Total	0.1533	0.5005	1.6906	6.9600e-003	0.7808	5.0900e-003	0.7859	0.2089	4.7500e-003	0.2137	0.0000	649.6195	649.6195	0.0153	0.0351	660.4544

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	tons/yr										MT/yr					
Off-Road	0.0923	0.6343	4.7260	7.4300e-003		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	647.9232	647.9232	0.1524	0.0000	651.7323
Total	0.0923	0.6343	4.7260	7.4300e-003		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	647.9232	647.9232	0.1524	0.0000	651.7323

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3.3 At-Grade Guideway Construction - 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	tons/yr										MT/yr					
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	0.0000
Vendor	0.0102	0.4078	0.1453	1.7300e-003	0.0658	2.0000e-003	0.0678	0.0190	1.9100e-003	0.0209	0.0000	170.0399	170.0399	6.5600e-003	0.0246	177.5215
Worker	0.1432	0.0927	1.5454	5.2300e-003	0.7150	3.0900e-003	0.7181	0.1899	2.8400e-003	0.1928	0.0000	479.5795	479.5795	8.7100e-003	0.0105	482.9330
Total	0.1533	0.5005	1.6906	6.9600e-003	0.7808	5.0900e-003	0.7859	0.2089	4.7500e-003	0.2137	0.0000	649.6195	649.6195	0.0153	0.0351	660.4544

3.3 At-Grade Guideway Construction - 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	tons/yr										MT/yr					
Off-Road	0.1761	0.9318	2.4664	5.2300e-003		0.0229	0.0229		0.0229	0.0229	0.0000	449.7375	449.7375	0.0141	0.0000	450.0890
Total	0.1761	0.9318	2.4664	5.2300e-003		0.0229	0.0229		0.0229	0.0229	0.0000	449.7375	449.7375	0.0141	0.0000	450.0890

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3.3 At-Grade Guideway Construction - 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	tons/yr										MT/yr					
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	0.0000
Vendor	6.1100e-003	0.2468	0.0881	1.0400e-003	0.0401	1.2100e-003	0.0413	0.0116	1.1600e-003	0.0127	0.0000	101.7021	101.7021	4.0200e-003	0.0147	106.1803
Worker	0.0822	0.0524	0.9022	3.1200e-003	0.4356	1.7600e-003	0.4373	0.1157	1.6200e-003	0.1173	0.0000	286.0069	286.0069	4.9100e-003	6.1800e-003	287.9699
Total	0.0884	0.2992	0.9903	4.1600e-003	0.4757	2.9700e-003	0.4786	0.1273	2.7800e-003	0.1300	0.0000	387.7090	387.7090	8.9300e-003	0.0209	394.1502

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	tons/yr										MT/yr					
Off-Road	0.0562	0.3864	2.8791	5.2300e-003		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	449.7370	449.7370	0.0141	0.0000	450.0884
Total	0.0562	0.3864	2.8791	5.2300e-003		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	449.7370	449.7370	0.0141	0.0000	450.0884

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3.3 At-Grade Guideway Construction - 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	tons/yr										MT/yr					
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	0.0000
Vendor	6.1100e-003	0.2468	0.0881	1.0400e-003	0.0401	1.2100e-003	0.0413	0.0116	1.1600e-003	0.0127	0.0000	101.7021	101.7021	4.0200e-003	0.0147	106.1803
Worker	0.0822	0.0524	0.9022	3.1200e-003	0.4356	1.7600e-003	0.4373	0.1157	1.6200e-003	0.1173	0.0000	286.0069	286.0069	4.9100e-003	6.1800e-003	287.9699
Total	0.0884	0.2992	0.9903	4.1600e-003	0.4757	2.9700e-003	0.4786	0.1273	2.7800e-003	0.1300	0.0000	387.7090	387.7090	8.9300e-003	0.0209	394.1502

3.4 At-Grade Station Prep - 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	tons/yr										MT/yr					
Fugitive Dust					0.6374	0.0000	0.6374	0.3082	0.0000	0.3082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1691	1.6186	1.3859	3.9000e-003		0.0650	0.0650		0.0598	0.0598	0.0000	342.7372	342.7372	0.1109	0.0000	345.5084
Total	0.1691	1.6186	1.3859	3.9000e-003	0.6374	0.0650	0.7025	0.3082	0.0598	0.3681	0.0000	342.7372	342.7372	0.1109	0.0000	345.5084

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3.4 At-Grade Station Prep - 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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0132	8.5200e-003	0.1421	4.8000e-004	0.0658	2.8000e-004	0.0660	0.0175	2.6000e-004	0.0177	0.0000	44.0993	44.0993	8.0000e-004	9.7000e-004	44.4076
Total	0.0132	8.5200e-003	0.1421	4.8000e-004	0.0658	2.8000e-004	0.0660	0.0175	2.6000e-004	0.0177	0.0000	44.0993	44.0993	8.0000e-004	9.7000e-004	44.4076

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	tons/yr										MT/yr					
Fugitive Dust					0.2486	0.0000	0.2486	0.1202	0.0000	0.1202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0480	0.2080	2.0471	3.9000e-003		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004	0.0000	342.7368	342.7368	0.1109	0.0000	345.5080
Total	0.0480	0.2080	2.0471	3.9000e-003	0.2486	9.6000e-004	0.2496	0.1202	9.6000e-004	0.1212	0.0000	342.7368	342.7368	0.1109	0.0000	345.5080

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3.4 At-Grade Station Prep - 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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0132	8.5200e-003	0.1421	4.8000e-004	0.0658	2.8000e-004	0.0660	0.0175	2.6000e-004	0.0177	0.0000	44.0993	44.0993	8.0000e-004	9.7000e-004	44.4076
Total	0.0132	8.5200e-003	0.1421	4.8000e-004	0.0658	2.8000e-004	0.0660	0.0175	2.6000e-004	0.0177	0.0000	44.0993	44.0993	8.0000e-004	9.7000e-004	44.4076

3.5 At-Grade Station Construction - 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	tons/yr										MT/yr					
Off-Road	0.1353	1.2462	1.8339	3.2100e-003		0.0517	0.0517		0.0489	0.0489	0.0000	279.8250	279.8250	0.0631	0.0000	281.4028
Total	0.1353	1.2462	1.8339	3.2100e-003		0.0517	0.0517		0.0489	0.0489	0.0000	279.8250	279.8250	0.0631	0.0000	281.4028

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3.5 At-Grade Station Construction - 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	tons/yr										MT/yr					
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	0.0000
Vendor	4.8800e-003	0.1953	0.0696	8.3000e-004	0.0315	9.6000e-004	0.0325	9.1000e-003	9.2000e-004	0.0100	0.0000	81.4368	81.4368	3.1400e-003	0.0118	85.0199
Worker	0.0686	0.0444	0.7401	2.5000e-003	0.3424	1.4800e-003	0.3439	0.0910	1.3600e-003	0.0923	0.0000	229.6837	229.6837	4.1700e-003	5.0400e-003	231.2897
Total	0.0734	0.2397	0.8097	3.3300e-003	0.3740	2.4400e-003	0.3764	0.1001	2.2800e-003	0.1023	0.0000	311.1204	311.1204	7.3100e-003	0.0168	316.3096

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	tons/yr										MT/yr					
Off-Road	0.0399	0.2851	2.1051	3.2100e-003		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	279.8247	279.8247	0.0631	0.0000	281.4024
Total	0.0399	0.2851	2.1051	3.2100e-003		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	279.8247	279.8247	0.0631	0.0000	281.4024

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3.5 At-Grade Station Construction - 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	tons/yr										MT/yr					
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	0.0000
Vendor	4.8800e-003	0.1953	0.0696	8.3000e-004	0.0315	9.6000e-004	0.0325	9.1000e-003	9.2000e-004	0.0100	0.0000	81.4368	81.4368	3.1400e-003	0.0118	85.0199
Worker	0.0686	0.0444	0.7401	2.5000e-003	0.3424	1.4800e-003	0.3439	0.0910	1.3600e-003	0.0923	0.0000	229.6837	229.6837	4.1700e-003	5.0400e-003	231.2897
Total	0.0734	0.2397	0.8097	3.3300e-003	0.3740	2.4400e-003	0.3764	0.1001	2.2800e-003	0.1023	0.0000	311.1204	311.1204	7.3100e-003	0.0168	316.3096

3.6 Parking Structure Construction - 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	tons/yr										MT/yr					
Off-Road	0.2319	1.1990	2.5593	6.2200e-003		0.0352	0.0352		0.0352	0.0352	0.0000	534.8064	534.8064	0.0185	0.0000	535.2692
Total	0.2319	1.1990	2.5593	6.2200e-003		0.0352	0.0352		0.0352	0.0352	0.0000	534.8064	534.8064	0.0185	0.0000	535.2692

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3.6 Parking Structure Construction - 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	tons/yr										MT/yr					
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	0.0000
Vendor	6.9200e-003	0.2794	0.0997	1.1700e-003	0.0454	1.3700e-003	0.0468	0.0131	1.3100e-003	0.0144	0.0000	115.1345	115.1345	4.5500e-003	0.0166	120.2041
Worker	0.0931	0.0593	1.0214	3.5300e-003	0.4931	1.9900e-003	0.4951	0.1310	1.8300e-003	0.1328	0.0000	323.7814	323.7814	5.5600e-003	6.9900e-003	326.0036
Total	0.1000	0.3387	1.1211	4.7000e-003	0.5385	3.3600e-003	0.5419	0.1441	3.1400e-003	0.1472	0.0000	438.9159	438.9159	0.0101	0.0236	446.2078

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	tons/yr										MT/yr					
Off-Road	0.0622	0.2697	3.1732	6.2200e-003		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	534.8058	534.8058	0.0185	0.0000	535.2685
Total	0.0622	0.2697	3.1732	6.2200e-003		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	534.8058	534.8058	0.0185	0.0000	535.2685

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

3.6 Parking Structure Construction - 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	tons/yr										MT/yr					
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	0.0000
Vendor	6.9200e-003	0.2794	0.0997	1.1700e-003	0.0454	1.3700e-003	0.0468	0.0131	1.3100e-003	0.0144	0.0000	115.1345	115.1345	4.5500e-003	0.0166	120.2041
Worker	0.0931	0.0593	1.0214	3.5300e-003	0.4931	1.9900e-003	0.4951	0.1310	1.8300e-003	0.1328	0.0000	323.7814	323.7814	5.5600e-003	6.9900e-003	326.0036
Total	0.1000	0.3387	1.1211	4.7000e-003	0.5385	3.3600e-003	0.5419	0.1441	3.1400e-003	0.1472	0.0000	438.9159	438.9159	0.0101	0.0236	446.2078

3.7 Surface Parking Lots Construction - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1046	0.5944	1.2755	2.6700e-003		0.0162	0.0162		0.0162	0.0162	0.0000	229.2527	229.2527	8.3300e-003	0.0000	229.4611
Total	0.1046	0.5944	1.2755	2.6700e-003	0.0000	0.0162	0.0162	0.0000	0.0162	0.0162	0.0000	229.2527	229.2527	8.3300e-003	0.0000	229.4611

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3.7 Surface Parking Lots Construction - 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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0279	0.0178	0.3064	1.0600e-003	0.1479	6.0000e-004	0.1485	0.0393	5.5000e-004	0.0398	0.0000	97.1344	97.1344	1.6700e-003	2.1000e-003	97.8011
Total	0.0279	0.0178	0.3064	1.0600e-003	0.1479	6.0000e-004	0.1485	0.0393	5.5000e-004	0.0398	0.0000	97.1344	97.1344	1.6700e-003	2.1000e-003	97.8011

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0290	0.2103	1.4713	2.6700e-003		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	229.2525	229.2525	8.3300e-003	0.0000	229.4608
Total	0.0290	0.2103	1.4713	2.6700e-003	0.0000	5.3000e-004	5.3000e-004	0.0000	5.3000e-004	5.3000e-004	0.0000	229.2525	229.2525	8.3300e-003	0.0000	229.4608

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

3.7 Surface Parking Lots Construction - 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	tons/yr										MT/yr					
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	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	0.0000
Worker	0.0279	0.0178	0.3064	1.0600e-003	0.1479	6.0000e-004	0.1485	0.0393	5.5000e-004	0.0398	0.0000	97.1344	97.1344	1.6700e-003	2.1000e-003	97.8011
Total	0.0279	0.0178	0.3064	1.0600e-003	0.1479	6.0000e-004	0.1485	0.0393	5.5000e-004	0.0398	0.0000	97.1344	97.1344	1.6700e-003	2.1000e-003	97.8011

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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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	tons/yr										MT/yr					
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	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	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking Structure	0.00	0.00	0.00		
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	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

Land Use	Miles			Trip %			Trip Purpose %		
	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
Unenclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
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
Unenclosed Parking Structure	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
Enclosed Parking with Elevator	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
Parking Lot	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
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

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	2.3936e+006	424.4943	0.0358	4.3400e-003	426.6842
Parking Lot	36400	6.4554	5.4000e-004	7.0000e-005	6.4887
Parking Lot	50400	8.9382	7.5000e-004	9.0000e-005	8.9843
Parking Lot	68600	12.1659	1.0300e-003	1.2000e-004	12.2287
Parking Lot	85960	15.2446	1.2900e-003	1.6000e-004	15.3233
Unenclosed Parking Structure	94500	16.7592	1.4100e-003	1.7000e-004	16.8456
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		484.0576	0.0409	4.9500e-003	486.5548

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	2.3936e+006	424.4943	0.0358	4.3400e-003	426.6842
Parking Lot	36400	6.4554	5.4000e-004	7.0000e-005	6.4887
Parking Lot	50400	8.9382	7.5000e-004	9.0000e-005	8.9843
Parking Lot	68600	12.1659	1.0300e-003	1.2000e-004	12.2287
Parking Lot	85960	15.2446	1.2900e-003	1.6000e-004	15.3233
Unenclosed Parking Structure	94500	16.7592	1.4100e-003	1.7000e-004	16.8456
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		484.0576	0.0409	4.9500e-003	486.5548

6.0 Area Detail

6.1 Mitigation Measures Area

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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	tons/yr										MT/yr					
Mitigated	0.0963	3.3000e-004	0.0366	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0715	0.0715	1.8000e-004	0.0000	0.0761
Unmitigated	0.0963	3.3000e-004	0.0366	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0715	0.0715	1.8000e-004	0.0000	0.0761

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	tons/yr										MT/yr					
Architectural Coating	0.0165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0765					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.3400e-003	3.3000e-004	0.0366	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0715	0.0715	1.8000e-004	0.0000	0.0761
Total	0.0963	3.3000e-004	0.0366	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0715	0.0715	1.8000e-004	0.0000	0.0761

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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	tons/yr										MT/yr					
Architectural Coating	0.0165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0765					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.3400e-003	3.3000e-004	0.0366	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0715	0.0715	1.8000e-004	0.0000	0.0761
Total	0.0963	3.3000e-004	0.0366	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0715	0.0715	1.8000e-004	0.0000	0.0761

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

LACMTA West Santa Ana Branch Construction - At-Grade LRT & Parking - Los Angeles-South Coast County, Annual

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

LACMTA West Santa Ana Branch Construction - At-Grade LRT & Parking - Los Angeles-South Coast County, Annual

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

LACMTA West Santa Ana Branch Construction - At-Grade LRT & Parking - Los Angeles-South Coast County, Annual

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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

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

Equipment Type	Number
----------------	--------

11.0 Vegetation

Aerial Alignment & Stations Construction
Annual CalEEMod Output File

LACMTA West Santa Ana Branch Construction - Aerial LRT - Los Angeles-South Coast County, Annual

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 - Aerial LRT

Los Angeles-South Coast County, Annual

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	15.80	0.00	0
Unenclosed Parking with Elevator	27.00	1000sqft	0.62	27,000.00	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 -
- Land Use - 2.6 miles aerial x 50 foot width = 15.8 acres
- 3 aerial stations x ~9,000 sq ft per station = 27,000 sq ft
- Construction Phase - Metro Construction Schedule (May 2023)
- Off-road Equipment - Metro Construction Methods Report (June 2021)
- Off-road Equipment - Metro Construction Methods Report (June 2021)
- Off-road Equipment - Metro Construction Methods Report (June 2021)
- Off-road Equipment - Metro Construction Methods Report (June 2021)
- Grading -
- Trips and VMT - Metro Construction Methods Report (June 2021)
- Vehicle Emission Factors -

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

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
tblConstructionPhase	NumDays	300.00	240.00
tblConstructionPhase	NumDays	300.00	425.00
tblConstructionPhase	NumDays	10.00	100.00
tblConstructionPhase	NumDays	10.00	125.00
tblLandUse	LotAcreage	0.00	15.80
tblOffRoadEquipment	HorsePower	46.00	51.00
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts

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tblOffRoadEquipment	PhaseName			Guideway - Horizontal Support
tblOffRoadEquipment	PhaseName			Stations - Foundations
tblOffRoadEquipment	PhaseName			Guideway - Foundations
tblOffRoadEquipment	PhaseName			Stations - Foundations
tblOffRoadEquipment	PhaseName			Guideway - Foundations
tblOffRoadEquipment	PhaseName			Stations - Platform Construction
tblOffRoadEquipment	PhaseName			Stations - Platform Construction
tblOffRoadEquipment	PhaseName			Guideway - Foundations
tblOffRoadEquipment	PhaseName			Stations - Foundations
tblOffRoadEquipment	PhaseName			Guideway - Horizontal Support
tblOffRoadEquipment	PhaseName			Guideway - Horizontal Support
tblOffRoadEquipment	PhaseName			Stations - Platform Construction
tblOffRoadEquipment	PhaseName			Guideway - Foundations
tblOffRoadEquipment	PhaseName			Guideway - Foundations
tblOffRoadEquipment	PhaseName			Guideway - Foundations
tblOffRoadEquipment	PhaseName			Guideway - Horizontal Support
tblOffRoadEquipment	PhaseName			Stations - Foundations
tblOffRoadEquipment	PhaseName			Stations - Foundations
tblOffRoadEquipment	PhaseName			Stations - Foundations
tblOffRoadEquipment	UsageHours		7.00	8.00
tblTripsAndVMT	VendorTripNumber		0.00	40.00
tblTripsAndVMT	VendorTripNumber		4.00	40.00
tblTripsAndVMT	VendorTripNumber		0.00	40.00
tblTripsAndVMT	VendorTripNumber		4.00	40.00
tblTripsAndVMT	WorkerTripNumber		13.00	250.00
tblTripsAndVMT	WorkerTripNumber		11.00	250.00
tblTripsAndVMT	WorkerTripNumber		13.00	250.00
tblTripsAndVMT	WorkerTripNumber		11.00	250.00

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2.0 Emissions Summary

2.1 Overall Construction

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	tons/yr										MT/yr					
2028	0.4167	3.3776	5.1469	0.0122	0.8253	0.1245	0.9498	0.2973	0.1178	0.4151	0.0000	1,090.6943	1,090.6943	0.1701	0.0217	1,101.4179
2029	0.3814	3.0785	4.5966	0.0110	0.8630	0.1122	0.9752	0.3265	0.1059	0.4324	0.0000	981.6060	981.6060	0.1631	0.0189	991.3103
2030	0.3442	1.9598	4.1031	0.0101	0.3904	0.0380	0.4284	0.1045	0.0378	0.1422	0.0000	880.4201	880.4201	0.0293	0.0171	886.2549
2031	0.0430	0.2473	0.5153	1.2600e-003	0.0494	4.7900e-003	0.0542	0.0132	4.7700e-003	0.0180	0.0000	110.5999	110.5999	3.6700e-003	2.1200e-003	111.3224
Maximum	0.4167	3.3776	5.1469	0.0122	0.8630	0.1245	0.9752	0.3265	0.1178	0.4324	0.0000	1,090.6943	1,090.6943	0.1701	0.0217	1,101.4179

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2.1 Overall Construction

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	tons/yr										MT/yr					
2028	0.2666	0.8104	5.8002	0.0122	0.6093	0.0382	0.6475	0.1928	0.0379	0.2307	0.0000	1,090.6935	1,090.6935	0.1701	0.0217	1,101.4170
2029	0.2307	0.6887	5.2444	0.0110	0.5930	0.0322	0.6251	0.1959	0.0319	0.2278	0.0000	981.6052	981.6052	0.1631	0.0189	991.3095
2030	0.1932	0.6686	4.3544	0.0101	0.3904	0.0168	0.4072	0.1045	0.0167	0.1211	0.0000	880.4195	880.4195	0.0293	0.0171	886.2542
2031	0.0239	0.0840	0.5471	1.2600e-003	0.0494	2.1100e-003	0.0515	0.0132	2.1000e-003	0.0153	0.0000	110.5998	110.5998	3.6700e-003	2.1200e-003	111.3224
Maximum	0.2666	0.8104	5.8002	0.0122	0.6093	0.0382	0.6475	0.1959	0.0379	0.2307	0.0000	1,090.6935	1,090.6935	0.1701	0.0217	1,101.4170

	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
Percent Reduction	39.72	74.01	-11.03	0.00	22.84	68.04	28.09	31.70	66.77	40.97	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-3-2028	4-2-2028	1.0905	0.2794
2	4-3-2028	7-2-2028	1.1855	0.3306
3	7-3-2028	10-2-2028	0.7522	0.2281
4	10-3-2028	1-2-2029	0.7572	0.2331
5	1-3-2029	4-2-2029	1.0349	0.2680
6	4-3-2029	7-2-2029	0.8119	0.1947
7	7-3-2029	10-2-2029	0.7834	0.2185
8	10-3-2029	1-2-2030	0.7838	0.2233

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9	1-3-2030	4-2-2030	0.5687	0.2134
10	4-3-2030	7-2-2030	0.5702	0.2111
11	7-3-2030	10-2-2030	0.5766	0.2135
12	10-3-2030	1-2-2031	0.5814	0.2183
13	1-3-2031	4-2-2031	0.2708	0.1010
		Highest	1.1855	0.3306

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	tons/yr										MT/yr					
Area	2.1500e-003	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.4000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.2894	9.2894	7.8000e-004	1.0000e-004	9.3373
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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.1500e-003	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9.2901	9.2901	7.8000e-004	1.0000e-004	9.3380

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2.2 Overall Operational

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	tons/yr										MT/yr					
Area	2.1500e-003	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.4000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.2894	9.2894	7.8000e-004	1.0000e-004	9.3373
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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.1500e-003	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9.2901	9.2901	7.8000e-004	1.0000e-004	9.3380

	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
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	Guideway - Foundations	Site Preparation	1/3/2028	5/19/2028	5	100	Pile-supported reinforced concrete columns.
2	Guideway - Horizontal Support	Building Construction	3/6/2028	2/2/2029	5	240	Aerial girders & bent/pier cap.
3	Stations - Foundations	Site Preparation	1/8/2029	6/29/2029	5	125	

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4	Stations - Platform Construction	Building Construction	7/2/2029	2/14/2031	5	425
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Acres of Grading (Site Preparation Phase): 100

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.62

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
Stations - Foundations	Excavators	2	8.00	158	0.38
Guideway - Horizontal Support	Welders	2	8.00	51	0.45
Stations - Foundations	Rollers	2	8.00	80	0.38
Stations - Platform Construction	Aerial Lifts	2	8.00	63	0.31
Stations - Platform Construction	Pumps	2	8.00	84	0.74
Guideway - Foundations	Excavators	2	8.00	158	0.38
Guideway - Foundations	Cranes	2	7.00	231	0.29
Guideway - Foundations	Rollers	2	8.00	80	0.38
Guideway - Horizontal Support	Aerial Lifts	2	8.00	63	0.31
Guideway - Horizontal Support	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Stations - Foundations	Cranes	2	7.00	231	0.29
Guideway - Horizontal Support	Cranes	2	7.00	231	0.29
Stations - Platform Construction	Rough Terrain Forklifts	2	8.00	100	0.40
Guideway - Horizontal Support	Rough Terrain Forklifts	2	8.00	100	0.40
Stations - Platform Construction	Cranes	2	7.00	231	0.29
Stations - Platform Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Stations - Platform Construction	Welders	2	8.00	46	0.45
Guideway - Foundations	Bore/Drill Rigs	2	7.00	221	0.50
Guideway - Foundations	Pumps	2	8.00	84	0.74

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Guideway - Foundations	Rough Terrain Forklifts	2	8.00	100	0.40
Guideway - Horizontal Support	Pumps	2	8.00	84	0.74
Stations - Foundations	Bore/Drill Rigs	2	7.00	221	0.50
Stations - Foundations	Pumps	2	7.00	84	0.74
Stations - Foundations	Rough Terrain Forklifts	2	8.00	100	0.40

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
Stations - Foundations	5	250.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Guideway - Foundations	5	250.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Guideway - Horizontal Support	5	250.00	40.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Stations - Platform Construction	5	250.00	40.00	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

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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3.2 Guideway - Foundations - 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	tons/yr										MT/yr					
Fugitive Dust					0.3541	0.0000	0.3541	0.1712	0.0000	0.1712	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1144	1.0779	1.4408	3.1200e-003		0.0441	0.0441		0.0414	0.0414	0.0000	272.4021	272.4021	0.0721	0.0000	274.2048
Total	0.1144	1.0779	1.4408	3.1200e-003	0.3541	0.0441	0.3982	0.1712	0.0414	0.2126	0.0000	272.4021	272.4021	0.0721	0.0000	274.2048

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.9900e-003	0.0787	0.0280	3.4000e-004	0.0126	3.9000e-004	0.0130	3.6400e-003	3.7000e-004	4.0100e-003	0.0000	33.1962	33.1962	1.2500e-003	4.7900e-003	34.6556
Worker	0.0291	0.0192	0.3103	1.0300e-003	0.1370	6.3000e-004	0.1376	0.0364	5.8000e-004	0.0370	0.0000	94.0459	94.0459	1.8100e-003	2.1000e-003	94.7174
Total	0.0311	0.0979	0.3383	1.3700e-003	0.1496	1.0200e-003	0.1506	0.0400	9.5000e-004	0.0410	0.0000	127.2421	127.2421	3.0600e-003	6.8900e-003	129.3730

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3.2 Guideway - Foundations - 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	tons/yr										MT/yr					
Fugitive Dust					0.1381	0.0000	0.1381	0.0668	0.0000	0.0668	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0589	0.1310	1.8254	3.1200e-003		0.0107	0.0107		0.0107	0.0107	0.0000	272.4017	272.4017	0.0721	0.0000	274.2044
Total	0.0589	0.1310	1.8254	3.1200e-003	0.1381	0.0107	0.1488	0.0668	0.0107	0.0775	0.0000	272.4017	272.4017	0.0721	0.0000	274.2044

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.9900e-003	0.0787	0.0280	3.4000e-004	0.0126	3.9000e-004	0.0130	3.6400e-003	3.7000e-004	4.0100e-003	0.0000	33.1962	33.1962	1.2500e-003	4.7900e-003	34.6556
Worker	0.0291	0.0192	0.3103	1.0300e-003	0.1370	6.3000e-004	0.1376	0.0364	5.8000e-004	0.0370	0.0000	94.0459	94.0459	1.8100e-003	2.1000e-003	94.7174
Total	0.0311	0.0979	0.3383	1.3700e-003	0.1496	1.0200e-003	0.1506	0.0400	9.5000e-004	0.0410	0.0000	127.2421	127.2421	3.0600e-003	6.8900e-003	129.3730

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3.3 Guideway - Horizontal Support - 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	tons/yr										MT/yr					
Off-Road	0.2044	1.9913	2.6404	4.8000e-003		0.0772	0.0772		0.0735	0.0735	0.0000	417.4797	417.4797	0.0883	0.0000	419.6881
Total	0.2044	1.9913	2.6404	4.8000e-003		0.0772	0.0772		0.0735	0.0735	0.0000	417.4797	417.4797	0.0883	0.0000	419.6881

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	tons/yr										MT/yr					
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	0.0000
Vendor	4.2700e-003	0.1691	0.0602	7.3000e-004	0.0271	8.3000e-004	0.0279	7.8200e-003	7.9000e-004	8.6200e-003	0.0000	71.3719	71.3719	2.6800e-003	0.0103	74.5095
Worker	0.0625	0.0413	0.6672	2.2100e-003	0.2945	1.3600e-003	0.2959	0.0782	1.2600e-003	0.0795	0.0000	202.1986	202.1986	3.8900e-003	4.5200e-003	203.6425
Total	0.0668	0.2105	0.7274	2.9400e-003	0.3216	2.1900e-003	0.3238	0.0860	2.0500e-003	0.0881	0.0000	273.5705	273.5705	6.5700e-003	0.0148	278.1520

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3.3 Guideway - Horizontal Support - 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	tons/yr										MT/yr					
Off-Road	0.1099	0.3711	2.9091	4.8000e-003		0.0243	0.0243		0.0242	0.0242	0.0000	417.4792	417.4792	0.0883	0.0000	419.6876
Total	0.1099	0.3711	2.9091	4.8000e-003		0.0243	0.0243		0.0242	0.0242	0.0000	417.4792	417.4792	0.0883	0.0000	419.6876

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	tons/yr										MT/yr					
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	0.0000
Vendor	4.2700e-003	0.1691	0.0602	7.3000e-004	0.0271	8.3000e-004	0.0279	7.8200e-003	7.9000e-004	8.6200e-003	0.0000	71.3719	71.3719	2.6800e-003	0.0103	74.5095
Worker	0.0625	0.0413	0.6672	2.2100e-003	0.2945	1.3600e-003	0.2959	0.0782	1.2600e-003	0.0795	0.0000	202.1986	202.1986	3.8900e-003	4.5200e-003	203.6425
Total	0.0668	0.2105	0.7274	2.9400e-003	0.3216	2.1900e-003	0.3238	0.0860	2.0500e-003	0.0881	0.0000	273.5705	273.5705	6.5700e-003	0.0148	278.1520

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

3.3 Guideway - Horizontal Support - 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	tons/yr										MT/yr					
Off-Road	0.0238	0.2316	0.3070	5.6000e-004		8.9800e-003	8.9800e-003		8.5400e-003	8.5400e-003	0.0000	48.5441	48.5441	0.0103	0.0000	48.8009
Total	0.0238	0.2316	0.3070	5.6000e-004		8.9800e-003	8.9800e-003		8.5400e-003	8.5400e-003	0.0000	48.5441	48.5441	0.0103	0.0000	48.8009

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	tons/yr										MT/yr					
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	0.0000
Vendor	4.9000e-004	0.0195	6.9600e-003	8.0000e-005	3.1500e-003	1.0000e-004	3.2500e-003	9.1000e-004	9.0000e-005	1.0000e-003	0.0000	8.1437	8.1437	3.1000e-004	1.1800e-003	8.5020
Worker	6.8600e-003	4.4400e-003	0.0740	2.5000e-004	0.0342	1.5000e-004	0.0344	9.1000e-003	1.4000e-004	9.2300e-003	0.0000	22.9684	22.9684	4.2000e-004	5.0000e-004	23.1290
Total	7.3500e-003	0.0240	0.0810	3.3000e-004	0.0374	2.5000e-004	0.0376	0.0100	2.3000e-004	0.0102	0.0000	31.1121	31.1121	7.3000e-004	1.6800e-003	31.6310

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

3.3 Guideway - Horizontal Support - 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	tons/yr										MT/yr					
Off-Road	0.0128	0.0432	0.3383	5.6000e-004		2.8300e-003	2.8300e-003		2.8100e-003	2.8100e-003	0.0000	48.5441	48.5441	0.0103	0.0000	48.8009
Total	0.0128	0.0432	0.3383	5.6000e-004		2.8300e-003	2.8300e-003		2.8100e-003	2.8100e-003	0.0000	48.5441	48.5441	0.0103	0.0000	48.8009

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	tons/yr										MT/yr					
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	0.0000
Vendor	4.9000e-004	0.0195	6.9600e-003	8.0000e-005	3.1500e-003	1.0000e-004	3.2500e-003	9.1000e-004	9.0000e-005	1.0000e-003	0.0000	8.1437	8.1437	3.1000e-004	1.1800e-003	8.5020
Worker	6.8600e-003	4.4400e-003	0.0740	2.5000e-004	0.0342	1.5000e-004	0.0344	9.1000e-003	1.4000e-004	9.2300e-003	0.0000	22.9684	22.9684	4.2000e-004	5.0000e-004	23.1290
Total	7.3500e-003	0.0240	0.0810	3.3000e-004	0.0374	2.5000e-004	0.0376	0.0100	2.3000e-004	0.0102	0.0000	31.1121	31.1121	7.3000e-004	1.6800e-003	31.6310

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

3.4 Stations - Foundations - 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	tons/yr										MT/yr					
Fugitive Dust					0.4427	0.0000	0.4427	0.2141	0.0000	0.2141	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1385	1.3095	1.7430	3.7900e-003		0.0535	0.0535		0.0501	0.0501	0.0000	331.6712	331.6712	0.0898	0.0000	333.9157
Total	0.1385	1.3095	1.7430	3.7900e-003	0.4427	0.0535	0.4962	0.2141	0.0501	0.2642	0.0000	331.6712	331.6712	0.0898	0.0000	333.9157

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.4400e-003	0.0976	0.0348	4.2000e-004	0.0158	4.8000e-004	0.0162	4.5500e-003	4.6000e-004	5.0100e-003	0.0000	40.7184	40.7184	1.5700e-003	5.8800e-003	42.5099
Worker	0.0343	0.0222	0.3701	1.2500e-003	0.1712	7.4000e-004	0.1720	0.0455	6.8000e-004	0.0462	0.0000	114.8418	114.8418	2.0900e-003	2.5200e-003	115.6449
Total	0.0367	0.1198	0.4048	1.6700e-003	0.1870	1.2200e-003	0.1882	0.0500	1.1400e-003	0.0512	0.0000	155.5602	155.5602	3.6600e-003	8.4000e-003	158.1548

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

3.4 Stations - Foundations - 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	tons/yr										MT/yr					
Fugitive Dust					0.1726	0.0000	0.1726	0.0835	0.0000	0.0835	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0691	0.1638	2.2236	3.7900e-003		0.0118	0.0118		0.0118	0.0118	0.0000	331.6708	331.6708	0.0898	0.0000	333.9153
Total	0.0691	0.1638	2.2236	3.7900e-003	0.1726	0.0118	0.1844	0.0835	0.0118	0.0953	0.0000	331.6708	331.6708	0.0898	0.0000	333.9153

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.4400e-003	0.0976	0.0348	4.2000e-004	0.0158	4.8000e-004	0.0162	4.5500e-003	4.6000e-004	5.0100e-003	0.0000	40.7184	40.7184	1.5700e-003	5.8800e-003	42.5099
Worker	0.0343	0.0222	0.3701	1.2500e-003	0.1712	7.4000e-004	0.1720	0.0455	6.8000e-004	0.0462	0.0000	114.8418	114.8418	2.0900e-003	2.5200e-003	115.6449
Total	0.0367	0.1198	0.4048	1.6700e-003	0.1870	1.2200e-003	0.1882	0.0500	1.1400e-003	0.0512	0.0000	155.5602	155.5602	3.6600e-003	8.4000e-003	158.1548

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

3.5 Stations - Platform Construction - 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	tons/yr										MT/yr					
Off-Road	0.1366	1.2681	1.6365	2.9400e-003		0.0470	0.0470		0.0447	0.0447	0.0000	251.6912	251.6912	0.0548	0.0000	253.0617
Total	0.1366	1.2681	1.6365	2.9400e-003		0.0470	0.0470		0.0447	0.0447	0.0000	251.6912	251.6912	0.0548	0.0000	253.0617

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.5600e-003	0.1023	0.0365	4.4000e-004	0.0165	5.0000e-004	0.0170	4.7700e-003	4.8000e-004	5.2500e-003	0.0000	42.6729	42.6729	1.6500e-003	6.1600e-003	44.5504
Worker	0.0359	0.0233	0.3878	1.3100e-003	0.1794	7.8000e-004	0.1802	0.0477	7.1000e-004	0.0484	0.0000	120.3543	120.3543	2.1900e-003	2.6400e-003	121.1958
Total	0.0385	0.1256	0.4243	1.7500e-003	0.1960	1.2800e-003	0.1972	0.0524	1.1900e-003	0.0536	0.0000	163.0271	163.0271	3.8400e-003	8.8000e-003	165.7462

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

3.5 Stations - Platform Construction - 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	tons/yr										MT/yr					
Off-Road	0.0663	0.2123	1.7724	2.9400e-003		0.0148	0.0148		0.0147	0.0147	0.0000	251.6909	251.6909	0.0548	0.0000	253.0614
Total	0.0663	0.2123	1.7724	2.9400e-003		0.0148	0.0148		0.0147	0.0147	0.0000	251.6909	251.6909	0.0548	0.0000	253.0614

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.5600e-003	0.1023	0.0365	4.4000e-004	0.0165	5.0000e-004	0.0170	4.7700e-003	4.8000e-004	5.2500e-003	0.0000	42.6729	42.6729	1.6500e-003	6.1600e-003	44.5504
Worker	0.0359	0.0233	0.3878	1.3100e-003	0.1794	7.8000e-004	0.1802	0.0477	7.1000e-004	0.0484	0.0000	120.3543	120.3543	2.1900e-003	2.6400e-003	121.1958
Total	0.0385	0.1256	0.4243	1.7500e-003	0.1960	1.2800e-003	0.1972	0.0524	1.1900e-003	0.0536	0.0000	163.0271	163.0271	3.8400e-003	8.8000e-003	165.7462

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

3.5 Stations - Platform Construction - 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	tons/yr										MT/yr					
Off-Road	0.2717	1.7142	3.2903	6.6400e-003		0.0355	0.0355		0.0355	0.0355	0.0000	562.2061	562.2061	0.0219	0.0000	562.7543
Total	0.2717	1.7142	3.2903	6.6400e-003		0.0355	0.0355		0.0355	0.0355	0.0000	562.2061	562.2061	0.0219	0.0000	562.7543

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	tons/yr										MT/yr					
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	0.0000
Vendor	5.0200e-003	0.2026	0.0723	8.5000e-004	0.0329	9.9000e-004	0.0339	9.5000e-003	9.5000e-004	0.0105	0.0000	83.4725	83.4725	3.3000e-003	0.0121	87.1480
Worker	0.0675	0.0430	0.7405	2.5600e-003	0.3575	1.4400e-003	0.3590	0.0950	1.3300e-003	0.0963	0.0000	234.7415	234.7415	4.0300e-003	5.0700e-003	236.3526
Total	0.0725	0.2456	0.8128	3.4100e-003	0.3904	2.4300e-003	0.3928	0.1045	2.2800e-003	0.1067	0.0000	318.2140	318.2140	7.3300e-003	0.0171	323.5006

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3.5 Stations - Platform Construction - 2030

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	tons/yr										MT/yr					
Off-Road	0.1207	0.4230	3.5416	6.6400e-003		0.0144	0.0144		0.0144	0.0144	0.0000	562.2055	562.2055	0.0219	0.0000	562.7536
Total	0.1207	0.4230	3.5416	6.6400e-003		0.0144	0.0144		0.0144	0.0144	0.0000	562.2055	562.2055	0.0219	0.0000	562.7536

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	tons/yr										MT/yr					
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	0.0000
Vendor	5.0200e-003	0.2026	0.0723	8.5000e-004	0.0329	9.9000e-004	0.0339	9.5000e-003	9.5000e-004	0.0105	0.0000	83.4725	83.4725	3.3000e-003	0.0121	87.1480
Worker	0.0675	0.0430	0.7405	2.5600e-003	0.3575	1.4400e-003	0.3590	0.0950	1.3300e-003	0.0963	0.0000	234.7415	234.7415	4.0300e-003	5.0700e-003	236.3526
Total	0.0725	0.2456	0.8128	3.4100e-003	0.3904	2.4300e-003	0.3928	0.1045	2.2800e-003	0.1067	0.0000	318.2140	318.2140	7.3300e-003	0.0171	323.5006

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3.5 Stations - Platform Construction - 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	tons/yr										MT/yr					
Off-Road	0.0344	0.2167	0.4160	8.4000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	71.0835	71.0835	2.7700e-003	0.0000	71.1528
Total	0.0344	0.2167	0.4160	8.4000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	71.0835	71.0835	2.7700e-003	0.0000	71.1528

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.3000e-004	0.0255	9.1300e-003	1.1000e-004	4.1600e-003	1.2000e-004	4.2800e-003	1.2000e-003	1.2000e-004	1.3200e-003	0.0000	10.3674	10.3674	4.2000e-004	1.5000e-003	10.8242
Worker	8.0300e-003	5.0500e-003	0.0901	3.2000e-004	0.0452	1.7000e-004	0.0454	0.0120	1.6000e-004	0.0122	0.0000	29.1490	29.1490	4.7000e-004	6.2000e-004	29.3454
Total	8.6600e-003	0.0305	0.0993	4.3000e-004	0.0494	2.9000e-004	0.0497	0.0132	2.8000e-004	0.0135	0.0000	39.5163	39.5163	8.9000e-004	2.1200e-003	40.1696

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3.5 Stations - Platform Construction - 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	tons/yr										MT/yr					
Off-Road	0.0153	0.0535	0.4478	8.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	71.0835	71.0835	2.7700e-003	0.0000	71.1528
Total	0.0153	0.0535	0.4478	8.4000e-004		1.8200e-003	1.8200e-003		1.8200e-003	1.8200e-003	0.0000	71.0835	71.0835	2.7700e-003	0.0000	71.1528

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.3000e-004	0.0255	9.1300e-003	1.1000e-004	4.1600e-003	1.2000e-004	4.2800e-003	1.2000e-003	1.2000e-004	1.3200e-003	0.0000	10.3674	10.3674	4.2000e-004	1.5000e-003	10.8242
Worker	8.0300e-003	5.0500e-003	0.0901	3.2000e-004	0.0452	1.7000e-004	0.0454	0.0120	1.6000e-004	0.0122	0.0000	29.1490	29.1490	4.7000e-004	6.2000e-004	29.3454
Total	8.6600e-003	0.0305	0.0993	4.3000e-004	0.0494	2.9000e-004	0.0497	0.0132	2.8000e-004	0.0135	0.0000	39.5163	39.5163	8.9000e-004	2.1200e-003	40.1696

4.0 Operational Detail - Mobile

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

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	tons/yr										MT/yr					
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	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	0.0000

4.2 Trip Summary Information

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

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Unenclosed Parking with	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

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Unenclosed Parking with Elevator	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
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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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.2894	9.2894	7.8000e-004	1.0000e-004	9.3373
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9.2894	9.2894	7.8000e-004	1.0000e-004	9.3373
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	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	0.0000

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unenclosed Parking with Elevator	52380	9.2894	7.8000e-004	1.0000e-004	9.3373
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		9.2894	7.8000e-004	1.0000e-004	9.3373

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Unenclosed Parking with Elevator	52380	9.2894	7.8000e-004	1.0000e-004	9.3373
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		9.2894	7.8000e-004	1.0000e-004	9.3373

6.0 Area Detail

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

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	tons/yr										MT/yr					
Mitigated	2.1500e-003	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.4000e-004
Unmitigated	2.1500e-003	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.4000e-004

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	tons/yr										MT/yr					
Architectural Coating	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.4000e-004
Total	2.1600e-003	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.4000e-004

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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	tons/yr										MT/yr					
Architectural Coating	3.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.4000e-004
Total	2.1600e-003	0.0000	3.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.9000e-004	6.9000e-004	0.0000	0.0000	7.4000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Systems & Utility Connections Construction
Annual CalEEMod Output File

LACMTA West Santa Ana Branch Construction - Systems - Los Angeles-South Coast County, Annual

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 - Systems
Los Angeles-South Coast County, Annual**

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	90.00	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		2033	
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 -

Land Use - Installatinon of system elements (i.e., electrical, mechanical, signals, communications, TPSS, etc.) - Minimal ground disturbance

Construction Phase - Metro Construction Methods Report (June 2021); Updated schedule provided May 2023

Off-road Equipment - LACMTA Construction Methods Report (October 2018)

Off-road Equipment - Metro Construction Methods Report (June 2021)

Off-road Equipment - Metro Construction Methods Report (June 2021)

Off-road Equipment - Metro Construction Methods Report (June 2021)

Trips and VMT - Metro Construction Methods Report (June 2021)

Grading -

Construction Off-road Equipment Mitigation - LACMTA Green Construction Policy (2011)

Vehicle Emission Factors -

LACMTA West Santa Ana Branch Construction - Systems - Los Angeles-South Coast County, Annual

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
tblConstructionPhase	NumDays	1,550.00	285.00
tblConstructionPhase	NumDays	60.00	285.00
tblConstructionPhase	NumDays	60.00	285.00
tblLandUse	LotAcreage	0.00	90.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	WorkerTripNumber	25.00	100.00
tblTripsAndVMT	WorkerTripNumber	25.00	100.00
tblTripsAndVMT	WorkerTripNumber	0.00	100.00

2.0 Emissions Summary

LACMTA West Santa Ana Branch Construction - Systems - Los Angeles-South Coast County, Annual

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2031	0.4729	2.6200	6.0262	0.0126	0.2804	0.0695	0.3499	0.0752	0.0693	0.1445	0.0000	1,098.4628	1,098.4628	0.0396	0.0139	1,103.5844
2032	0.4058	2.2580	5.1839	0.0108	0.2419	0.0599	0.3018	0.0648	0.0598	0.1246	0.0000	944.2855	944.2855	0.0341	0.0117	948.6325
Maximum	0.4729	2.6200	6.0262	0.0126	0.2804	0.0695	0.3499	0.0752	0.0693	0.1445	0.0000	1,098.4628	1,098.4628	0.0396	0.0139	1,103.5844

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	tons/yr										MT/yr					
2031	0.1613	1.1240	6.4620	0.0126	0.2804	3.8200e-003	0.2842	0.0752	3.7100e-003	0.0789	0.0000	1,098.4618	1,098.4618	0.0396	0.0139	1,103.5833
2032	0.1369	0.9673	5.5598	0.0108	0.2419	3.2400e-003	0.2452	0.0648	3.1500e-003	0.0680	0.0000	944.2846	944.2846	0.0341	0.0117	948.6316
Maximum	0.1613	1.1240	6.4620	0.0126	0.2804	3.8200e-003	0.2842	0.0752	3.7100e-003	0.0789	0.0000	1,098.4618	1,098.4618	0.0396	0.0139	1,103.5833

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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
Percent Reduction	66.06	57.13	-7.24	0.00	0.00	94.54	18.76	0.00	94.69	45.43	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-2-2031	9-1-2031	1.3235	0.5471
2	9-2-2031	12-1-2031	1.3134	0.5455
3	12-2-2031	3-1-2032	1.3139	0.5459
4	3-2-2032	6-1-2032	1.3233	0.5470
5	6-2-2032	9-1-2032	0.4452	0.1836
		Highest	1.3235	0.5471

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	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
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	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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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

2.2 Overall Operational

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	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
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	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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						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	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

	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
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	Signals	Site Preparation	6/2/2031	7/2/2032	5	285	Foundations & Conduit construction
2	OCS	Site Preparation	6/2/2031	7/2/2032	5	285	Overhead Catenary System Foundations

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

3	TPSS	Building Construction	6/2/2031	7/2/2032	5	285	Install TPSS Foundations/Structures
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Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

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

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Signals	Cranes	1	6.00	231	0.29
Signals	Other Construction Equipment	1	8.00	172	0.42
Signals	Rough Terrain Forklifts	2	8.00	100	0.40
Signals	Skid Steer Loaders	2	8.00	65	0.37
Signals	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Signals	Trenchers	2	8.00	78	0.50
OCS	Cranes	1	6.00	231	0.29
OCS	Other Construction Equipment	1	8.00	172	0.42
OCS	Rough Terrain Forklifts	2	8.00	100	0.40
OCS	Skid Steer Loaders	2	8.00	65	0.37
OCS	Tractors/Loaders/Backhoes	2	8.00	97	0.37
OCS	Trenchers	2	8.00	78	0.50
TPSS	Cranes	1	6.00	231	0.29
TPSS	Generator Sets	2	8.00	84	0.74
TPSS	Other Material Handling Equipment	1	8.00	168	0.40
TPSS	Rough Terrain Forklifts	2	8.00	100	0.40
TPSS	Skid Steer Loaders	2	8.00	65	0.37
TPSS	Tractors/Loaders/Backhoes	2	8.00	97	0.37

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

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
Signals	10	100.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
OCS	10	100.00	20.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
TPSS	10	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
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Signals - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1443	0.7983	1.7670	3.2400e-003		0.0251	0.0251		0.0251	0.0251	0.0000	278.4913	278.4913	0.0116	0.0000	278.7809
Total	0.1443	0.7983	1.7670	3.2400e-003	0.0000	0.0251	0.0251	0.0000	0.0251	0.0251	0.0000	278.4913	278.4913	0.0116	0.0000	278.7809

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

3.2 Signals - 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	tons/yr										MT/yr					
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	0.0000
Vendor	1.4600e-003	0.0591	0.0212	2.4000e-004	9.6400e-003	2.9000e-004	9.9300e-003	2.7800e-003	2.7000e-004	3.0600e-003	0.0000	24.0334	24.0334	9.7000e-004	3.4700e-003	25.0924
Worker	0.0149	9.3700e-003	0.1672	5.9000e-004	0.0838	3.2000e-004	0.0842	0.0223	2.9000e-004	0.0226	0.0000	54.0581	54.0581	8.8000e-004	1.1500e-003	54.4225
Total	0.0163	0.0684	0.1883	8.3000e-004	0.0935	6.1000e-004	0.0941	0.0250	5.6000e-004	0.0256	0.0000	78.0915	78.0915	1.8500e-003	4.6200e-003	79.5148

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0363	0.3014	1.8970	3.2400e-003		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	278.4910	278.4910	0.0116	0.0000	278.7805
Total	0.0363	0.3014	1.8970	3.2400e-003	0.0000	6.5000e-004	6.5000e-004	0.0000	6.5000e-004	6.5000e-004	0.0000	278.4910	278.4910	0.0116	0.0000	278.7805

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

3.2 Signals - 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	tons/yr										MT/yr					
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	0.0000
Vendor	1.4600e-003	0.0591	0.0212	2.4000e-004	9.6400e-003	2.9000e-004	9.9300e-003	2.7800e-003	2.7000e-004	3.0600e-003	0.0000	24.0334	24.0334	9.7000e-004	3.4700e-003	25.0924
Worker	0.0149	9.3700e-003	0.1672	5.9000e-004	0.0838	3.2000e-004	0.0842	0.0223	2.9000e-004	0.0226	0.0000	54.0581	54.0581	8.8000e-004	1.1500e-003	54.4225
Total	0.0163	0.0684	0.1883	8.3000e-004	0.0935	6.1000e-004	0.0941	0.0250	5.6000e-004	0.0256	0.0000	78.0915	78.0915	1.8500e-003	4.6200e-003	79.5148

3.2 Signals - 2032

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1245	0.6887	1.5244	2.8000e-003		0.0216	0.0216		0.0216	0.0216	0.0000	240.2670	240.2670	9.9900e-003	0.0000	240.5168
Total	0.1245	0.6887	1.5244	2.8000e-003	0.0000	0.0216	0.0216	0.0000	0.0216	0.0216	0.0000	240.2670	240.2670	9.9900e-003	0.0000	240.5168

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

3.2 Signals - 2032

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.2500e-003	0.0507	0.0183	2.1000e-004	8.3200e-003	2.5000e-004	8.5700e-003	2.4000e-003	2.3000e-004	2.6400e-003	0.0000	20.4050	20.4050	8.5000e-004	2.9500e-003	21.3046
Worker	0.0121	7.5700e-003	0.1391	5.0000e-004	0.0723	2.6000e-004	0.0726	0.0192	2.4000e-004	0.0195	0.0000	45.8321	45.8321	7.1000e-004	9.6000e-004	46.1365
Total	0.0134	0.0583	0.1574	7.1000e-004	0.0806	5.1000e-004	0.0812	0.0216	4.7000e-004	0.0221	0.0000	66.2371	66.2371	1.5600e-003	3.9100e-003	67.4412

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0313	0.2600	1.6366	2.8000e-003		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	240.2668	240.2668	9.9900e-003	0.0000	240.5165
Total	0.0313	0.2600	1.6366	2.8000e-003	0.0000	5.6000e-004	5.6000e-004	0.0000	5.6000e-004	5.6000e-004	0.0000	240.2668	240.2668	9.9900e-003	0.0000	240.5165

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

3.2 Signals - 2032

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.2500e-003	0.0507	0.0183	2.1000e-004	8.3200e-003	2.5000e-004	8.5700e-003	2.4000e-003	2.3000e-004	2.6400e-003	0.0000	20.4050	20.4050	8.5000e-004	2.9500e-003	21.3046
Worker	0.0121	7.5700e-003	0.1391	5.0000e-004	0.0723	2.6000e-004	0.0726	0.0192	2.4000e-004	0.0195	0.0000	45.8321	45.8321	7.1000e-004	9.6000e-004	46.1365
Total	0.0134	0.0583	0.1574	7.1000e-004	0.0806	5.1000e-004	0.0812	0.0216	4.7000e-004	0.0221	0.0000	66.2371	66.2371	1.5600e-003	3.9100e-003	67.4412

3.3 OCS - 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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1443	0.7983	1.7670	3.2400e-003		0.0251	0.0251		0.0251	0.0251	0.0000	278.4913	278.4913	0.0116	0.0000	278.7809
Total	0.1443	0.7983	1.7670	3.2400e-003	0.0000	0.0251	0.0251	0.0000	0.0251	0.0251	0.0000	278.4913	278.4913	0.0116	0.0000	278.7809

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

3.3 OCS - 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	tons/yr										MT/yr					
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	0.0000
Vendor	1.4600e-003	0.0591	0.0212	2.4000e-004	9.6400e-003	2.9000e-004	9.9300e-003	2.7800e-003	2.7000e-004	3.0600e-003	0.0000	24.0334	24.0334	9.7000e-004	3.4700e-003	25.0924
Worker	0.0149	9.3700e-003	0.1672	5.9000e-004	0.0838	3.2000e-004	0.0842	0.0223	2.9000e-004	0.0226	0.0000	54.0581	54.0581	8.8000e-004	1.1500e-003	54.4225
Total	0.0163	0.0684	0.1883	8.3000e-004	0.0935	6.1000e-004	0.0941	0.0250	5.6000e-004	0.0256	0.0000	78.0915	78.0915	1.8500e-003	4.6200e-003	79.5148

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0363	0.3014	1.8970	3.2400e-003		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	278.4910	278.4910	0.0116	0.0000	278.7805
Total	0.0363	0.3014	1.8970	3.2400e-003	0.0000	6.5000e-004	6.5000e-004	0.0000	6.5000e-004	6.5000e-004	0.0000	278.4910	278.4910	0.0116	0.0000	278.7805

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3.3 OCS - 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	tons/yr										MT/yr					
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	0.0000
Vendor	1.4600e-003	0.0591	0.0212	2.4000e-004	9.6400e-003	2.9000e-004	9.9300e-003	2.7800e-003	2.7000e-004	3.0600e-003	0.0000	24.0334	24.0334	9.7000e-004	3.4700e-003	25.0924
Worker	0.0149	9.3700e-003	0.1672	5.9000e-004	0.0838	3.2000e-004	0.0842	0.0223	2.9000e-004	0.0226	0.0000	54.0581	54.0581	8.8000e-004	1.1500e-003	54.4225
Total	0.0163	0.0684	0.1883	8.3000e-004	0.0935	6.1000e-004	0.0941	0.0250	5.6000e-004	0.0256	0.0000	78.0915	78.0915	1.8500e-003	4.6200e-003	79.5148

3.3 OCS - 2032

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1245	0.6887	1.5244	2.8000e-003		0.0216	0.0216		0.0216	0.0216	0.0000	240.2670	240.2670	9.9900e-003	0.0000	240.5168
Total	0.1245	0.6887	1.5244	2.8000e-003	0.0000	0.0216	0.0216	0.0000	0.0216	0.0216	0.0000	240.2670	240.2670	9.9900e-003	0.0000	240.5168

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3.3 OCS - 2032

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.2500e-003	0.0507	0.0183	2.1000e-004	8.3200e-003	2.5000e-004	8.5700e-003	2.4000e-003	2.3000e-004	2.6400e-003	0.0000	20.4050	20.4050	8.5000e-004	2.9500e-003	21.3046
Worker	0.0121	7.5700e-003	0.1391	5.0000e-004	0.0723	2.6000e-004	0.0726	0.0192	2.4000e-004	0.0195	0.0000	45.8321	45.8321	7.1000e-004	9.6000e-004	46.1365
Total	0.0134	0.0583	0.1574	7.1000e-004	0.0806	5.1000e-004	0.0812	0.0216	4.7000e-004	0.0221	0.0000	66.2371	66.2371	1.5600e-003	3.9100e-003	67.4412

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	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0313	0.2600	1.6366	2.8000e-003		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	240.2668	240.2668	9.9900e-003	0.0000	240.5165
Total	0.0313	0.2600	1.6366	2.8000e-003	0.0000	5.6000e-004	5.6000e-004	0.0000	5.6000e-004	5.6000e-004	0.0000	240.2668	240.2668	9.9900e-003	0.0000	240.5165

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3.3 OCS - 2032

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.2500e-003	0.0507	0.0183	2.1000e-004	8.3200e-003	2.5000e-004	8.5700e-003	2.4000e-003	2.3000e-004	2.6400e-003	0.0000	20.4050	20.4050	8.5000e-004	2.9500e-003	21.3046
Worker	0.0121	7.5700e-003	0.1391	5.0000e-004	0.0723	2.6000e-004	0.0726	0.0192	2.4000e-004	0.0195	0.0000	45.8321	45.8321	7.1000e-004	9.6000e-004	46.1365
Total	0.0134	0.0583	0.1574	7.1000e-004	0.0806	5.1000e-004	0.0812	0.0216	4.7000e-004	0.0221	0.0000	66.2371	66.2371	1.5600e-003	3.9100e-003	67.4412

3.4 TPSS - 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	tons/yr										MT/yr					
Off-Road	0.1353	0.8182	1.9274	3.5800e-003		0.0176	0.0176		0.0176	0.0176	0.0000	307.2056	307.2056	0.0109	0.0000	307.4782
Total	0.1353	0.8182	1.9274	3.5800e-003		0.0176	0.0176		0.0176	0.0176	0.0000	307.2056	307.2056	0.0109	0.0000	307.4782

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3.4 TPSS - 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	tons/yr										MT/yr					
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	0.0000
Vendor	1.4600e-003	0.0591	0.0212	2.4000e-004	9.6400e-003	2.9000e-004	9.9300e-003	2.7800e-003	2.7000e-004	3.0600e-003	0.0000	24.0334	24.0334	9.7000e-004	3.4700e-003	25.0924
Worker	0.0149	9.3700e-003	0.1672	5.9000e-004	0.0838	3.2000e-004	0.0842	0.0223	2.9000e-004	0.0226	0.0000	54.0581	54.0581	8.8000e-004	1.1500e-003	54.4225
Total	0.0163	0.0684	0.1883	8.3000e-004	0.0935	6.1000e-004	0.0941	0.0250	5.6000e-004	0.0256	0.0000	78.0915	78.0915	1.8500e-003	4.6200e-003	79.5148

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	tons/yr										MT/yr					
Off-Road	0.0397	0.3159	2.1031	3.5800e-003		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	307.2053	307.2053	0.0109	0.0000	307.4778
Total	0.0397	0.3159	2.1031	3.5800e-003		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	307.2053	307.2053	0.0109	0.0000	307.4778

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3.4 TPSS - 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	tons/yr										MT/yr					
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	0.0000
Vendor	1.4600e-003	0.0591	0.0212	2.4000e-004	9.6400e-003	2.9000e-004	9.9300e-003	2.7800e-003	2.7000e-004	3.0600e-003	0.0000	24.0334	24.0334	9.7000e-004	3.4700e-003	25.0924
Worker	0.0149	9.3700e-003	0.1672	5.9000e-004	0.0838	3.2000e-004	0.0842	0.0223	2.9000e-004	0.0226	0.0000	54.0581	54.0581	8.8000e-004	1.1500e-003	54.4225
Total	0.0163	0.0684	0.1883	8.3000e-004	0.0935	6.1000e-004	0.0941	0.0250	5.6000e-004	0.0256	0.0000	78.0915	78.0915	1.8500e-003	4.6200e-003	79.5148

3.4 TPSS - 2032

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	tons/yr										MT/yr					
Off-Road	0.1168	0.7059	1.6629	3.0800e-003		0.0151	0.0151		0.0151	0.0151	0.0000	265.0402	265.0402	9.4100e-003	0.0000	265.2753
Total	0.1168	0.7059	1.6629	3.0800e-003		0.0151	0.0151		0.0151	0.0151	0.0000	265.0402	265.0402	9.4100e-003	0.0000	265.2753

LACMTA West Santa Ana Branch Construction - Systems - Los Angeles-South Coast County, Annual

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

3.4 TPSS - 2032

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.2500e-003	0.0507	0.0183	2.1000e-004	8.3200e-003	2.5000e-004	8.5700e-003	2.4000e-003	2.3000e-004	2.6400e-003	0.0000	20.4050	20.4050	8.5000e-004	2.9500e-003	21.3046
Worker	0.0121	7.5700e-003	0.1391	5.0000e-004	0.0723	2.6000e-004	0.0726	0.0192	2.4000e-004	0.0195	0.0000	45.8321	45.8321	7.1000e-004	9.6000e-004	46.1365
Total	0.0134	0.0583	0.1574	7.1000e-004	0.0806	5.1000e-004	0.0812	0.0216	4.7000e-004	0.0221	0.0000	66.2371	66.2371	1.5600e-003	3.9100e-003	67.4412

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	tons/yr										MT/yr					
Off-Road	0.0342	0.2725	1.8144	3.0800e-003		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	265.0398	265.0398	9.4100e-003	0.0000	265.2750
Total	0.0342	0.2725	1.8144	3.0800e-003		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	265.0398	265.0398	9.4100e-003	0.0000	265.2750

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

3.4 TPSS - 2032

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.2500e-003	0.0507	0.0183	2.1000e-004	8.3200e-003	2.5000e-004	8.5700e-003	2.4000e-003	2.3000e-004	2.6400e-003	0.0000	20.4050	20.4050	8.5000e-004	2.9500e-003	21.3046
Worker	0.0121	7.5700e-003	0.1391	5.0000e-004	0.0723	2.6000e-004	0.0726	0.0192	2.4000e-004	0.0195	0.0000	45.8321	45.8321	7.1000e-004	9.6000e-004	46.1365
Total	0.0134	0.0583	0.1574	7.1000e-004	0.0806	5.1000e-004	0.0812	0.0216	4.7000e-004	0.0221	0.0000	66.2371	66.2371	1.5600e-003	3.9100e-003	67.4412

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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	tons/yr										MT/yr					
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	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	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

Land Use	Miles			Trip %			Trip Purpose %		
	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	0.524555	0.068934	0.195079	0.127164	0.024860	0.007289	0.011784	0.007620	0.000934	0.000556	0.027162	0.000743	0.003320

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

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	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	0.0000

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

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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	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	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	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

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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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	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	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

LACMTA West Santa Ana Branch Construction - Systems - Los Angeles-South Coast County, Annual

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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LACMTA West Santa Ana Branch Construction - Systems - Los Angeles-South Coast County, Annual

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

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
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User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Maintenance & Storage Facility Construction
Annual CalEEMod Output File

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

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, Annual

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/MW hr)	260.79	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	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, Annual

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

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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
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
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

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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

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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, Annual

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

2.1 Overall Construction

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	tons/yr										MT/yr					
2029	0.4297	3.9526	4.3135	0.0126	1.3172	0.1328	1.4499	0.4675	0.1235	0.5910	0.0000	1,144.3161	1,144.3161	0.1913	0.0479	1,163.3580
2030	0.3997	2.1355	4.7695	0.0114	0.5539	0.0389	0.5928	0.1480	0.0386	0.1867	0.0000	1,004.5903	1,004.5903	0.0337	0.0218	1,011.9159
2031	0.7348	0.5756	1.3174	3.1200e-003	0.1518	0.0159	0.1677	0.0406	0.0159	0.0565	0.0000	277.0590	277.0590	9.6700e-003	6.8400e-003	279.3388
Maximum	0.7348	3.9526	4.7695	0.0126	1.3172	0.1328	1.4499	0.4675	0.1235	0.5910	0.0000	1,144.3161	1,144.3161	0.1913	0.0479	1,163.3580

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	tons/yr										MT/yr					
2029	0.1971	1.2052	5.0486	0.0126	0.8246	7.8800e-003	0.8325	0.2657	7.5700e-003	0.2733	0.0000	1,144.3154	1,144.3154	0.1913	0.0479	1,163.3573
2030	0.2136	0.9349	5.0204	0.0114	0.5539	5.2200e-003	0.5592	0.1480	5.0000e-003	0.1530	0.0000	1,004.5896	1,004.5896	0.0337	0.0218	1,011.9153
2031	0.6732	0.2145	1.3875	3.1200e-003	0.1518	1.3600e-003	0.1532	0.0406	1.3000e-003	0.0419	0.0000	277.0588	277.0588	9.6700e-003	6.8400e-003	279.3386
Maximum	0.6732	1.2052	5.0486	0.0126	0.8246	7.8800e-003	0.8325	0.2657	7.5700e-003	0.2733	0.0000	1,144.3154	1,144.3154	0.1913	0.0479	1,163.3573

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	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
Percent Reduction	30.71	64.66	-10.15	0.00	24.35	92.29	30.11	30.76	92.21	43.86	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
37	1-22-2029	4-21-2029	0.6314	0.1804
38	4-22-2029	7-21-2029	1.7405	0.5129
39	7-22-2029	10-21-2029	1.3177	0.4286
40	10-22-2029	1-21-2030	0.7715	0.3061
41	1-22-2030	4-21-2030	0.6252	0.2834
42	4-22-2030	7-21-2030	0.6272	0.2817
43	7-22-2030	10-21-2030	0.6356	0.2862
44	10-22-2030	1-21-2031	0.6399	0.2906
45	1-22-2031	4-21-2031	1.1361	0.8001
		Highest	1.7405	0.8001

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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	tons/yr										MT/yr					
Area	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Energy	7.4200e-003	0.0675	0.0567	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	258.3437	258.3437	0.0248	4.1800e-003	260.2102
Mobile	0.1280	0.1271	1.3321	3.0000e-003	0.4168	1.4900e-003	0.4183	0.1112	1.3900e-003	0.1126	0.0000	277.7722	277.7722	0.0197	0.0119	281.8046
Waste						0.0000	0.0000		0.0000	0.0000	32.5131	0.0000	32.5131	1.9215	0.0000	80.5497
Water						0.0000	0.0000		0.0000	0.0000	9.6871	47.0314	56.7186	1.0009	0.0242	88.9572
Total	0.7293	0.1947	1.3945	3.4000e-003	0.4168	6.6400e-003	0.4234	0.1112	6.5400e-003	0.1178	42.2002	583.1586	625.3588	2.9669	0.0403	711.5338

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2.2 Overall Operational

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	tons/yr										MT/yr					
Area	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Energy	7.4200e-003	0.0675	0.0567	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	258.3437	258.3437	0.0248	4.1800e-003	260.2102
Mobile	0.1280	0.1271	1.3321	3.0000e-003	0.4168	1.4900e-003	0.4183	0.1112	1.3900e-003	0.1126	0.0000	277.7722	277.7722	0.0197	0.0119	281.8046
Waste						0.0000	0.0000		0.0000	0.0000	32.5131	0.0000	32.5131	1.9215	0.0000	80.5497
Water						0.0000	0.0000		0.0000	0.0000	9.6871	47.0314	56.7186	1.0009	0.0242	88.9572
Total	0.7293	0.1947	1.3945	3.4000e-003	0.4168	6.6400e-003	0.4234	0.1112	6.5400e-003	0.1178	42.2002	583.1586	625.3588	2.9669	0.0403	711.5338

	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
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	

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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
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

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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

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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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	tons/yr										MT/yr					
Fugitive Dust					0.0984	0.0000	0.0984	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0862	0.7959	0.8195	1.7800e-003		0.0325	0.0325		0.0303	0.0303	0.0000	155.6350	155.6350	0.0413	0.0000	156.6680
Total	0.0862	0.7959	0.8195	1.7800e-003	0.0984	0.0325	0.1309	0.0149	0.0303	0.0452	0.0000	155.6350	155.6350	0.0413	0.0000	156.6680

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	tons/yr										MT/yr					
Hauling	1.8000e-003	0.1182	0.0338	4.7000e-004	0.0155	7.3000e-004	0.0162	4.2500e-003	6.9000e-004	4.9500e-003	0.0000	46.8579	46.8579	3.0500e-003	7.4600e-003	49.1566
Vendor	1.1700e-003	0.0469	0.0167	2.0000e-004	7.5600e-003	2.3000e-004	7.7900e-003	2.1800e-003	2.2000e-004	2.4000e-003	0.0000	19.5448	19.5448	7.5000e-004	2.8200e-003	20.4048
Worker	0.0197	0.0128	0.2132	7.2000e-004	0.0986	4.3000e-004	0.0991	0.0262	3.9000e-004	0.0266	0.0000	66.1489	66.1489	1.2000e-003	1.4500e-003	66.6114
Total	0.0227	0.1779	0.2636	1.3900e-003	0.1217	1.3900e-003	0.1231	0.0326	1.3000e-003	0.0339	0.0000	132.5516	132.5516	5.0000e-003	0.0117	136.1728

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3.2 Demolition - 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	tons/yr										MT/yr					
Fugitive Dust					0.0384	0.0000	0.0384	5.8100e-003	0.0000	5.8100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0210	0.0911	1.0234	1.7800e-003		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	155.6348	155.6348	0.0413	0.0000	156.6678
Total	0.0210	0.0911	1.0234	1.7800e-003	0.0384	4.2000e-004	0.0388	5.8100e-003	4.2000e-004	6.2300e-003	0.0000	155.6348	155.6348	0.0413	0.0000	156.6678

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	tons/yr										MT/yr					
Hauling	1.8000e-003	0.1182	0.0338	4.7000e-004	0.0155	7.3000e-004	0.0162	4.2500e-003	6.9000e-004	4.9500e-003	0.0000	46.8579	46.8579	3.0500e-003	7.4600e-003	49.1566
Vendor	1.1700e-003	0.0469	0.0167	2.0000e-004	7.5600e-003	2.3000e-004	7.7900e-003	2.1800e-003	2.2000e-004	2.4000e-003	0.0000	19.5448	19.5448	7.5000e-004	2.8200e-003	20.4048
Worker	0.0197	0.0128	0.2132	7.2000e-004	0.0986	4.3000e-004	0.0991	0.0262	3.9000e-004	0.0266	0.0000	66.1489	66.1489	1.2000e-003	1.4500e-003	66.6114
Total	0.0227	0.1779	0.2636	1.3900e-003	0.1217	1.3900e-003	0.1231	0.0326	1.3000e-003	0.0339	0.0000	132.5516	132.5516	5.0000e-003	0.0117	136.1728

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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	tons/yr										MT/yr					
Fugitive Dust					0.7090	0.0000	0.7090	0.3160	0.0000	0.3160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1603	1.6028	1.2441	3.1400e-003		0.0646	0.0646		0.0595	0.0595	0.0000	276.1943	276.1943	0.0893	0.0000	278.4275
Total	0.1603	1.6028	1.2441	3.1400e-003	0.7090	0.0646	0.7736	0.3160	0.0595	0.3754	0.0000	276.1943	276.1943	0.0893	0.0000	278.4275

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	tons/yr										MT/yr					
Hauling	5.4000e-003	0.3547	0.1013	1.4000e-003	0.0465	2.1800e-003	0.0486	0.0128	2.0800e-003	0.0149	0.0000	140.5737	140.5737	9.1500e-003	0.0224	147.4698
Vendor	1.7600e-003	0.0703	0.0250	3.0000e-004	0.0113	3.4000e-004	0.0117	3.2700e-003	3.3000e-004	3.6000e-003	0.0000	29.3172	29.3172	1.1300e-003	4.2300e-003	30.6072
Worker	0.0296	0.0192	0.3197	1.0800e-003	0.1479	6.4000e-004	0.1486	0.0393	5.9000e-004	0.0399	0.0000	99.2234	99.2234	1.8000e-003	2.1800e-003	99.9172
Total	0.0368	0.4442	0.4461	2.7800e-003	0.2057	3.1600e-003	0.2089	0.0553	3.0000e-003	0.0583	0.0000	269.1143	269.1143	0.0121	0.0288	277.9941

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3.3 Site Preparation - 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	tons/yr										MT/yr					
Fugitive Dust					0.2765	0.0000	0.2765	0.1232	0.0000	0.1232	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0386	0.1672	1.6429	3.1400e-003		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	276.1940	276.1940	0.0893	0.0000	278.4272
Total	0.0386	0.1672	1.6429	3.1400e-003	0.2765	7.7000e-004	0.2773	0.1232	7.7000e-004	0.1240	0.0000	276.1940	276.1940	0.0893	0.0000	278.4272

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	tons/yr										MT/yr					
Hauling	5.4000e-003	0.3547	0.1013	1.4000e-003	0.0465	2.1800e-003	0.0486	0.0128	2.0800e-003	0.0149	0.0000	140.5737	140.5737	9.1500e-003	0.0224	147.4698
Vendor	1.7600e-003	0.0703	0.0250	3.0000e-004	0.0113	3.4000e-004	0.0117	3.2700e-003	3.3000e-004	3.6000e-003	0.0000	29.3172	29.3172	1.1300e-003	4.2300e-003	30.6072
Worker	0.0296	0.0192	0.3197	1.0800e-003	0.1479	6.4000e-004	0.1486	0.0393	5.9000e-004	0.0399	0.0000	99.2234	99.2234	1.8000e-003	2.1800e-003	99.9172
Total	0.0368	0.4442	0.4461	2.7800e-003	0.2057	3.1600e-003	0.2089	0.0553	3.0000e-003	0.0583	0.0000	269.1143	269.1143	0.0121	0.0288	277.9941

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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	tons/yr										MT/yr					
Off-Road	0.0879	0.8295	1.1456	1.9100e-003		0.0300	0.0300		0.0283	0.0283	0.0000	163.7133	163.7133	0.0402	0.0000	164.7178
Total	0.0879	0.8295	1.1456	1.9100e-003		0.0300	0.0300		0.0283	0.0283	0.0000	163.7133	163.7133	0.0402	0.0000	164.7178

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.0100e-003	0.0805	0.0287	3.4000e-004	0.0130	3.9000e-004	0.0134	3.7500e-003	3.8000e-004	4.1200e-003	0.0000	33.5519	33.5519	1.2900e-003	4.8500e-003	35.0282
Worker	0.0339	0.0220	0.3659	1.2400e-003	0.1693	7.3000e-004	0.1700	0.0450	6.7000e-004	0.0456	0.0000	113.5556	113.5556	2.0600e-003	2.4900e-003	114.3496
Total	0.0359	0.1024	0.3946	1.5800e-003	0.1823	1.1200e-003	0.1834	0.0487	1.0500e-003	0.0498	0.0000	147.1076	147.1076	3.3500e-003	7.3400e-003	149.3778

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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 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	tons/yr										MT/yr					
Off-Road	0.0421	0.2225	1.2780	1.9100e-003		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	163.7131	163.7131	0.0402	0.0000	164.7177
Total	0.0421	0.2225	1.2780	1.9100e-003		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	163.7131	163.7131	0.0402	0.0000	164.7177

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.0100e-003	0.0805	0.0287	3.4000e-004	0.0130	3.9000e-004	0.0134	3.7500e-003	3.8000e-004	4.1200e-003	0.0000	33.5519	33.5519	1.2900e-003	4.8500e-003	35.0282
Worker	0.0339	0.0220	0.3659	1.2400e-003	0.1693	7.3000e-004	0.1700	0.0450	6.7000e-004	0.0456	0.0000	113.5556	113.5556	2.0600e-003	2.4900e-003	114.3496
Total	0.0359	0.1024	0.3946	1.5800e-003	0.1823	1.1200e-003	0.1834	0.0487	1.0500e-003	0.0498	0.0000	147.1076	147.1076	3.3500e-003	7.3400e-003	149.3778

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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 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	tons/yr										MT/yr					
Off-Road	0.2965	1.8307	3.6172	6.7100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	566.6753	566.6753	0.0240	0.0000	567.2747
Total	0.2965	1.8307	3.6172	6.7100e-003		0.0356	0.0356		0.0356	0.0356	0.0000	566.6753	566.6753	0.0240	0.0000	567.2747

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.0200e-003	0.2429	0.0867	1.0200e-003	0.0395	1.1900e-003	0.0407	0.0114	1.1400e-003	0.0125	0.0000	100.1030	100.1030	3.9600e-003	0.0145	104.5108
Worker	0.0971	0.0619	1.0656	3.6800e-003	0.5145	2.0800e-003	0.5166	0.1367	1.9100e-003	0.1386	0.0000	337.8119	337.8119	5.8000e-003	7.2900e-003	340.1305
Total	0.1032	0.3048	1.1523	4.7000e-003	0.5539	3.2700e-003	0.5572	0.1480	3.0500e-003	0.1511	0.0000	437.9149	437.9149	9.7600e-003	0.0218	444.6413

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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 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	tons/yr										MT/yr					
Off-Road	0.1104	0.6301	3.8680	6.7100e-003		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	566.6746	566.6746	0.0240	0.0000	567.2740
Total	0.1104	0.6301	3.8680	6.7100e-003		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	566.6746	566.6746	0.0240	0.0000	567.2740

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.0200e-003	0.2429	0.0867	1.0200e-003	0.0395	1.1900e-003	0.0407	0.0114	1.1400e-003	0.0125	0.0000	100.1030	100.1030	3.9600e-003	0.0145	104.5108
Worker	0.0971	0.0619	1.0656	3.6800e-003	0.5145	2.0800e-003	0.5166	0.1367	1.9100e-003	0.1386	0.0000	337.8119	337.8119	5.8000e-003	7.2900e-003	340.1305
Total	0.1032	0.3048	1.1523	4.7000e-003	0.5539	3.2700e-003	0.5572	0.1480	3.0500e-003	0.1511	0.0000	437.9149	437.9149	9.7600e-003	0.0218	444.6413

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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 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	tons/yr										MT/yr					
Off-Road	0.0322	0.1989	0.3929	7.3000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	61.5558	61.5558	2.6000e-003	0.0000	61.6209
Total	0.0322	0.1989	0.3929	7.3000e-004		3.8700e-003	3.8700e-003		3.8700e-003	3.8700e-003	0.0000	61.5558	61.5558	2.6000e-003	0.0000	61.6209

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.5000e-004	0.0263	9.4100e-003	1.1000e-004	4.2900e-003	1.3000e-004	4.4100e-003	1.2400e-003	1.2000e-004	1.3600e-003	0.0000	10.6815	10.6815	4.3000e-004	1.5400e-003	11.1522
Worker	9.9200e-003	6.2500e-003	0.1114	3.9000e-004	0.0559	2.1000e-004	0.0561	0.0148	1.9000e-004	0.0150	0.0000	36.0387	36.0387	5.9000e-004	7.7000e-004	36.2816
Total	0.0106	0.0325	0.1208	5.0000e-004	0.0602	3.4000e-004	0.0605	0.0161	3.1000e-004	0.0164	0.0000	46.7202	46.7202	1.0200e-003	2.3100e-003	47.4338

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3.4 Building Construction & Track Laydown - 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	tons/yr										MT/yr					
Off-Road	0.0120	0.0684	0.4202	7.3000e-004		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	61.5557	61.5557	2.6000e-003	0.0000	61.6208
Total	0.0120	0.0684	0.4202	7.3000e-004		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	61.5557	61.5557	2.6000e-003	0.0000	61.6208

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	tons/yr										MT/yr					
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	0.0000
Vendor	6.5000e-004	0.0263	9.4100e-003	1.1000e-004	4.2900e-003	1.3000e-004	4.4100e-003	1.2400e-003	1.2000e-004	1.3600e-003	0.0000	10.6815	10.6815	4.3000e-004	1.5400e-003	11.1522
Worker	9.9200e-003	6.2500e-003	0.1114	3.9000e-004	0.0559	2.1000e-004	0.0561	0.0148	1.9000e-004	0.0150	0.0000	36.0387	36.0387	5.9000e-004	7.7000e-004	36.2816
Total	0.0106	0.0325	0.1208	5.0000e-004	0.0602	3.4000e-004	0.0605	0.0161	3.1000e-004	0.0164	0.0000	46.7202	46.7202	1.0200e-003	2.3100e-003	47.4338

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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 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	tons/yr										MT/yr					
Off-Road	0.0469	0.2429	0.5470	9.5000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	82.0096	82.0096	3.8200e-003	0.0000	82.1051
Paving	7.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0544	0.2429	0.5470	9.5000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	82.0096	82.0096	3.8200e-003	0.0000	82.1051

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.1400e-003	0.0463	0.0166	1.9000e-004	7.5600e-003	2.2000e-004	7.7900e-003	2.1800e-003	2.1000e-004	2.4000e-003	0.0000	18.8498	18.8498	7.6000e-004	2.7200e-003	19.6803
Worker	0.0117	7.3500e-003	0.1311	4.6000e-004	0.0658	2.5000e-004	0.0660	0.0175	2.3000e-004	0.0177	0.0000	42.3985	42.3985	6.9000e-004	9.0000e-004	42.6843
Total	0.0128	0.0537	0.1477	6.5000e-004	0.0733	4.7000e-004	0.0738	0.0196	4.4000e-004	0.0201	0.0000	61.2482	61.2482	1.4500e-003	3.6200e-003	62.3646

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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 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	tons/yr										MT/yr					
Off-Road	9.5400e-003	0.0414	0.5886	9.5000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	82.0095	82.0095	3.8200e-003	0.0000	82.1050
Paving	7.5500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0171	0.0414	0.5886	9.5000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	82.0095	82.0095	3.8200e-003	0.0000	82.1050

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	tons/yr										MT/yr					
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	0.0000
Vendor	1.1400e-003	0.0463	0.0166	1.9000e-004	7.5600e-003	2.2000e-004	7.7900e-003	2.1800e-003	2.1000e-004	2.4000e-003	0.0000	18.8498	18.8498	7.6000e-004	2.7200e-003	19.6803
Worker	0.0117	7.3500e-003	0.1311	4.6000e-004	0.0658	2.5000e-004	0.0660	0.0175	2.3000e-004	0.0177	0.0000	42.3985	42.3985	6.9000e-004	9.0000e-004	42.6843
Total	0.0128	0.0537	0.1477	6.5000e-004	0.0733	4.7000e-004	0.0738	0.0196	4.4000e-004	0.0201	0.0000	61.2482	61.2482	1.4500e-003	3.6200e-003	62.3646

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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 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	tons/yr										MT/yr					
Archit. Coating	0.6163					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.0343	0.0719	1.2000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	10.2130	10.2130	4.1000e-004	0.0000	10.2234
Total	0.6215	0.0343	0.0719	1.2000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	10.2130	10.2130	4.1000e-004	0.0000	10.2234

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.9000e-004	0.0116	4.1500e-003	5.0000e-005	1.8900e-003	6.0000e-005	1.9500e-003	5.5000e-004	5.0000e-005	6.0000e-004	0.0000	4.7124	4.7124	1.9000e-004	6.8000e-004	4.9201
Worker	2.9200e-003	1.8400e-003	0.0328	1.2000e-004	0.0164	6.0000e-005	0.0165	4.3700e-003	6.0000e-005	4.4200e-003	0.0000	10.5996	10.5996	1.7000e-004	2.3000e-004	10.6711
Total	3.2100e-003	0.0134	0.0369	1.7000e-004	0.0183	1.2000e-004	0.0185	4.9200e-003	1.1000e-004	5.0200e-003	0.0000	15.3121	15.3121	3.6000e-004	9.1000e-004	15.5911

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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 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	tons/yr										MT/yr					
Archit. Coating	0.6163					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1900e-003	5.1500e-003	0.0733	1.2000e-004		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	10.2130	10.2130	4.1000e-004	0.0000	10.2233
Total	0.6175	5.1500e-003	0.0733	1.2000e-004		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	10.2130	10.2130	4.1000e-004	0.0000	10.2233

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	tons/yr										MT/yr					
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	0.0000
Vendor	2.9000e-004	0.0116	4.1500e-003	5.0000e-005	1.8900e-003	6.0000e-005	1.9500e-003	5.5000e-004	5.0000e-005	6.0000e-004	0.0000	4.7124	4.7124	1.9000e-004	6.8000e-004	4.9201
Worker	2.9200e-003	1.8400e-003	0.0328	1.2000e-004	0.0164	6.0000e-005	0.0165	4.3700e-003	6.0000e-005	4.4200e-003	0.0000	10.5996	10.5996	1.7000e-004	2.3000e-004	10.6711
Total	3.2100e-003	0.0134	0.0369	1.7000e-004	0.0183	1.2000e-004	0.0185	4.9200e-003	1.1000e-004	5.0200e-003	0.0000	15.3121	15.3121	3.6000e-004	9.1000e-004	15.5911

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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	tons/yr										MT/yr					
Mitigated	0.1280	0.1271	1.3321	3.0000e-003	0.4168	1.4900e-003	0.4183	0.1112	1.3900e-003	0.1126	0.0000	277.7722	277.7722	0.0197	0.0119	281.8046
Unmitigated	0.1280	0.1271	1.3321	3.0000e-003	0.4168	1.4900e-003	0.4183	0.1112	1.3900e-003	0.1126	0.0000	277.7722	277.7722	0.0197	0.0119	281.8046

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

Land Use	Miles			Trip %			Trip Purpose %		
	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

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

Land Use	Miles			Trip %			Trip Purpose %		
	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
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
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

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	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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	184.8814	184.8814	0.0234	2.8400e-003	186.3113
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	184.8814	184.8814	0.0234	2.8400e-003	186.3113
Natural Gas Mitigated	7.4200e-003	0.0675	0.0567	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4624	73.4624	1.4100e-003	1.3500e-003	73.8989
Natural Gas Unmitigated	7.4200e-003	0.0675	0.0567	4.0000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4624	73.4624	1.4100e-003	1.3500e-003	73.8989

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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	tons/yr										MT/yr					
General Light Industry	82616	4.5000e-004	4.0500e-003	3.4000e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4087	4.4087	8.0000e-005	8.0000e-005	4.4349
General Light Industry	217316	1.1700e-003	0.0107	8.9500e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.5968	11.5968	2.2000e-004	2.1000e-004	11.6657
Industrial Park	1.06647e+006	5.7500e-003	0.0523	0.0439	3.1000e-004		3.9700e-003	3.9700e-003		3.9700e-003	3.9700e-003	0.0000	56.9107	56.9107	1.0900e-003	1.0400e-003	57.2489
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	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	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	0.0000
Unrefrigerated Warehouse-Rail	10234	6.0000e-005	5.0000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5461	0.5461	1.0000e-005	1.0000e-005	0.5494
Total		7.4300e-003	0.0675	0.0567	3.9000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4624	73.4624	1.4000e-003	1.3400e-003	73.8989

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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	tons/yr										MT/yr					
General Light Industry	217316	1.1700e-003	0.0107	8.9500e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.5968	11.5968	2.2000e-004	2.1000e-004	11.6657
General Light Industry	82616	4.5000e-004	4.0500e-003	3.4000e-003	2.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	4.4087	4.4087	8.0000e-005	8.0000e-005	4.4349
Industrial Park	1.06647e+006	5.7500e-003	0.0523	0.0439	3.1000e-004		3.9700e-003	3.9700e-003		3.9700e-003	3.9700e-003	0.0000	56.9107	56.9107	1.0900e-003	1.0400e-003	57.2489
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	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	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	0.0000
Unrefrigerated Warehouse-Rail	10234	6.0000e-005	5.0000e-004	4.2000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5461	0.5461	1.0000e-005	1.0000e-005	0.5494
Total		7.4300e-003	0.0675	0.0567	3.9000e-004		5.1300e-003	5.1300e-003		5.1300e-003	5.1300e-003	0.0000	73.4624	73.4624	1.4000e-003	1.3400e-003	73.8989

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	131406	15.5443	1.9700e-003	2.4000e-004	15.6646
General Light Industry	49956	5.9094	7.5000e-004	9.0000e-005	5.9551
Industrial Park	1.293e+006	152.9520	0.0194	2.3500e-003	154.1350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	42980	5.0842	6.4000e-004	8.0000e-005	5.1235
Unrefrigerated Warehouse-Rail	45577	5.3914	6.8000e-004	8.0000e-005	5.4331
Total		184.8814	0.0234	2.8400e-003	186.3113

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	131406	15.5443	1.9700e-003	2.4000e-004	15.6646
General Light Industry	49956	5.9094	7.5000e-004	9.0000e-005	5.9551
Industrial Park	1.293e+006	152.9520	0.0194	2.3500e-003	154.1350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	42980	5.0842	6.4000e-004	8.0000e-005	5.1235
Unrefrigerated Warehouse-Rail	45577	5.3914	6.8000e-004	8.0000e-005	5.4331
Total		184.8814	0.0234	2.8400e-003	186.3113

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Cleaning Supplies

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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	tons/yr										MT/yr					
Mitigated	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Unmitigated	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120

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	tons/yr										MT/yr					
Architectural Coating	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.3000e-004	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Total	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120

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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	tons/yr										MT/yr					
Architectural Coating	0.0647					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5287					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.3000e-004	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120
Total	0.5939	5.0000e-005	5.7600e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0113	0.0113	3.0000e-005	0.0000	0.0120

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	56.7186	1.0009	0.0242	88.9572
Unmitigated	56.7186	1.0009	0.0242	88.9572

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

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	3.86187 / 0	7.1736	0.1266	3.0600e-003	11.2510
Industrial Park	23.9205 / 0	44.4333	0.7841	0.0190	69.6890
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	2.75188 / 0	5.1117	0.0902	2.1800e-003	8.0172
Total		56.7185	1.0009	0.0242	88.9572

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	3.86187 / 0	7.1736	0.1266	3.0600e-003	11.2510
Industrial Park	23.9205 / 0	44.4333	0.7841	0.0190	69.6890
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	2.75188 / 0	5.1117	0.0902	2.1800e-003	8.0172
Total		56.7185	1.0009	0.0242	88.9572

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	32.5131	1.9215	0.0000	80.5497
Unmitigated	32.5131	1.9215	0.0000	80.5497

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

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	20.71	4.2039	0.2485	0.0000	10.4151
Industrial Park	128.27	26.0377	1.5388	0.0000	64.5072
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	11.19	2.2715	0.1342	0.0000	5.6275
Total		32.5131	1.9215	0.0000	80.5497

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	20.71	4.2039	0.2485	0.0000	10.4151
Industrial Park	128.27	26.0377	1.5388	0.0000	64.5072
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-Rail	11.19	2.2715	0.1342	0.0000	5.6275
Total		32.5131	1.9215	0.0000	80.5497

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

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

Equipment Type	Number
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11.0 Vegetation
