350-370 W. TRIMBLE ROAD AIR QUALITY ASSESSMENT

San José, California

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Introduction

The purpose of this report is to address air quality impacts associated with the proposed research & development (R&D) project located at 350-370 W. Trimble Road in San José, California. The air quality impacts would be associated with the construction of the new building and infrastructure and operation of the project. Air pollutant emissions associated with the construction and operation of the project were predicted using the appropriate models. Potential project health risk impacts to sensitive receptors are not anticipated since the project is at least 1,000 feet from any sensitive land uses. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project proposes to construct a 208,000-square foot (sf) R&D building with 17 loading docks on the southern building façade on the 10.35-acre site. There would be a total of 280 parking lot spaces on the eastern and western ends of the building, including 28 electric vehicle (EV) spaces. The project would also include a 300-kilowatt diesel powered standby generator.

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, infants and children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are the single-family residences 3,000 feet or further to the northwest. The project would not introduce new sensitive receptors (e.g., residents) to the area.

Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. However, California also has the ability to set motor vehicle emission standards and standards for fuel, as long as they are the same or more stringent than the nationwide standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter ($PM_{2.5}$) and because the

EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[2]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all vehicles in the U.S.

All of the above federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*.[3] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers,

[2] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.
[3] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NOX exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NOX.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[4] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[5] The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. The project site is located in the San José CARE area but not within an

[4] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program , accessed 2/18/2021.
[5] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en , accessed 10/1/2021.

overburdened area as identified by CalEnviroScreen as the Project site is scored at the 39th percentile.[6]

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[7] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for TACs, odors, and greenhouse gas (GHG) emissions.

BAAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators. Certain emission sources would be subject to BAAQMD Regulations and Rules. The District's rules and regulations that may apply to the project include:

- Regulation 2 – Permits
  - Rule 2-1: General Requirements
  - Rule 2-2: New Source Review
  - Rule 2-5: New Source Review of Toxic Air Contaminants
- Regulation 6 – Particulate Matter and Visible Emissions
- Regulation 9 – Inorganic Gaseous Pollutants
  - Rule 9-1: Sulfur Dioxide
  - Rule 9-7: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, And Process Heaters
  - Rule 9-8: Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines

Permits

Rule 2-1-301 requires that any person installing, modifying, or replacing any equipment, the use of which may reduce or control the emission of air contaminants, shall first obtain an Authority to Construct (ATC).

Rule 2-1-302 requires that written authorization from the BAAQMD in the form of a Permit to Operate (PTO) be secured before any such equipment is used or operated.

Rule 2-1 lists sources that are exempt from permitting.

[6] OEHAA, CalEnviroScreen 4.0 Indicator Maps https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40
[7] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

New Source Review

Rule 2-2, New Source Review (NSR), applies to all new and modified sources or facilities that are subject to the requirements of Rule 2-1-301. The purpose of the rule is to provide for review of such sources and to provide mechanisms by which no net increase in emissions will result.

Rule 2-2-301 requires that an applicant for an ATC or PTO apply Best Available Control Technology (BACT) to any new or modified source that results in an increase in emissions and has emissions of precursor organic compounds, non-precursor organic compounds, NOx, SO_2, PM_{10}, or CO of 10.0 pounds or more per highest day. Based on the estimated emissions from the proposed project, BACT will be required for NOx emissions from the diesel-fueled engines.

Rule 2-5 applies to new and modified sources of TAC emissions. BAAQMD evaluates the TAC emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. Toxics BACT (or TBACT) is applied to any new or modified source of TACs where the source risk is a cancer risk greater than 1.0 in one million and/or a chronic hazard index greater than 0.20. Permits are not issued for any new or modified source that has risks or net project risks that exceed a cancer risk of 10.0 in one million or a chronic or acute hazard index (HI) of 1.0.

Stationary Diesel Airborne Toxic Control Measure

The BAAQMD administers the CARB's Airborne Toxic Control Measure (ACTM) for Stationary Diesel engines (section 93115, title 17 CA Code of Regulations). The project's stationary sources will be new stationary emergency standby diesel engines for a fire pump larger than 50 hp. These limits vary based on maximum engine power. All engines are limited to PM emission rates of 0.15 g/hp-hour, regardless of size. This ACTM limits engine operation 50 hours per year for routine testing and maintenance.

Offsets

Rule 2-2-302 require that offsets be provided for a new or modified source that emits more than 10 tons per year of NOx or precursor organic compounds. It is not expected that emissions of any pollutant will exceed the offset thresholds.

Prohibitory Rules

Regulation 6 pertains to particulate matter and visible emissions. Although the engines will be fueled with diesel, they will be modern, low emission engines. Thus, the engines are expected to comply with Regulation 6.

Rule 9-1 applies to sulfur dioxide. The engines will use ultra-low sulfur diesel fuel (less than 15 ppm sulfur) and will not be a significant source of sulfur dioxide emissions and are expected to comply with the requirements of Rule 9-1.

Rule 9-7 limits the emissions of NOx CO from industrial, institutional and commercial boilers, steam generators and process heaters. This regulation typically applies to boilers with a heat rating of 2 million British Thermal Units (BTU) per hour

Rule 9-8 prescribes NOx and CO emission limits for stationary internal combustion engines. Since the proposed engines will be used in an emergency standby basis, Regulation 9-8-110 exempts the engines from the requirements of this Rule, except for the recordkeeping requirements (9-8-530) and limitations on hours of operation for reliability-related operation (maintenance and testing). The engines will not operate more than 50 hours per year, which will satisfy the requirements of 9-8-111.

BACT for Diesel Engines

Since the fire pumps will be used exclusively for emergency use during involuntary loss of power, the BACT levels listed for IC compression engines in the BAAQMD BACT Guidelines would apply. These are provided for two separate size ranges of diesel engines:

> I.C. Engine – Compression Ignition >50hp and <1.000hp: BAAQMD applies BACT 2 emission limits based on the ATCM for stationary emergency standby diesel engines larger than 50 brake-horsepower (BHP). NOx emission factor limit is subject to the CARB ACTM that ranges from 3.0 to 3.5 grams per horsepower hour (g/hp-hr). The PM (PM10 or PM2.5) limit is 0.15 g/hp-hr per CARB's ACTM.
>
> I.C. Engine – Compression Ignition >999hp: BAAQMD applies specific BACT emission limits for stationary emergency standby diesel engines equal or larger than 1,000 brake-horsepower (BHP). NOx emission factor limit is subject to the CARB ACTM that ranges from 0.5 g/hp-hr. The PM (PM_{10} or $PM_{2.5}$) limit is 0.02 g/hp-hr. POC (i.e., ROG) limits are 0.14 g/hp-hr.

San José Envision 2040 General Plan

The San José Envision 2040 General Plan includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution and toxic air contaminants or TACs. The following goals, policies, and actions are applicable to the proposed project and this assessment:

Applicable Goals – Air Pollutant Emission Reduction
Goal MS-10 Minimize emissions from new development.

Applicable Policies – Air Pollutant Emission Reduction
MS-10.1 Assess projected air emissions from new development in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines and relative to state and federal standards. Identify and implement feasible air emission reduction measures.

MS-10.2 Consider the cumulative air quality impacts from proposed developments for proposed land use designation changes and new development, consistent with the region's Clean Air Plan and State law.

MS-10.3 Promote the expansion and improvement of public transportation services and facilities, where appropriate, to both encourage energy conservation and reduce air pollution.

MS-10.5 In order to reduce vehicle miles traveled and traffic congestion, require new development within 2,000 feet of an existing or planned transit station to encourage the use of public transit and minimize the dependence on the automobile through the application of site design guidelines and transit incentives.

MS-10.7 Encourage regional and statewide air pollutant emission reduction through energy conservation to improve air quality.

MS-10.11 Enforce the City's wood-burning appliance ordinance to limit air pollutant emissions from residential and commercial buildings.

MS-10.13 As a part of City of San José Sustainable City efforts, educate the public about air polluting household consumer products and activities that generate air pollution. Increase public awareness about the alternative products and activities that reduce air pollutant emissions.

Applicable Goals – Toxic Air Contaminants

Goal MS-11 Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Applicable Policies – Toxic Air Contaminants

MS-11.2 For projects that emit toxic air contaminants, require project proponents to prepare health risk assessments in accordance with BAAQMD-recommended procedures as part of environmental review and employ effective mitigation to reduce possible health risks to a less than significant level. Alternatively, require new projects (such as, but not limited to, industrial, manufacturing, and processing facilities) that are sources of TACs to be located an adequate distance from residential areas and other sensitive receptors.

MS-11.4 Encourage the installation of appropriate air filtration at existing schools, residences, and other sensitive receptor uses adversely affected by pollution sources.

MS-11.5 Encourage the use of pollution absorbing trees and vegetation in buffer areas between substantial sources of TACs and sensitive land uses.

Actions – Toxic Air Contaminants

MS-11.6 Develop and adopt a comprehensive Community Risk Reduction Plan that includes: baseline inventory of toxic air contaminants (TACs) and particulate matter smaller than 2.5 microns ($PM_{2.5}$), emissions from all sources, emissions reduction targets, and enforceable emission reduction strategies and performance measures. The Community Risk Reduction Plan will include enforcement and monitoring tools to ensure regular review of progress toward the emission reduction targets, progress reporting to the public and responsible agencies, and periodic updates of the plan, as appropriate.

MS-11.7 Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

MS-11.8 For new projects that generate truck traffic, require signage which reminds drivers that the State truck idling law limits truck idling to five minutes.

Applicable Goals – Construction Air Emissions

Goal MS-13 Minimize air pollutant emissions during demolition and construction activities

Applicable Policies – Construction Air Emissions

MS-13.1 Include dust, particulate matter, and construction equipment exhaust control measures as conditions of approval for subdivision maps, site development and planned development permits, grading permits, and demolition permits. At minimum, conditions shall conform to construction mitigation measures recommended in the current BAAQMD CEQA Guidelines for the relevant project size and type.

Applicable Actions – Construction Air Emissions

MS-13.4 Adopt and periodically update dust, particulate, and exhaust control standard measures for demolition and grading activities to include on project plans as conditions of approval based upon construction mitigation measures in the BAAQMD CEQA Guidelines.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 *CEQA Air Quality Guidelines*. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated its thresholds in the *CEQA Air Quality Guidelines* in 2017 to include the latest BAAQMD significance thresholds that were used in this analysis and are summarized in Table 1. Community health risks are considered significant if they exceed these thresholds.

Table 1. BAAQMD CEQA Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	None	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual $PM_{2.5}$	0.3 $\mu g/m^3$	0.8 $\mu g/m^3$	

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less.

Source: Bay Area Air Quality Management District, 2017

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_X), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2020.4.0 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types, size, and anticipated construction schedule were input to CalEEMod. The CARB EMission FACtors 2021 (EMFAC2021) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.[8] The CalEEMod model output along with construction inputs are included in *Attachment 1* and EMFAC2021 vehicle emissions modeling outputs are included in *Attachment 2*.

CalEEMod Inputs

Land Use Inputs

The proposed project land uses were entered into CalEEMod as described in Table 2.

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet	Acreage
Research & Development	208.00	1,000-sf	208,000	10.35
Parking Lot	280	Parking Spaces	107,690	
Other Asphalt Surfaces	1	Acre	43,560	

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario,

[8] See CARB's EMFAC2021 Emissions Inventory at https://arb.ca.gov/emfac/emissions-inventory

including equipment list and schedule, were based on project-specific construction information provided by the project applicant.

The CalEEMod construction equipment worksheet provided by the applicant included the schedule for each phase of construction (included in *Attachment 1*). Within each construction phase, the quantity of equipment to be used along with the average use hours per day and total number of workdays were provided. Since different equipment would have different estimates of the use per phase, the hours per day for each piece of equipment was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase. The construction schedule assumed that the earliest possible start date would be January 2023 and the project would be built out over a period of approximately 12 months or 275 construction workdays. The earliest year of operation was assumed to be 2024.

Construction Truck Traffic Emissions

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the estimate of soil material imported and/or exported to the site and the estimate of concrete and asphalt truck trips. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for those were computed by multiplying the daily trip rate by the number of days in that phase. Haul trips for grading were estimated from the provided grading volumes and assuming each truck could carry 10 tons per load. The number of concrete and asphalt total round haul trips were estimated for the project and converted to total one-way trips, assuming two trips per delivery.

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2017 motor vehicle emission factor model. This model has been superseded by the EMFAC2021 model; however, CalEEMod has not been updated to include EMFAC2021. The construction traffic information was combined with EMFAC2021 motor vehicle emissions factors. EMFAC2021 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod defaults, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1 and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including concrete trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling (demolition material export and soil import/export). Since CalEEMod does not address concrete or asphalt trucks, these were treated as vendor travel distances. Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On-road emission rates from the years 2023 for Santa Clara County were used. Table 3 provides the traffic inputs combined with the EMFAC2021 emission database to compute vehicle emissions.

Table 3. Construction Traffic Data Used for EMFAC2021 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	50% LDA 25% LDT1 25% LDT2	50% MHDT 50% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0 (Demo/Soil) 7.3 (Cement/Asphalt)	CalEEMod default distance with 5-min truck idle time.
Site Preparation	100	-	-	Default worker trips.
Grading	750	-	2,329	18,635-cy soil import. CalEEMod default worker trips.
Trenching	300	-	--	CalEEMod default worker trips.
Building Construction	18,850	8,555	170	85 concrete truck round trips. CalEEMod default worker and vendor trips.
Interior Construction	520	-	-	CalEEMod default worker trips.
Paving	500	-	280	140 asphalt truck round trips. CalEEMod default worker trips.

Notes: [1] Based on 2023 EMFAC2021 light-duty vehicle fleet mix for Santa Clara County.
[2] Includes grading trips estimated by CalEEMod based on amount of material to be removed. Concrete and asphalt trips estimated based on data provided by the applicant.

Summary of Computed Construction Period Emissions

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. Table 4 shows the annualized average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 4, predicted annualized project construction emissions would not exceed the BAAQMD significance thresholds during any year of construction.

Table 4. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2023	1.22	0.92	0.05	0.03
Annualized Daily Construction Emissions (pounds/day)				
2023 (275 construction workdays)	8.89	6.71	0.34	0.24
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. San Jose General Policy MS-10.1 specifies that projects should assess projected air emissions from new development in conformance with the BAAQMD CEQA Guidelines, relative to state and federal standards and identify and implement feasible air

emission reduction measures. Thus, San Jose General Policy MS-10.1 requires construction projects implement BAAQMD-Recommended Standard Measures to control PM_{10} and $PM_{2.5}$ emissions. *Mitigation Measure AQ-1 would implement BAAQMD's standard measures*.

Mitigation Measure AQ-1: Implement BAAQMD-Recommended Standard Measures to Control Particulate Matter Emissions during Construction.

Measures to reduce fugitive dust (i.e., PM_{10} and $PM_{2.5}$) emissions from construction are recommended to reduce fugitive dust emissions and ensure that health impacts to nearby sensitive receptors are minimized. During any construction period ground disturbance, the applicant shall ensure that the project contractor implements basic measures to control dust and exhaust. Implementation of the dust control measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. The contractor shall implement the following standard best management practices:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

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

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Mitigation Measure AQ-1

Mitigation Measure AQ-1 represents standard mitigation measures that would achieve greater than a 50 percent reduction in on-site fugitive $PM_{2.5}$ emissions. These measures are consistent with recommendations in the BAAMQD CEQA Guidance for providing "best management practices" to control construction emissions.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by employees and visitors. Evaporative ROG emissions from architectural coatings and maintenance products (classified as consumer products) are also associated with these types of projects. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

CalEEMod Inputs

Land Uses

The project operational land uses were entered into CalEEMod as described above for the construction period modeling.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest full year of operation would be 2024 if construction begins in 2023. Emissions associated with build-out later than 2024 would be lower.

Trip Generation

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model.[9] The project would produce approximately 2,305 daily trips. When accounting for the *Location-Based Reduction* and *VMT-Based Reduction* adjustments, the project would then produce 2,117 net daily trips. The daily trip generation was calculated using ITE trip generation rates, the size of the project, and the adjusted total automobile trips after reductions. The Saturday and Sunday trip rates were derived by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. The default trip lengths and trip types specified by CalEEMod were used.

[9] E-mail correspondence with Matthew Moore, Associate Project Manager, David J. Powers & Associates Inc., July 21, 2022. Attachment: *TripGen_Volumes_350 West Trimble Road Manufacturing Development_7-20-22*.

EMFAC2021 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2017, which is an older CARB emission inventory for on road mobile sources. Since the release of CalEEMod Version 2020.4.0, new emission factors have been produced by CARB. EMFAC2021 became available for use in January 2021. It includes the latest data on California's car and truck fleets and travel activity. The CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2021. On road emission rates from 2024 Santa Clara County were used (See *Attachment 3*). More details about the updates in emissions calculation methodologies and data are available in the EMFAC2021 Technical Support Document.[10]

Project Generator

The project proposes to include a stand-by emergency diesel generator. The generator is identified to provide 300 kilowatts (kW) that would be powered by a 460 horsepower (HP) diesel engine. For modeling purposes, it was assumed that the generator would be operated primarily for testing and maintenance purposes. CARB and BAAQMD requirements limit these engine operations to 50 hours each per year of non-emergency operation. During testing periods, the engine would typically be run for less than one hour. The engine would be required to meet CARB and EPA emission standards and consume commercially available California low-sulfur diesel fuel. Additionally, the generators would have to meet BAAQMD BACT requirements for IC Engine-Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump sources. The generator's emissions, including BACT engine requirements, were modeled using CalEEMod.

Energy

CalEEMod defaults for energy use were used, which include the 2019 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. An emission factor of 178 pounds of CO_2 per megawatt of electricity produced was entered into CalEEMod, which is based on San Jose Clean Energy's (SJCE) 2020 emissions rate.[11] It should be noted that per Climate Smart San Jose and San Jose's Greenhouse Gas Reduction Strategy, SJCE's goal is to provide 100-percent carbon-free electricity prior to 2030.[12]

The City of San José passed an ordinance in December 2020 that prohibits the use of natural gas infrastructure in new residential, office, and most retail-type buildings.[13] This ordinance applies

[10] See CARB 2021: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac
[11] San Jose Clean Energy Website, Standard GreenSource service. Web: https://sanjosecleanenergy.org/commercial-rates/
[12] City of San José, 2020. "2030 Greenhouse Gas Reduction Strategy", August. Web: https://www.sanjoseca.gov/home/showpublisheddocument/63667/637347412207870000
[13] City of San José, 2020. "ORDINANCE NO. 30502", December. Web: https://www.sanjoseca.gov/home/showpublisheddocument/69230/637485403354170000njoseca.gov/Home/Components/News/News/2210/4699

to any new construction starting August 1, 2021. Natural gas use for the R&D land use was set to zero and reassigned to electricity use in CalEEMod.

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. Water/wastewater use was estimated to be 100% aerobic conditions to represent City wastewater treatment plant conditions. The project site would not send wastewater to on-site septic tanks or facultative lagoons.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 5 shows net average daily operational emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds.

Table 5. Operational Period Emissions

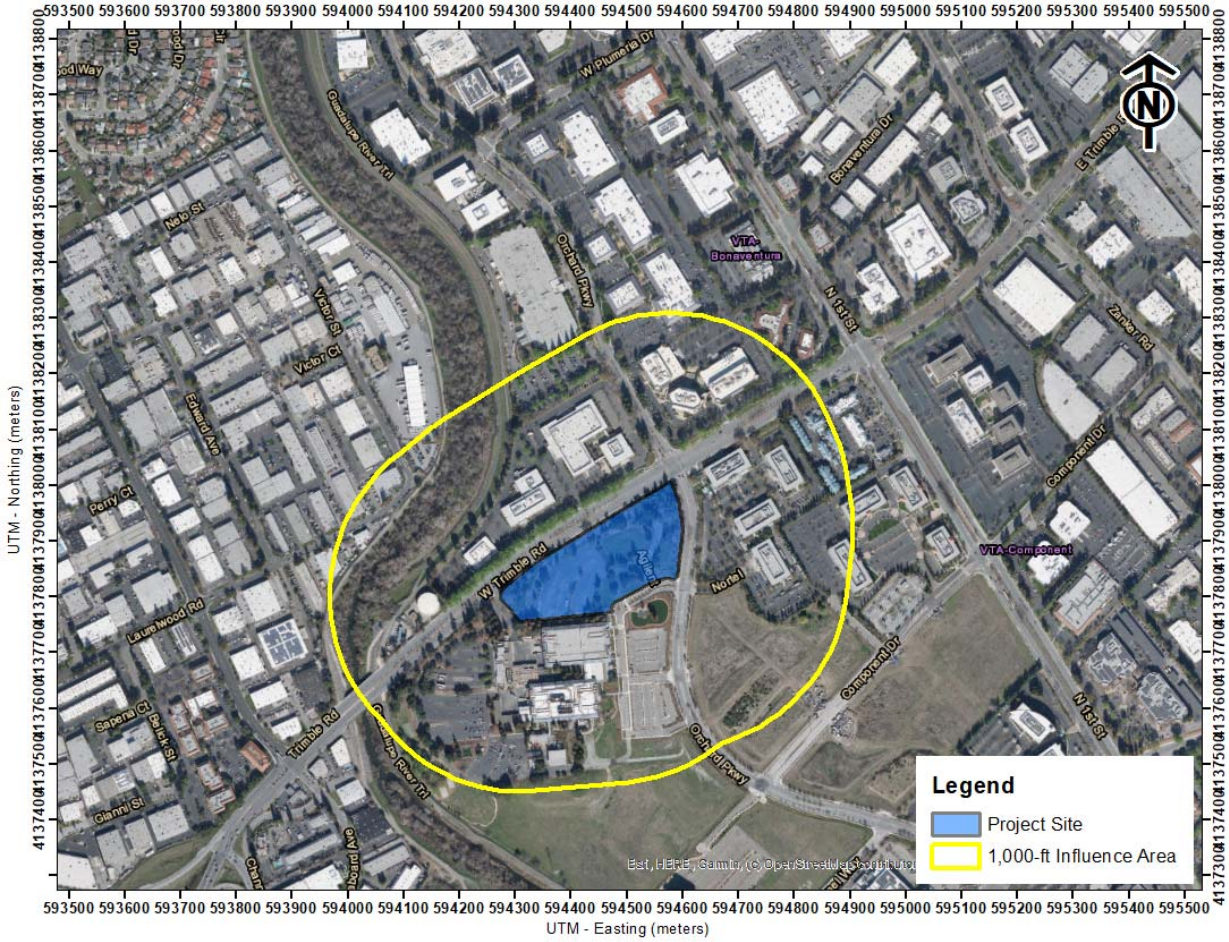
Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2024 Project Operational Emissions (*tons/year*)	1.95	0.80	1.37	0.35
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2024 Project Operational Emissions (*lbs./day*)[1]	10.68	4.36	7.49	1.92
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

Impact AIR-2: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce a new temporary source of TACs during construction (i.e., on-site construction and truck hauling emissions). There would be minor long-term emissions of TACs from operation (i.e., stationary and mobile sources). The BAAQMD CEQA Air Quality Guidelines recommends that any proposed project that includes the siting of a new source of pollutants and TACs assess associated impacts within 1,000 feet, considering both individual and nearby cumulative sources (i.e., proposed project plus existing and foreseeable future projects). The project site is located over 1,000 feet away from the nearest sensitive receptor, as seen in Figure 1. Therefore, the project is considered to have a *less-than-significant* impact with respect to exposing sensitive receptors to substantial air pollutant concentrations.

Figure 1. Project Site and 1,000-Foot Influence Area



Supporting Documentation

Attachment 1 includes the CalEEMod output for project construction and operational criteria air pollutant emissions. Also included are any modeling assumptions.

Attachment 2 includes the EMFAC2021 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

Attachment 1: CalEEMod Modeling Inputs and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: 208,000 SF Advanced Manufacturing

See Equipment Type TAB for type, horsepower and load factor

Complete ALL Portions in Yellow

Project Size	0	Dwelling Units	10.35 total project acres disturbed
	0	s.f. residential	
	0	s.f. retail	
	20,000/188,000	s.f. office/manufacturing	
	107,690	s.f. parking lot	280 spaces
		s.f. truck parking	0 spaces
		s.f. driveways	<1 acres
Construction Days		to	275 Working Days
Construction Hours	8:00 am	to	5:00 pm

Pile Driving? N

Project include on-site GENERATOR OR FIRE PUMP during project OPERATION? Y/N? __Y__

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: ___190_____

Fuel Type: ___diesel_____

Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments
	Demolition	**Start Date:**	**1/2/2023**	**Total phase:**	**20**			**Overall Import/Export Volumes**
		End Date:	**1/2/2023**					
0	Concrete/Industrial Saws	81	0.73	0	0	0	0	**Demolition Volume**
0	Excavators	158	0.38	0	0	0	0	Square footage of buildings to be demolished
0	Rubber-Tired Dozers	247	0.4	0	0	0	0	(*or* total tons to be hauled)
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0	0	**_0_** square feet *or*
	Other Equipment?							**_0_** Hauling volume (tons)
								Any pavement demolished and hauled? **_0_ tons**
	Site Preparation	**Start Date:**	**1/2/2023**	**Total phase:**	**10**			
		End Date:	**1/13/2023**					
1	Graders	187	0.41	6	5	3	2300	
1	Rubber Tired Dozers	247	0.4	6	4	2.4	2371	
2	Tractors/Loaders/Backhoes	97	0.37	4	3	1.2	861	
	Other Equipment?							
	Grading / Excavation	**Start Date:**	**1/16/2023**	**Total phase:**	**30**			
		End Date:	**2/24/2023**					**Soil Hauling Volume**
2	Excavators	158	0.38	6	20	4.00	14410	Export volume = **_0_** cubic yards?
2	Graders	187	0.41	6	20	4	18401	Import volume = **18,635** cubic yards
2	Rubber Tired Dozers	247	0.4	6	10	2	11856	10.5 Acre Site - 457,380 SFT - Building Pad Raised Aprox 3ft
2	Scrapers	367	0.48	4	15	2	21139	
2	Tractors/Loaders/Backhoes	97	0.37	6	10	2.00	4307	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**2/27/2023**	**Total phase:**	**30**			
		End Date:	**4/7/2023**					
2	Tractor/Loader/Backhoe	97	0.37	6	15	3	6460	
2	Excavators	158	0.38	6	20	4.00	14410	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**4/10/2023**	**Total phase:**	**140**			**Cement Trucks? _85_ Total Round-Trips**
		End Date:	**10/27/2023**					
1	Cranes	231	0.29	6	80	3.43	32155	Electric? (Y/N) _N__ Otherwise assumed diesel
3	Forklifts	89	0.2	5	60	2.14	16020	Liquid Propane (LPG)? (Y/N) __N_ Otherwise Assumed diesel
0	Generator Sets	84	0.74	0	0	0	0	Or temporary line power? (Y/N) __N_ (Assume Temporary Power, No Generator)
2	Tractors/Loaders/Backhoes	97	0.37	6	40	1.71	17227	
2	Welders	46	0.45	6	70	3	17388	
	Other Equipment?							
	Building - Interior/Architectural Coating	**Start Date:**	**10/30/2023**	**Total phase:**	**20**			
		End Date:	**11/24/2023**					
1	Air Compressors	78	0.48	5	10	2.5	1872	
1	Aerial Lift	62	0.31	6	15	4.5	1730	
	Other Equipment?							
	Paving	**Start Date:**	**11/27/2023**	**Total phase:**	**25**			
		Start Date:	**12/29/2023**					
1	Cement and Mortar Mixers	9	0.56	4	5	0.8	101	
2	Pavers	130	0.42	6	5	1.2	3276	**Asphalt? _1,285__ cubic yards or __140__ round trips?**
2	Paving Equipment	132	0.36	6	10	2.4	5702	
2	Rollers	80	0.38	4	10	1.6	2432	
1	Tractors/Loaders/Backhoes	97	0.37	6	5	1.2	1077	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Traffic Consultant Trip Gen						CalEEMod Default		
Land Use		Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
R&D	KSF	208	2305	2117	***10.18***	11.26	1.9	1.11
Location-Based Reduction			*-184*			*Rev*	***1.72***	***1.00***
VMT-Based Reduction			*-4*					

Project Trip Generation Estimates

	Reduction	VMT				Daily		AM Peak Hour						PM Peak Hour					
									Split		Trip				Split		Trip		
Land Use	%	Existing	Project	Size		Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
#760 - Research and Development Center				208,000	Square Feet	11.080	2,305	1.030	82%	18%	175	39	214	0.980	16%	84%	33	171	204
Location-Based Reduction[1]	*8%*						*-184*				*-14*	*-3*	*-17*				*-3*	*-14*	*-17*
VMT-Based Reduction[2]	*0.19%*	15.85	15.82				*-4*				*0*	*0*	*0*				*0*	*0*	*0*
Total Project Trips							**2,117**				**161**	**36**	**197**				**30**	**157**	**187**

Source: ITE Trip Generation Manual, 11th Edition 2021.

[1] The place type for the project site (Suburban with Multi-Family Homes) is obtained from the City of San Jose VMT Evaluation Tool (February 29, 2019). The location-based vehicle mode shares are obtained from Table 6 of the City of San Jose Transportation Analysis Handbook (April 2020). The trip reductions are based on the percent of mode share for all of the other modes of travel beside vehicle.

[2] Existing and project VMTs were estimated using the City of San Jose VMT Evaluation Tool. It is assumed that every percent reduction in VMT per-employee is equivalent to one percent reduction in peak-hour vehicle trips

Construction Criteria Air Pollutants						
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	**CO2e**	
Year	Tons				MT	
Construction Equipment						
2023	1.18	0.62	0.03	0.03	96.23	
EMFAC						
2023	0.04	0.31	0.02	0.01	256.50	
Total Construction Emissions by Year						
2023	1.22	0.92	0.05	0.03	352.72	
	Total Construction Emissions					
Tons	1.22	0.92	0.05	0.03	352.72	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2023	8.89	6.71	0.34	0.24		**275**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		
	Total Construction Emissions					
Pounds	8.89	6.71	0.34	0.24	0.00	
Average	8.89	6.71	0.34	0.24	0.00	275.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Operational Criteria Air Pollutants						
Unmitigated	ROG	NOX	Total PM10	Total PM2.5		
Year	Tons					
Total	1.95	0.80	1.37	0.35		
	Existing Use Emissions					
Total						
	Net Annual Operational Emissions					
Tons/year	1.95	0.80	1.37	0.35		
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**		
	Average Daily Emissions					
Pounds Per Day	10.68	4.36	7.49	1.92		
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Category	**CO2e**			
	Project	Existing	Project 2030	Existing
Area	0.01			
Energy	271.77			
Mobile	1380.64			
Waste	7.95			
Water	107.93			
TOTAL	1768.30	0.00	0.00	0.00
Net GHG Emissions		1768.30		0.00
Service Population	0.00			
Per Capita Emissions		#DIV/0!		#DIV/0!

	0	units
CA DOF 1920 =	0	pphh

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

350-370 W Trimble, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	208.00	1000sqft	10.35	208,000.00	0
Other Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Parking Lot	280.00	Space	0.00	107,690.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2024
Utility Company	San Jose Clean Energy				
CO2 Intensity (lb/MWhr)	178	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SJCE 2020 rate = 178

Land Use - Provided in air quality/noise construction information

Construction Phase - Provided in construction and equipment list

Off-road Equipment - Provided in construction and equipment list

Off-road Equipment - Provided in construction and equipment list

Off-road Equipment - Provided in construction and equipment list

Off-road Equipment - Provided in construction and equipment list

Off-road Equipment - Provided in construction and equipment list

Off-road Equipment - provided in construction and equipment list

Off-road Equipment - Provided in construction and equipment list.

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350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading - Provided by total project acres from construction and equipment list

Vehicle Trips - Provided trip gen with reduction adjustments

Energy Use - SJ Reach code - no natural gas, convert to electricity

Water And Wastewater - Wastewater treatment 100% aerobic, no spetic tanks of lagoons

Stationary Sources - Emergency Generators and Fire Pumps - one 300-kw,460-hp diesel generator, 50 hr/yr

Construction Off-road Equipment Mitigation -

Trips and VMT - EMFAC2021 adjustment 0 trips, building - 85 concrete truck round trips, paving - 140 asphalt truck round trips

Vehicle Emission Factors - EMFAC2021 vehicle emission factors Santa Clara County 2024

Fleet Mix - EMFAC2021 fleet mix Santa Clara County 2024

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	145.00
tblConstructionPhase	NumDays	20.00	25.00
tblEnergyUse	NT24E	3.70	5.70
tblEnergyUse	NT24NG	6.67	0.00
tblEnergyUse	T24E	1.32	7.04
tblEnergyUse	T24NG	19.51	0.00
tblFleetMix	HHD	6.4040e-003	7.3070e-003
tblFleetMix	HHD	6.4040e-003	7.3070e-003
tblFleetMix	HHD	6.4040e-003	7.3070e-003
tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LDT2	0.19	0.23

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.1020e-003	5.6410e-003
tblFleetMix	LHD2	5.1020e-003	5.6410e-003
tblFleetMix	LHD2	5.1020e-003	5.6410e-003
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MH	2.7760e-003	2.6660e-003
tblFleetMix	MH	2.7760e-003	2.6660e-003
tblFleetMix	MH	2.7760e-003	2.6660e-003
tblFleetMix	MHD	7.9340e-003	9.3580e-003
tblFleetMix	MHD	7.9340e-003	9.3580e-003
tblFleetMix	MHD	7.9340e-003	9.3580e-003
tblFleetMix	OBUS	9.0000e-004	1.0550e-003
tblFleetMix	OBUS	9.0000e-004	1.0550e-003
tblFleetMix	OBUS	9.0000e-004	1.0550e-003
tblFleetMix	SBUS	9.1400e-004	6.8200e-004
tblFleetMix	SBUS	9.1400e-004	6.8200e-004
tblFleetMix	SBUS	9.1400e-004	6.8200e-004
tblFleetMix	UBUS	3.8000e-004	4.1700e-004
tblFleetMix	UBUS	3.8000e-004	4.1700e-004
tblFleetMix	UBUS	3.8000e-004	4.1700e-004
tblGrading	MaterialImported	0.00	18,635.00

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LandUseSquareFeet	112,000.00	107,690.00
tblLandUse	LotAcreage	4.78	10.35
tblLandUse	LotAcreage	2.52	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	2.50
tblOffRoadEquipment	UsageHours	7.00	3.40
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.10
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.20
tblOffRoadEquipment	UsageHours	8.00	2.40
tblOffRoadEquipment	UsageHours	8.00	1.60
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.40
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.70
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.20
tblOffRoadEquipment	UsageHours	8.00	3.00
tblProjectCharacteristics	CO2IntensityFactor	807.98	178
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	460.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	2,329.00	0.00
tblTripsAndVMT	VendorTripNumber	59.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	26.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	130.00	0.00
tblVehicleEF	HHD	0.02	0.23
tblVehicleEF	HHD	0.05	0.12
tblVehicleEF	HHD	6.33	5.20
tblVehicleEF	HHD	0.40	0.77
tblVehicleEF	HHD	5.9420e-003	6.2600e-004
tblVehicleEF	HHD	1,048.88	832.32
tblVehicleEF	HHD	1,413.90	1,617.13
tblVehicleEF	HHD	0.05	0.02
tblVehicleEF	HHD	0.17	0.13
tblVehicleEF	HHD	0.22	0.26
tblVehicleEF	HHD	7.0000e-006	1.9000e-005
tblVehicleEF	HHD	5.39	4.08
tblVehicleEF	HHD	2.69	1.85
tblVehicleEF	HHD	2.32	2.73
tblVehicleEF	HHD	2.5820e-003	2.1820e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.03

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	HHD	2.4710e-003	2.0820e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8830e-003	8.7810e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	2.0000e-006	1.9600e-004
tblVehicleEF	HHD	9.3000e-005	5.8000e-005
tblVehicleEF	HHD	0.43	0.33
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	4.1000e-005	5.2500e-004
tblVehicleEF	HHD	2.0000e-006	0.00
tblVehicleEF	HHD	9.7610e-003	7.2800e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	2.0000e-006	1.9600e-004
tblVehicleEF	HHD	9.3000e-005	5.8000e-005
tblVehicleEF	HHD	0.49	0.59
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.08	0.14
tblVehicleEF	HHD	4.1000e-005	5.2500e-004
tblVehicleEF	HHD	3.0000e-006	0.00
tblVehicleEF	LDA	1.7200e-003	2.0530e-003
tblVehicleEF	LDA	0.04	0.06
tblVehicleEF	LDA	0.53	0.65
tblVehicleEF	LDA	2.09	2.89
tblVehicleEF	LDA	239.41	245.08
tblVehicleEF	LDA	50.82	63.51
tblVehicleEF	LDA	3.9560e-003	4.1620e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.03	0.04

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LDA	0.17	0.23
tblVehicleEF	LDA	0.04	7.1680e-003
tblVehicleEF	LDA	1.2960e-003	1.1710e-003
tblVehicleEF	LDA	1.6880e-003	1.9100e-003
tblVehicleEF	LDA	0.02	2.5090e-003
tblVehicleEF	LDA	1.1940e-003	1.0780e-003
tblVehicleEF	LDA	1.5520e-003	1.7560e-003
tblVehicleEF	LDA	0.04	0.27
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	6.4160e-003	7.8860e-003
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.19	0.30
tblVehicleEF	LDA	2.3210e-003	2.4230e-003
tblVehicleEF	LDA	4.9300e-004	6.2800e-004
tblVehicleEF	LDA	0.04	0.27
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	9.3280e-003	0.01
tblVehicleEF	LDA	0.03	0.20
tblVehicleEF	LDA	0.21	0.32
tblVehicleEF	LDT1	3.6010e-003	6.2220e-003
tblVehicleEF	LDT1	0.06	0.10
tblVehicleEF	LDT1	0.85	1.42
tblVehicleEF	LDT1	2.27	5.22
tblVehicleEF	LDT1	286.67	325.38
tblVehicleEF	LDT1	61.55	85.98
tblVehicleEF	LDT1	5.8110e-003	9.3750e-003
tblVehicleEF	LDT1	0.03	0.04

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LDT1	0.07	0.13
tblVehicleEF	LDT1	0.21	0.38
tblVehicleEF	LDT1	0.04	9.2260e-003
tblVehicleEF	LDT1	1.6460e-003	1.9270e-003
tblVehicleEF	LDT1	2.1190e-003	2.8980e-003
tblVehicleEF	LDT1	0.02	3.2290e-003
tblVehicleEF	LDT1	1.5140e-003	1.7740e-003
tblVehicleEF	LDT1	1.9480e-003	2.6650e-003
tblVehicleEF	LDT1	0.07	0.60
tblVehicleEF	LDT1	0.15	0.16
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.08	0.47
tblVehicleEF	LDT1	0.27	0.54
tblVehicleEF	LDT1	2.7790e-003	3.2170e-003
tblVehicleEF	LDT1	5.9700e-004	8.5000e-004
tblVehicleEF	LDT1	0.07	0.60
tblVehicleEF	LDT1	0.15	0.16
tblVehicleEF	LDT1	0.06	0.00
tblVehicleEF	LDT1	0.02	0.04
tblVehicleEF	LDT1	0.08	0.47
tblVehicleEF	LDT1	0.30	0.59
tblVehicleEF	LDT2	2.9320e-003	2.8180e-003
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.74	0.83
tblVehicleEF	LDT2	2.70	3.62
tblVehicleEF	LDT2	307.96	336.52
tblVehicleEF	LDT2	66.71	86.38
tblVehicleEF	LDT2	5.6680e-003	6.0160e-003

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.06	0.07
tblVehicleEF	LDT2	0.25	0.33
tblVehicleEF	LDT2	0.04	8.8660e-003
tblVehicleEF	LDT2	1.3470e-003	1.3330e-003
tblVehicleEF	LDT2	1.7090e-003	2.1080e-003
tblVehicleEF	LDT2	0.02	3.1030e-003
tblVehicleEF	LDT2	1.2400e-003	1.2260e-003
tblVehicleEF	LDT2	1.5720e-003	1.9380e-003
tblVehicleEF	LDT2	0.06	0.29
tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.21
tblVehicleEF	LDT2	0.28	0.38
tblVehicleEF	LDT2	2.9850e-003	3.3260e-003
tblVehicleEF	LDT2	6.4700e-004	8.5400e-004
tblVehicleEF	LDT2	0.06	0.29
tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.21
tblVehicleEF	LDT2	0.31	0.42
tblVehicleEF	LHD1	4.9880e-003	5.3690e-003
tblVehicleEF	LHD1	7.8580e-003	8.1950e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.18	0.20
tblVehicleEF	LHD1	0.71	0.90
tblVehicleEF	LHD1	1.05	2.16

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LHD1	8.86	8.72
tblVehicleEF	LHD1	779.34	782.62
tblVehicleEF	LHD1	11.55	17.84
tblVehicleEF	LHD1	7.4200e-004	6.4000e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.04
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.65	0.66
tblVehicleEF	LHD1	0.30	0.44
tblVehicleEF	LHD1	8.4200e-004	6.8100e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.7790e-003	9.4140e-003
tblVehicleEF	LHD1	9.6230e-003	0.01
tblVehicleEF	LHD1	2.4700e-004	2.2700e-004
tblVehicleEF	LHD1	8.0500e-004	6.5100e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4450e-003	2.3540e-003
tblVehicleEF	LHD1	9.1590e-003	0.01
tblVehicleEF	LHD1	2.2800e-004	2.0900e-004
tblVehicleEF	LHD1	1.9120e-003	0.13
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.8500e-004	0.00
tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	0.20	0.18
tblVehicleEF	LHD1	0.07	0.11
tblVehicleEF	LHD1	8.6000e-005	8.5000e-005
tblVehicleEF	LHD1	7.6080e-003	7.6450e-003
tblVehicleEF	LHD1	1.1400e-004	1.7600e-004

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LHD1	1.9120e-003	0.13
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	9.8500e-004	0.00
tblVehicleEF	LHD1	0.11	0.11
tblVehicleEF	LHD1	0.20	0.18
tblVehicleEF	LHD1	0.08	0.12
tblVehicleEF	LHD2	3.0380e-003	3.1580e-003
tblVehicleEF	LHD2	6.6540e-003	6.9670e-003
tblVehicleEF	LHD2	7.7290e-003	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.59	0.57
tblVehicleEF	LHD2	0.60	1.22
tblVehicleEF	LHD2	13.88	13.77
tblVehicleEF	LHD2	754.92	827.31
tblVehicleEF	LHD2	7.59	9.92
tblVehicleEF	LHD2	1.7350e-003	1.6800e-003
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.77	0.90
tblVehicleEF	LHD2	0.17	0.24
tblVehicleEF	LHD2	1.4370e-003	1.3710e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.2700e-004	1.0100e-004
tblVehicleEF	LHD2	1.3750e-003	1.3110e-003
tblVehicleEF	LHD2	0.04	0.03

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LHD2	2.6920e-003	2.6640e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.1700e-004	9.3000e-005
tblVehicleEF	LHD2	9.8500e-004	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.1400e-004	0.00
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	LHD2	1.3300e-004	1.3200e-004
tblVehicleEF	LHD2	7.2890e-003	7.9720e-003
tblVehicleEF	LHD2	7.5000e-005	9.8000e-005
tblVehicleEF	LHD2	9.8500e-004	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.1400e-004	0.00
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.04	0.07
tblVehicleEF	MCY	0.33	0.16
tblVehicleEF	MCY	0.25	0.18
tblVehicleEF	MCY	18.60	12.67
tblVehicleEF	MCY	9.06	8.00
tblVehicleEF	MCY	210.08	187.74
tblVehicleEF	MCY	60.71	48.38
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	8.0200e-003
tblVehicleEF	MCY	1.15	0.57

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	MCY	0.27	0.14
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	1.9970e-003	1.9020e-003
tblVehicleEF	MCY	2.9300e-003	3.4560e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.8650e-003	1.7790e-003
tblVehicleEF	MCY	2.7520e-003	3.2480e-003
tblVehicleEF	MCY	0.90	3.90
tblVehicleEF	MCY	0.68	3.56
tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.19	1.06
tblVehicleEF	MCY	0.53	3.75
tblVehicleEF	MCY	1.93	1.35
tblVehicleEF	MCY	2.0790e-003	1.8560e-003
tblVehicleEF	MCY	6.0100e-004	4.7800e-004
tblVehicleEF	MCY	0.90	0.09
tblVehicleEF	MCY	0.68	3.56
tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.72	1.28
tblVehicleEF	MCY	0.53	3.75
tblVehicleEF	MCY	2.10	1.46
tblVehicleEF	MDV	3.4000e-003	3.7500e-003
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.78	0.94
tblVehicleEF	MDV	2.96	3.90
tblVehicleEF	MDV	372.22	405.81
tblVehicleEF	MDV	79.53	103.32
tblVehicleEF	MDV	7.5920e-003	8.3410e-003
tblVehicleEF	MDV	0.03	0.04

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.29	0.41
tblVehicleEF	MDV	0.04	9.0000e-003
tblVehicleEF	MDV	1.4370e-003	1.3730e-003
tblVehicleEF	MDV	1.8190e-003	2.1610e-003
tblVehicleEF	MDV	0.02	3.1500e-003
tblVehicleEF	MDV	1.3260e-003	1.2660e-003
tblVehicleEF	MDV	1.6720e-003	1.9870e-003
tblVehicleEF	MDV	0.07	0.35
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.01	0.02
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.34	0.49
tblVehicleEF	MDV	3.6060e-003	4.0090e-003
tblVehicleEF	MDV	7.7100e-004	1.0210e-003
tblVehicleEF	MDV	0.07	0.35
tblVehicleEF	MDV	0.13	0.09
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.06	0.27
tblVehicleEF	MDV	0.38	0.54
tblVehicleEF	MH	9.5570e-003	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.93	1.29
tblVehicleEF	MH	2.03	2.49
tblVehicleEF	MH	1,501.42	1,686.59
tblVehicleEF	MH	18.14	22.55
tblVehicleEF	MH	0.06	0.07

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.31	1.54
tblVehicleEF	MH	0.24	0.30
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.6100e-004	3.1300e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2790e-003	3.3010e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.4000e-004	2.8800e-004
tblVehicleEF	MH	0.64	32.73
tblVehicleEF	MH	0.05	8.70
tblVehicleEF	MH	0.23	0.00
tblVehicleEF	MH	0.06	0.08
tblVehicleEF	MH	0.01	0.20
tblVehicleEF	MH	0.09	0.11
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.7900e-004	2.2300e-004
tblVehicleEF	MH	0.64	32.73
tblVehicleEF	MH	0.05	8.70
tblVehicleEF	MH	0.23	0.00
tblVehicleEF	MH	0.08	0.11
tblVehicleEF	MH	0.01	0.20
tblVehicleEF	MH	0.10	0.12
tblVehicleEF	MHD	3.5790e-003	0.01
tblVehicleEF	MHD	1.6940e-003	9.6580e-003
tblVehicleEF	MHD	9.1320e-003	8.7730e-003
tblVehicleEF	MHD	0.39	0.67

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	MHD	0.23	0.35
tblVehicleEF	MHD	1.07	1.07
tblVehicleEF	MHD	72.08	160.26
tblVehicleEF	MHD	1,080.76	1,229.18
tblVehicleEF	MHD	9.15	8.53
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.14	0.16
tblVehicleEF	MHD	7.2440e-003	6.0320e-003
tblVehicleEF	MHD	0.41	0.89
tblVehicleEF	MHD	1.45	1.11
tblVehicleEF	MHD	1.70	1.41
tblVehicleEF	MHD	3.6900e-004	2.1280e-003
tblVehicleEF	MHD	0.13	0.05
tblVehicleEF	MHD	7.0230e-003	0.01
tblVehicleEF	MHD	1.1500e-004	1.0700e-004
tblVehicleEF	MHD	3.5300e-004	2.0350e-003
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	6.7130e-003	0.01
tblVehicleEF	MHD	1.0600e-004	9.8000e-005
tblVehicleEF	MHD	3.8300e-004	0.03
tblVehicleEF	MHD	0.02	6.2600e-003
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	1.9800e-004	0.00
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	6.8400e-004	1.4900e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	9.1000e-005	8.4000e-005

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	MHD	3.8300e-004	0.03
tblVehicleEF	MHD	0.02	6.2600e-003
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	1.9800e-004	0.00
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	OBUS	7.0640e-003	7.4580e-003
tblVehicleEF	OBUS	3.6240e-003	9.2750e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.58	0.51
tblVehicleEF	OBUS	0.43	0.49
tblVehicleEF	OBUS	1.84	1.96
tblVehicleEF	OBUS	92.66	85.71
tblVehicleEF	OBUS	1,326.08	1,388.86
tblVehicleEF	OBUS	15.18	15.49
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.13	0.16
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.38	0.37
tblVehicleEF	OBUS	1.47	1.01
tblVehicleEF	OBUS	1.09	0.98
tblVehicleEF	OBUS	1.2200e-004	4.2300e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	7.3930e-003	0.02
tblVehicleEF	OBUS	1.4500e-004	1.3400e-004
tblVehicleEF	OBUS	1.1700e-004	4.0500e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	7.0600e-003	0.02

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	OBUS	1.3300e-004	1.2400e-004
tblVehicleEF	OBUS	1.0900e-003	0.07
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.04
tblVehicleEF	OBUS	4.8500e-004	0.00
tblVehicleEF	OBUS	0.02	0.05
tblVehicleEF	OBUS	0.04	0.08
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	OBUS	8.8000e-004	8.1100e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.5000e-004	1.5300e-004
tblVehicleEF	OBUS	1.0900e-003	0.07
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.05
tblVehicleEF	OBUS	4.8500e-004	0.00
tblVehicleEF	OBUS	0.03	0.06
tblVehicleEF	OBUS	0.04	0.08
tblVehicleEF	OBUS	0.10	0.10
tblVehicleEF	SBUS	0.05	0.07
tblVehicleEF	SBUS	6.0180e-003	0.09
tblVehicleEF	SBUS	4.9720e-003	4.8000e-003
tblVehicleEF	SBUS	2.27	1.65
tblVehicleEF	SBUS	0.49	0.88
tblVehicleEF	SBUS	0.72	0.66
tblVehicleEF	SBUS	346.78	189.38
tblVehicleEF	SBUS	1,049.23	1,027.72
tblVehicleEF	SBUS	4.12	3.73
tblVehicleEF	SBUS	0.05	0.03
tblVehicleEF	SBUS	0.13	0.13

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	SBUS	4.7550e-003	4.2250e-003
tblVehicleEF	SBUS	3.44	1.39
tblVehicleEF	SBUS	4.65	2.57
tblVehicleEF	SBUS	0.86	0.48
tblVehicleEF	SBUS	3.6120e-003	1.3090e-003
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	4.8000e-005	4.0000e-005
tblVehicleEF	SBUS	3.4560e-003	1.2520e-003
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.7190e-003	2.6500e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	4.4000e-005	3.6000e-005
tblVehicleEF	SBUS	5.6700e-004	0.03
tblVehicleEF	SBUS	5.5090e-003	7.3010e-003
tblVehicleEF	SBUS	0.25	0.18
tblVehicleEF	SBUS	2.4700e-004	0.00
tblVehicleEF	SBUS	0.08	0.06
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	3.3010e-003	1.7230e-003
tblVehicleEF	SBUS	0.01	9.5530e-003
tblVehicleEF	SBUS	4.1000e-005	3.7000e-005
tblVehicleEF	SBUS	5.6700e-004	0.03
tblVehicleEF	SBUS	5.5090e-003	7.3010e-003
tblVehicleEF	SBUS	0.36	0.30
tblVehicleEF	SBUS	2.4700e-004	0.00
tblVehicleEF	SBUS	0.10	0.16

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	UBUS	1.35	0.35
tblVehicleEF	UBUS	1.5380e-003	3.7340e-003
tblVehicleEF	UBUS	10.12	4.17
tblVehicleEF	UBUS	0.14	0.53
tblVehicleEF	UBUS	1,597.16	1,098.80
tblVehicleEF	UBUS	1.39	3.20
tblVehicleEF	UBUS	0.26	0.17
tblVehicleEF	UBUS	1.0770e-003	6.2180e-003
tblVehicleEF	UBUS	0.73	0.33
tblVehicleEF	UBUS	0.01	0.04
tblVehicleEF	UBUS	0.07	0.11
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	5.3280e-003	6.2290e-003
tblVehicleEF	UBUS	1.5000e-005	1.2000e-005
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	8.3320e-003	8.1710e-003
tblVehicleEF	UBUS	5.0960e-003	5.9560e-003
tblVehicleEF	UBUS	1.4000e-005	1.1000e-005
tblVehicleEF	UBUS	2.1000e-005	9.8940e-003
tblVehicleEF	UBUS	1.6100e-004	3.3030e-003
tblVehicleEF	UBUS	9.0000e-006	0.00
tblVehicleEF	UBUS	0.02	0.06
tblVehicleEF	UBUS	2.9000e-005	7.9870e-003
tblVehicleEF	UBUS	6.4070e-003	0.01
tblVehicleEF	UBUS	0.01	9.4250e-003
tblVehicleEF	UBUS	1.4000e-005	3.2000e-005
tblVehicleEF	UBUS	2.1000e-005	9.8940e-003

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	UBUS	1.6100e-004	3.3030e-003
tblVehicleEF	UBUS	9.0000e-006	0.00
tblVehicleEF	UBUS	1.38	0.42
tblVehicleEF	UBUS	2.9000e-005	7.9870e-003
tblVehicleEF	UBUS	7.0150e-003	0.01
tblVehicleTrips	ST_TR	1.90	1.72
tblVehicleTrips	SU_TR	1.11	1.00
tblVehicleTrips	WD_TR	11.26	10.18
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

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					
2023	1.184	0.6182	0.5849	1.1100e-003	0.0769	0.0272	0.1041	0.0323	0.0253	0.0576	0.0000	95.5173	95.5173	0.0284	0.0000	96.2275

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Maximum	**1.1840**	**0.6182**	**0.5849**	**1.1100e-003**	**0.0769**	**0.0272**	**0.1041**	**0.0323**	**0.0253**	**0.0576**	**0.0000**	**95.5173**	**95.5173**	**0.0284**	**0.0000**	**96.2275**

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					
2023	1.1840	0.6182	0.5848	1.1100e-003	0.0769	0.0272	0.1041	0.0323	0.0253	0.0576	0.0000	95.5172	95.5172	0.0284	0.0000	96.2274
Maximum	**1.1840**	**0.6182**	**0.5848**	**1.1100e-003**	**0.0769**	**0.0272**	**0.1041**	**0.0323**	**0.0253**	**0.0576**	**0.0000**	**95.5172**	**95.5172**	**0.0284**	**0.0000**	**96.2274**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-2-2023**	**4-1-2023**	0.2862	0.2862
2	**4-2-2023**	**7-1-2023**	0.1422	0.1422
3	**7-2-2023**	**9-30-2023**	0.1489	0.1489
		Highest	0.2862	0.2862

2.2 Overall Operational

Unmitigated Operational

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Area	0.9342	4.0000e-005	4.4900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.7400e-003	8.7400e-003	2.0000e-005	0.0000	9.3100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	268.7212	268.7212	0.0498	6.0400e-003	271.7662
Mobile	0.9968	0.7435	6.6956	0.0147	1.3529	0.0105	1.3634	0.3374	9.8000e-003	0.3472	0.0000	1,359.6934	1,359.6934	0.0745	0.0641	1,380.6439
Stationary	0.0189	0.0528	0.0481	9.0000e-005		2.7800e-003	2.7800e-003		2.7800e-003	2.7800e-003	0.0000	8.7583	8.7583	1.2300e-003	0.0000	8.7890
Waste						0.0000	0.0000		0.0000	0.0000	3.2093	0.0000	3.2093	0.1897	0.0000	7.9509
Water						0.0000	0.0000		0.0000	0.0000	36.1841	44.6809	80.8650	0.1328	0.0797	107.9340
Total	**1.9498**	**0.7962**	**6.7482**	**0.0148**	**1.3529**	**0.0133**	**1.3662**	**0.3374**	**0.0126**	**0.3500**	**39.3934**	**1,681.8625**	**1,721.2559**	**0.4480**	**0.1498**	**1,777.0933**

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	0.9342	4.0000e-005	4.4900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.7400e-003	8.7400e-003	2.0000e-005	0.0000	9.3100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	268.7212	268.7212	0.0498	6.0400e-003	271.7662
Mobile	0.9968	0.7435	6.6956	0.0147	1.3529	0.0105	1.3634	0.3374	9.8000e-003	0.3472	0.0000	1,359.6934	1,359.6934	0.0745	0.0641	1,380.6439
Stationary	0.0189	0.0528	0.0481	9.0000e-005		2.7800e-003	2.7800e-003		2.7800e-003	2.7800e-003	0.0000	8.7583	8.7583	1.2300e-003	0.0000	8.7890
Waste						0.0000	0.0000		0.0000	0.0000	3.2093	0.0000	3.2093	0.1897	0.0000	7.9509

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Water						0.0000	0.0000		0.0000	0.0000	36.1841	44.6809	80.8650	0.1328	0.0797	107.9340
Total	**1.9498**	**0.7962**	**6.7482**	**0.0148**	**1.3529**	**0.0133**	**1.3662**	**0.3374**	**0.0126**	**0.3500**	**39.3934**	**1,681.8625**	**1,721.2559**	**0.4480**	**0.1498**	**1,777.0933**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2023	1/13/2023	5	10	
2	Grading	Grading	1/16/2023	2/24/2023	5	30	
3	Trenching	Trenching	2/27/2023	4/7/2023	5	30	
4	Building Construction	Building Construction	4/10/2023	10/27/2023	5	145	
5	Architectural Coating	Architectural Coating	10/30/2023	11/24/2023	5	20	
6	Paving	Paving	11/27/2023	12/29/2023	5	25	

Acres of Grading (Site Preparation Phase): 3.38

Acres of Grading (Grading Phase): 37.5

Acres of Paving: 1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 312,000; Non-Residential Outdoor: 104,000; Striped Parking Area: 9,075

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	4.00	158	0.38
Grading	Graders	2	4.00	187	0.41

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Rubber Tired Dozers	2	2.00	247	0.40
Grading	Scrapers	2	2.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Site Preparation	Graders	1	3.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	2.40	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	1.20	97	0.37
Architectural Coating	Aerial Lifts	1	4.50	63	0.31
Architectural Coating	Air Compressors	1	2.50	78	0.48
Paving	Cement and Mortar Mixers	1	0.80	9	0.56
Paving	Pavers	2	1.20	130	0.42
Paving	Paving Equipment	2	2.40	132	0.36
Paving	Rollers	2	1.60	80	0.38
Paving	Tractors/Loaders/Backhoes	1	1.20	97	0.37
Trenching	Excavators	2	4.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Building Construction	Cranes	1	3.40	231	0.29
Building Construction	Forklifts	3	2.10	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	1.70	97	0.37
Building Construction	Welders	2	3.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	10	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Trenching	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2023

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					0.0108	0.0000	0.0108	5.1600e-003	0.0000	5.1600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0217	0.0112	3.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	2.6258	2.6258	8.5000e-004	0.0000	2.6471
Total	**1.9700e-003**	**0.0217**	**0.0112**	**3.0000e-005**	**0.0108**	**8.8000e-004**	**0.0117**	**5.1600e-003**	**8.1000e-004**	**5.9700e-003**	**0.0000**	**2.6258**	**2.6258**	**8.5000e-004**	**0.0000**	**2.6471**

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

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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 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					0.0108	0.0000	0.0108	5.1600e-003	0.0000	5.1600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9700e-003	0.0217	0.0112	3.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	2.6258	2.6258	8.5000e-004	0.0000	2.6471
Total	**1.9700e-003**	**0.0217**	**0.0112**	**3.0000e-005**	**0.0108**	**8.8000e-004**	**0.0117**	**5.1600e-003**	**8.1000e-004**	**5.9700e-003**	**0.0000**	**2.6258**	**2.6258**	**8.5000e-004**	**0.0000**	**2.6471**

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

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Grading - 2023

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					0.0661	0.0000	0.0661	0.0271	0.0000	0.0271	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0208	0.2201	0.1603	3.8000e-004		8.8100e-003	8.8100e-003		8.1100e-003	8.1100e-003	0.0000	33.2072	33.2072	0.0107	0.0000	33.4757
Total	**0.0208**	**0.2201**	**0.1603**	**3.8000e-004**	**0.0661**	**8.8100e-003**	**0.0749**	**0.0271**	**8.1100e-003**	**0.0352**	**0.0000**	**33.2072**	**33.2072**	**0.0107**	**0.0000**	**33.4757**

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

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**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 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					0.0661	0.0000	0.0661	0.0271	0.0000	0.0271	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0208	0.2201	0.1603	3.8000e-004		8.8100e-003	8.8100e-003		8.1100e-003	8.1100e-003	0.0000	33.2072	33.2072	0.0107	0.0000	33.4757
Total	**0.0208**	**0.2201**	**0.1603**	**3.8000e-004**	**0.0661**	**8.8100e-003**	**0.0749**	**0.0271**	**8.1100e-003**	**0.0352**	**0.0000**	**33.2072**	**33.2072**	**0.0107**	**0.0000**	**33.4757**

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

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Trenching - 2023

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	4.5300e-003	0.0405	0.0740	1.1000e-004		1.9900e-003	1.9900e-003		1.8300e-003	1.8300e-003	0.0000	9.8832	9.8832	3.2000e-003	0.0000	9.9631
Total	**4.5300e-003**	**0.0405**	**0.0740**	**1.1000e-004**		**1.9900e-003**	**1.9900e-003**		**1.8300e-003**	**1.8300e-003**	**0.0000**	**9.8832**	**9.8832**	**3.2000e-003**	**0.0000**	**9.9631**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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 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	4.5300e-003	0.0405	0.0740	1.1000e-004		1.9900e-003	1.9900e-003		1.8300e-003	1.8300e-003	0.0000	9.8832	9.8832	3.2000e-003	0.0000	9.9631
Total	**4.5300e-003**	**0.0405**	**0.0740**	**1.1000e-004**		**1.9900e-003**	**1.9900e-003**		**1.8300e-003**	**1.8300e-003**	**0.0000**	**9.8832**	**9.8832**	**3.2000e-003**	**0.0000**	**9.9631**

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	0.0000	0.0000	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**

Date: 8/3/2022 11:37 AM

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

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	0.0352	0.2969	0.2819	5.0000e-004		0.0136	0.0136		0.0128	0.0128	0.0000	41.9520	41.9520	0.0114	0.0000	42.2364
Total	**0.0352**	**0.2969**	**0.2819**	**5.0000e-004**		**0.0136**	**0.0136**		**0.0128**	**0.0128**	**0.0000**	**41.9520**	**41.9520**	**0.0114**	**0.0000**	**42.2364**

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	0.0000	0.0000	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**

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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	0.0352	0.2969	0.2819	5.0000e-004		0.0136	0.0136		0.0128	0.0128	0.0000	41.9520	41.9520	0.0114	0.0000	42.2363
Total	**0.0352**	**0.2969**	**0.2819**	**5.0000e-004**		**0.0136**	**0.0136**		**0.0128**	**0.0128**	**0.0000**	**41.9520**	**41.9520**	**0.0114**	**0.0000**	**42.2363**

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	0.0000	0.0000	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**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

Date: 8/3/2022 11:37 AM

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Archit. Coating	1.1161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9000e-004	8.4300e-003	0.0137	2.0000e-005		3.5000e-004	3.5000e-004		3.4000e-004	3.4000e-004	0.0000	1.8937	1.8937	3.3000e-004	0.0000	1.9020
Total	**1.1171**	**8.4300e-003**	**0.0137**	**2.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**1.8937**	**1.8937**	**3.3000e-004**	**0.0000**	**1.9020**

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	0.0000	0.0000	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 On-Site

Date: 8/3/2022 11:37 AM

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Archit. Coating	1.1161					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9000e-004	8.4300e-003	0.0137	2.0000e-005		3.5000e-004	3.5000e-004		3.4000e-004	3.4000e-004	0.0000	1.8937	1.8937	3.3000e-004	0.0000	1.9020
Total	**1.1171**	**8.4300e-003**	**0.0137**	**2.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.4000e-004**	**3.4000e-004**	**0.0000**	**1.8937**	**1.8937**	**3.3000e-004**	**0.0000**	**1.9020**

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	0.0000	0.0000	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**

3.7 Paving - 2023

Unmitigated Construction On-Site

Date: 8/3/2022 11:37 AM

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Off-Road	3.1300e-003	0.0305	0.0438	7.0000e-005		1.5200e-003	1.5200e-003		1.4000e-003	1.4000e-003	0.0000	5.9554	5.9554	1.9100e-003	0.0000	6.0032
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.4400e-003**	**0.0305**	**0.0438**	**7.0000e-005**		**1.5200e-003**	**1.5200e-003**		**1.4000e-003**	**1.4000e-003**	**0.0000**	**5.9554**	**5.9554**	**1.9100e-003**	**0.0000**	**6.0032**

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	0.0000	0.0000	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 On-Site

Date: 8/3/2022 11:37 AM

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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					
Off-Road	3.1300e-003	0.0305	0.0438	7.0000e-005		1.5200e-003	1.5200e-003		1.4000e-003	1.4000e-003	0.0000	5.9554	5.9554	1.9100e-003	0.0000	6.0032
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.4400e-003**	**0.0305**	**0.0438**	**7.0000e-005**		**1.5200e-003**	**1.5200e-003**		**1.4000e-003**	**1.4000e-003**	**0.0000**	**5.9554**	**5.9554**	**1.9100e-003**	**0.0000**	**6.0032**

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	0.0000	0.0000	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**

4.0 Operational Detail - Mobile

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.9968	0.7435	6.6956	0.0147	1.3529	0.0105	1.3634	0.3374	9.8000e-003	0.3472	0.0000	1,359.6934	1,359.6934	0.0745	0.0641	1,380.6439
Unmitigated	0.9968	0.7435	6.6956	0.0147	1.3529	0.0105	1.3634	0.3374	9.8000e-003	0.3472	0.0000	1,359.6934	1,359.6934	0.0745	0.0641	1,380.6439

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Research & Development	2,117.44	357.76	208.00	3,993,154	3,993,154
Total	2,117.44	357.76	208.00	3,993,154	3,993,154

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Other Asphalt Surfaces	0.531160	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666
Parking Lot	0.531160	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666
Research & Development	0.531160	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666

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	268.7212	268.7212	0.0498	6.0400e-003	271.7662
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	268.7212	268.7212	0.0498	6.0400e-003	271.7662
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

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

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	kBTU/yr	tons/yr										MT/yr					
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
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
Research & Development	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
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**

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					
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
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
Research & Development	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
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**

5.3 Energy by Land Use - Electricity

Unmitigated

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	37691.5	3.0432	5.6000e-004	7.0000e-005	3.0777
Research & Development	3.29056e+006	265.6780	0.0493	5.9700e-003	268.6885
Total		**268.7212**	**0.0498**	**6.0400e-003**	**271.7662**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	37691.5	3.0432	5.6000e-004	7.0000e-005	3.0777
Research & Development	3.29056e+006	265.6780	0.0493	5.9700e-003	268.6885
Total		**268.7212**	**0.0498**	**6.0400e-003**	**271.7662**

6.0 Area Detail

6.1 Mitigation Measures Area

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	0.9342	4.0000e-005	4.4900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.7400e-003	8.7400e-003	2.0000e-005	0.0000	9.3100e-003
Unmitigated	0.9342	4.0000e-005	4.4900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.7400e-003	8.7400e-003	2.0000e-005	0.0000	9.3100e-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	0.1116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8221					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.1000e-004	4.0000e-005	4.4900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.7400e-003	8.7400e-003	2.0000e-005	0.0000	9.3100e-003
Total	**0.9341**	**4.0000e-005**	**4.4900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.7400e-003**	**8.7400e-003**	**2.0000e-005**	**0.0000**	**9.3100e-003**

Mitigated

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1116					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8221					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.1000e-004	4.0000e-005	4.4900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.7400e-003	8.7400e-003	2.0000e-005	0.0000	9.3100e-003
Total	**0.9341**	**4.0000e-005**	**4.4900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**8.7400e-003**	**8.7400e-003**	**2.0000e-005**	**0.0000**	**9.3100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	80.8650	0.1328	0.0797	107.9340
Unmitigated	80.8650	0.1328	0.0797	107.9340

7.2 Water by Land Use

Date: 8/3/2022 11:37 AM

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	102.272 / 0	80.8650	0.1328	0.0797	107.9340
Total		**80.8650**	**0.1328**	**0.0797**	**107.9340**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	102.272 / 0	80.8650	0.1328	0.0797	107.9340
Total		**80.8650**	**0.1328**	**0.0797**	**107.9340**

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.2093	0.1897	0.0000	7.9509
Unmitigated	3.2093	0.1897	0.0000	7.9509

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	15.81	3.2093	0.1897	0.0000	7.9509
Total		**3.2093**	**0.1897**	**0.0000**	**7.9509**

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	15.81	3.2093	0.1897	0.0000	7.9509
Total		**3.2093**	**0.1897**	**0.0000**	**7.9509**

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
Emergency Generator	1	0	50	460	0.73	Diesel

Boilers

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

User Defined Equipment

350-370 W Trimble, San Jose - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600 - 900 HP)	0.0189	0.0528	0.0481	9.0000e-005		2.7800e-003	2.7800e-003		2.7800e-003	2.7800e-003	0.0000	8.7583	8.7583	1.2300e-003	0.0000	8.7890
Total	**0.0189**	**0.0528**	**0.0481**	**9.0000e-005**		**2.7800e-003**	**2.7800e-003**		**2.7800e-003**	**2.7800e-003**	**0.0000**	**8.7583**	**8.7583**	**1.2300e-003**	**0.0000**	**8.7890**

11.0 Vegetation

Attachment 2: EMFAC2021 Calculations

Summary of Construction Traffic Emissions (EMFAC2021)

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4	N2O	CO2e
					Tons							*Metric Tons*		
Criteria Pollutants														
2023	0.0378	0.3050	0.4646	0.0025	0.1118	0.0197	0.1315	0.0168	0.0083	0.0251	247.3219	0.0149	0.0295	256.4965

CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Site Preparation	10	0	100	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1080	0	0
Grading	25	0	750	0	2,329	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	8100	0	46580
Trenching	10	0	300	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3240	0	0
Building Construction	130	59	18850	8555	170	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	203580	62451.5	1241
Architectural Coating	26	0	520	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	5616	0	0
Paving	20	0	500	0	280	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	5400	0	2044

Number of Days Per Year					
2023	1/2/23	12/29/23	362	275	
			362	**275**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Site Preparation	1/2/2023	1/13/2023	5	10
Grading	1/16/2023	2/24/2023	5	30
Trenching	2/27/2023	4/7/2023	5	30
Building Construction	4/10/2023	10/27/2023	5	145
Architectural Coating	10/30/2023	11/24/2023	5	20
Paving	11/27/2023	12/29/2023	5	25

Category		Mix %	Adj	ROG_DIURN	ROG_HTSK	ROG_IDLEX	ROG_RESTL	ROG_RUNEX	ROG_RUNLS	ROG_STREX	NOX_IDLEX	NOX_RUNEX	NOX_STREX	CO_IDLEX	CO_RUNEX	CO_STREX	SO2_IDLEX	SO2_RUNEX	SO2_STREX	Road Dust PM10	PM10_PM BW	PM10_PM TW	PM10_IDLEX	PM10_RUNEX	PM10_STREX	Road Dust PM25	PM25_PM BW	PM25_PM TW	PM25_IDLEX	PM25_RUNEX	PM25_STREX	CO2_NBIO_IDLEX	CO2_NBIO_RUNEX	CO2_NBIO_STREX	CH4_IDLEX	CH4_RUNEX	CH4_STREX	N2O_IDLEX	N2O_RUNEX	N2O_STREX
																														19	22	23	8	9	10						
Hauling	HHDT	100.0	1	0.000287604	8.55424E-05	0.332404817	0	0.01953334	0.00077057	5.28839E-07	4.1629787	1.930480649	2.692504026	5.211988	0.79481483	0.000555	0.00746083	0.01488345	2.65981E-07		0.081444	0.035123	0.002283	0.025833	9.98684E-07		0.028506	0.008781	0.002179	0.0247116	9.183E-07	850.51039	1643.0479	0.0269048	0.235881	0.125647179	9.74075E-08	0.136898	0.262148415	2.46823E-05
	MHD	0.0	0	0.028424515	0.006961572	0.027529656	0	0.04434978	0.05660825	0.052337336	0.9240436	1.219274528	1.396113281	0.673566	0.40377012	1.152494	0.00150213	0.011767743	8.73526E-05	0.299	0.045469	0.012	0.002542	0.014931	0.000112942	0.04499	0.015914	0.003	0.002431	0.0142769	0.0001038	161.33734	1239.5984	8.8359741	0.012943	0.009906777	0.009245497	0.024829	0.159885109	0.006096523
Vendor	HHDT	50.0	0.5	0.000143802	4.27712E-05	0.166202408	0	0.00976667	0.00038529	2.6442E-07	2.0814893	0.965240325	1.346252013	2.605994	0.39740742	0.000277	0.00373041	0.007441725	1.32991E-07		0.040722	0.017561	0.001142	0.012916	4.99342E-07		0.014253	0.00439	0.001089	0.0123558	4.591E-07	425.2552	821.52395	0.0134524	0.11794	0.06282359	4.87037E-08	0.068449	0.131074208	1.23411E-05
	MHD	50.0	0.5	0.014212257	0.003480786	0.013764828	0	0.02217489	0.02830413	0.026168668	0.4620218	0.609637264	0.698056641	0.336783	0.20188506	0.576247	0.00075106	0.005883871	4.36763E-05		0.022735	0.006	0.001271	0.007465	5.64711E-05		0.007957	0.0015	0.001216	0.0071384	5.192E-05	80.66867	619.79918	4.417987	0.006471	0.004953388	0.004622749	0.012414	0.079942554	0.003048262
		1		0.01435606	0.003523557	0.179967236	0	0.03194156	0.02868941	0.026168932	2.5435111	1.574877589	2.044308654	2.942777	0.59929248	0.576524	0.00448148	0.013325596	4.38093E-05	0.299	0.063457	0.023561	0.002413	0.020382	5.69705E-05	0.04499	0.02221	0.00589	0.002305	0.0194942	5.238E-05	505.92387	1441.3231	4.4314394	0.124412	0.067776978	0.004622797	0.080863	0.211016762	0.003060603
Worker	LDA	50.0	0.5	0.143306127	0.042683769	0	0	0.0045285	0.10768412	0.159592017	0	0.021192179	0.122461753	0	0.35031163	1.546631	0	0.001247244	0.00032278		0.0036	0.004	0	0.000614	0.000990927		0.00126	0.001	0	0.0005655	0.0009111	0	126.17319	32.650143	0	0.001154545	0.034539145	0	0.00224937	0.015441065
	LDT1	25.0	0.25	0.156677436	0.04332923	0	0	0.0077825	0.12516577	0.145126689	0	0.035722679	0.100614187	0	0.38639467	1.408382	0	0.000818289	0.000217331		0.002307	0.002	0	0.000514	0.000767762		0.000807	0.0005	0	0.0004735	0.000706	0	82.773349	21.983712	0	0.00173807	0.028010471	0	0.00255413	0.009913954
	LDT2	25.0	0.25	0.074138692	0.021036563	0	0	0.00307324	0.05534742	0.101569939	0	0.019062039	0.088569484	0	0.22117906	0.96209	0	0.000853405	0.000219425		0.002219	0.002	0	0.000345	0.000540097		0.000777	0.0005	0	0.0003173	0.0004966	0	86.33608	22.19552	0	0.000769908	0.021709383	0	0.001616766	0.009562758
			1	0.374122256	0.107049562	0	0	0.015382	0.28819731	0.406288645	0	0.075976897	0.311645425	0	0.95808537	3.917103	0	0.002918938	0.000759537	0.299	0.008126	0.008	0	0.001473	0.002298785	0.04499	0.002844	0.002	0	0.0013563	0.0021137	0	295.28262	76.829375	0	0.003662524	0.084258998	0	0.006420266	0.034917777

CalEEMod EMFAC2021 Emission Factors Input — Year 2024

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005369	0.003158	0.013383	0.232934116	0.007458	0	0	0.074531	0
A	CH4_RUNEX	0.002053	0.006222	0.002818	0.00375	0.008195	0.006967	0.009658	0.121678903	0.009275	0.353982676	0.162609	0.091035	0.012488
A	CH4_STREX	0.06472	0.104817	0.081929	0.09875	0.022831	0.012442	0.008773	8.02769E-08	0.017671	0.00373411	0.181972	0.0048	0.026745
A	CO_IDLEX	0	0	0	0	0.196553	0.142433	0.671381	5.195559849	0.514566	0	0	1.654918	0
A	CO_RUNEX	0.649736	1.418728	0.829336	0.94329	0.900659	0.571321	0.346173	0.774886828	0.491534	4.169725719	12.6697	0.884386	1.294901
A	CO_STREX	2.891746	5.224818	3.623598	3.897928	2.161459	1.21759	1.07433	0.000626211	1.960551	0.531545824	8.002987	0.664389	2.491606
A	CO2_NBIO_IDLEX	0	0	0	0	8.718619	13.77168	160.2598	832.3166934	85.70845	0	0	189.3786	0
A	CO2_NBIO_RUNEX	245.0824	325.3768	336.518	405.8146	782.6209	827.3106	1229.181	1617.129696	1388.863	1098.799805	187.743	1027.722	1686.59
A	CO2_NBIO_STREX	63.50921	85.97601	86.38427	103.3242	17.83745	9.92491	8.529312	0.019573043	15.49228	3.203569186	48.37697	3.726088	22.54937
A	NOX_IDLEX	0	0	0	0	0.048387	0.092995	0.892859	4.075118036	0.365684	0	0	1.387931	0
A	NOX_RUNEX	0.037369	0.127832	0.068032	0.098516	0.66417	0.895916	1.112922	1.850604526	1.007061	0.328284112	0.571344	2.57268	1.5351
A	NOX_STREX	0.230953	0.379266	0.329632	0.414782	0.44074	0.241786	1.407896	2.731408381	0.979918	0.039644426	0.135477	0.480958	0.299202
A	PM10_IDLEX	0	0	0	0	0.000681	0.001371	0.002128	0.002182492	0.000423	0	0	0.001309	0
A	PM10_PMBW	0.007168	0.009226	0.008866	0.009	0.077823	0.090794	0.045399	0.08129752	0.049798	0.11066361	0.012	0.044858	0.044947
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009414	0.010658	0.012	0.035125425	0.012	0.032683644	0.004	0.0106	0.013206
A	PM10_RUNEX	0.001171	0.001927	0.001333	0.001373	0.014027	0.022761	0.012985	0.025474433	0.015841	0.006229362	0.001902	0.013303	0.03019
A	PM10_STREX	0.00191	0.002898	0.002108	0.002161	0.000227	0.000101	0.000107	6.09682E-07	0.000134	1.21066E-05	0.003456	3.95E-05	0.000313
A	PM25_IDLEX	0	0	0	0	0.000651	0.001311	0.002035	0.002082052	0.000405	0	0	0.001252	0
A	PM25_PMBW	0.002509	0.003229	0.003103	0.00315	0.027238	0.031778	0.01589	0.028454132	0.017429	0.038732263	0.0042	0.0157	0.015732
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002354	0.002664	0.003	0.008781356	0.003	0.008170911	0.001	0.00265	0.003301
A	PM25_RUNEX	0.001078	0.001774	0.001226	0.001266	0.01338	0.021758	0.012415	0.0243688	0.015147	0.005956092	0.001779	0.012712	0.028836
A	PM25_STREX	0.001756	0.002665	0.001938	0.001987	0.000209	9.28E-05	9.82E-05	5.6058E-07	0.000124	1.11315E-05	0.003248	3.63E-05	0.000288
A	ROG_DIURN	0.273594	0.595257	0.288173	0.350288	0.128573	0.066802	0.025795	0.000195977	0.069031	0.00989389	3.900294	0.027017	32.73442
A	ROG_HTSK	0.08102	0.164422	0.0806	0.094021	0.032798	0.017191	0.00626	5.82846E-05	0.0166	0.00330336	3.559276	0.007301	8.700008
A	ROG_IDLEX	0	0	0	0	0.021942	0.01599	0.026359	0.329789936	0.040067	0	0	0.181581	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.007886	0.027617	0.0111	0.015872	0.087722	0.115408	0.038113	0.018605536	0.047576	0.063024567	1.062175	0.055863	0.083758
A	ROG_RUNLS	0.204737	0.46982	0.214357	0.266704	0.182065	0.092651	0.050964	0.000525006	0.075921	0.007986926	3.75283	0.017605	0.204308
A	ROG_STREX	0.295072	0.536464	0.379183	0.493019	0.113203	0.061169	0.048943	4.36152E-07	0.093584	0.013264046	1.345317	0.027327	0.113367
A	SO2_IDLEX	0	0	0	0	8.49E-05	0.000132	0.00149	0.007280347	0.000811	0	0	0.001723	0
A	SO2_RUNEX	0.002423	0.003217	0.003326	0.004009	0.007645	0.007972	0.011664	0.014635772	0.013275	0.009424712	0.001856	0.009553	0.01654
A	SO2_STREX	0.000628	0.00085	0.000854	0.001021	0.000176	9.81E-05	8.43E-05	1.93499E-07	0.000153	3.16705E-05	0.000478	3.68E-05	0.000223
A	TOG_DIURN	0.273594	0.595257	0.288173	0.350288	0.128573	0.066802	0.025795	0.000195977	0.069031	0.00989389	0.086215	0.027017	32.73442
A	TOG_HTSK	0.08102	0.164422	0.0806	0.094021	0.032798	0.017191	0.00626	5.82846E-05	0.0166	0.00330336	3.559276	0.007301	8.700008
A	TOG_IDLEX	0	0	0	0	0.031162	0.021623	0.043266	0.594148623	0.053137	0	0	0.296054	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.011489	0.040276	0.016182	0.023096	0.108455	0.134423	0.053054	0.142671417	0.063874	0.424552446	1.276951	0.155502	0.11065
A	TOG_RUNLS	0.204737	0.46982	0.214357	0.266704	0.182065	0.092651	0.050964	0.000525006	0.075921	0.007986926	3.75283	0.017605	0.204308
A	TOG_STREX	0.323066	0.58736	0.415158	0.539792	0.123943	0.066973	0.053586	4.77531E-07	0.102462	0.014522461	1.462608	0.029919	0.124122
A	N2O_IDLEX	0	0	0	0	0.00064	0.00168	0.024689	0.134071724	0.012191	0	0	0.02511	0
A	N2O_RUNEX	0.004162	0.009375	0.006016	0.008341	0.04145	0.08248	0.15825	0.258076714	0.157784	0.166507004	0.039558	0.128269	0.069357
A	N2O_STREX	0.029881	0.038494	0.03679	0.03974	0.035265	0.019211	0.006032	1.94763E-05	0.015206	0.006218272	0.00802	0.004225	0.031398

CalEEMod EMFAC2021 Fleet Mix Input

Year 2024

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.53116	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666
Parking Lot	0.53116	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666
Research & Development	0.53116	0.041583	0.227794	0.127091	0.023141	0.005641	0.009358	0.007307	0.001055	0.000417	0.022105	0.000682	0.002666

Adjustment Factors

Vehicle Category	Fuel	Population	Pop Fract	VMT (miles/day)	VMT Fract	Trips/day	Trip Fract
HHDT	GAS	2.58870796	1.95479E-05	115.1525769	0.0001088	51.79486882	0.000391
HHDT	DSL	8486.69344	0.064085007	1001095.457	0.9456821	124748.3826	0.942004
HHDT	ELEC	28.3303862	0.000213929	2794.260589	0.0026396	378.794564	0.00286
HHDT	NG	794.400964	0.005998707	54591.27048	0.0515695	7249.716942	0.054744
		9312.0135		1058596.14		132428.689	
LDA	GAS	600108.166	0.190572388	22290343.74	0.8713379	2786616.833	0.884928
LDA	DSL	1750.02352	0.000555743	51573.47594	0.002016	7442.609511	0.002364
LDA	ELEC	57627.4034	0.018300354	2472767.413	0.0966614	282732.9828	0.089786
LDA	PIH	17457.0988	0.005543736	767059.2064	0.0299846	72185.10346	0.022923
		676942.692		25581743.84		3148977.529	
LDT1	GAS	52693.3661	0.22315027	1706864.169	0.9932977	234793.4065	0.994323
LDT1	DSL	23.4623252	9.93602E-05	343.9307557	0.0002001	66.44458855	0.000281
LDT1	ELEC	211.002813	0.000893572	8008.645616	0.0046606	994.4346051	0.004211
LDT1	PIH	67.6457784	0.000286472	3164.460326	0.0018415	279.7152939	0.001185
		52995.477		1718381.206		236134.001	
LDT2	GAS	285585.435	0.210271162	10322758.41	0.9820916	1336438.482	0.983994
LDT2	DSL	1015.45285	0.000747659	37944.25501	0.00361	4835.433637	0.00356
LDT2	ELEC	1597.56671	0.001176258	55532.59168	0.0052833	8150.926864	0.006001
LDT2	PIH	2116.57955	0.001558398	94757.7077	0.0090151	8752.056437	0.006444
		290315.034		10510992.96		1358176.899	
LHDT1	GAS	19314.1424	0.046441179	722529.3133	0.6418809	287751.9438	0.691904
LHDT1	DSL	10107.7368	0.024304222	398004.1011	0.353579	127142.6136	0.305717
LHDT1	ELEC	70.8283556	0.000170308	5110.544281	0.0045401	989.4272741	0.002379
		29492.7076	0.070915709	1125643.959		415883.9847	
LHDT2	GAS	2506.9057	0.026111	91452.57471	0.331033	37349.15959	0.389015
LHDT2	DSL	4663.45548	0.048572823	183558.3761	0.6644305	58660.40334	0.610985
LHDT2	ELEC	18.3325933	0.000190945	1253.286273	0.0045365	242.6680052	0.002528
		7188.69377	0.074874768	276264.2371		96009.56293	
MCY	GAS	28171.5095	0.022104648	166022.3441	1	56343.01906	1
MDV	GAS	156642.427	0.208531065	5468053.925	0.9650793	726101.0934	0.966626
MDV	DSL	2400.61454	0.003195831	86292.68513	0.0152302	11318.82209	0.015068
MDV	ELEC	1678.68445	0.002234758	58660.62986	0.0103533	8578.49571	0.01142
MDV	PIH	1250.85709	0.00166521	52904.03132	0.0093373	5172.294058	0.006886
		161972.583		5665911.271		751170.7052	
MH	GAS	2420.56984	7.121629885	22012.30271	0.6985681	242.1538069	0.712448
MH	DSL	977.36061	2.875521464	9498.302477	0.3014319	97.73606104	0.287552
		3397.93045		31510.60519		339.8898679	
MHDT	GAS	1414.55168	0.009216738	71600.35148	0.1399516	28302.34992	0.184409
MHDT	DSL	10390.528	0.067701153	434043.5933	0.8483911	123938.9566	0.807544
MHDT	ELEC	30.9160141	0.000201438	1660.353407	0.0032454	407.4535626	0.002655
MHDT	NG	90.5944854	0.000590283	4303.5812	0.0084119	827.6228005	0.005393
		11926.5902		511607.8794		153476.3829	
OBUS	GAS	443.146734	0.024493158	19894.31417	0.2414205	8866.47985	0.490059
OBUS	DSL	893.137556	0.049364596	61949.05075	0.7517609	9141.625389	0.505267
OBUS	ELEC	1.08748138	6.01062E-05	92.50104822	0.0011225	21.7583274	0.001203
OBUS	NG	7.05736996	0.000390068	469.3876372	0.0056961	62.81059268	0.003472
		1344.42914		82405.25361		18092.67416	
SBUS	GAS	172.694787	0.016022959	8584.865553	0.348885	690.7791473	0.064092
SBUS	DSL	670.595844	0.062219191	15345.26177	0.6236244	9710.227827	0.900934
SBUS	ELEC	2.06466629	0.000191564	64.35501341	0.0026154	23.64639413	0.002194
SBUS	NG	24.3995047	0.002263834	612.0940704	0.0248752	353.3048277	0.03278
		869.754802		24606.57641		10777.9582	
UBUS	GAS	46.0831322	0.021676301	4812.450683	0.0818022	184.3325287	0.086705
UBUS	DSL	437.474468	0.205776552	48917.60551	0.8315035	1749.897872	0.823106
UBUS	ELEC	5.34756545	0.031392036	235.0625504	0.0483152	21.3902618	0.125568
UBUS	NG	42.5869588	0.020031792	4865.187143	0.0826987	170.347835	0.080127
		531.492124		58830.30589		2125.968497	

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDL	PM10_STR	PM10_PM	PM10_PM	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2023	HHDT	Aggregate	Aggregate	Gasoline	3.454009	114.3093	114.3093	0	69.10781	8.107874	0	1.602501	0.00493	0	0.0017	0.005	0.035266	0.005362	0	0.001849	0.02	0.100759	2306.817	0	49.81185	0.340225	0	0.00018	0.208909	0	0.045697	2.104867	0	0.000979	0.158374	1.426645	10.65375	3.071416	0	0.001072	0.158374	1.426645	10.65375	0.040468	83.0074	0	1.02738	0.022805	0	0.000492
Santa Clara	2023	HHDT	Aggregate	Aggregate	Diesel	8235.059	991289	991289	0	120860.8	1.969368	63.40488	2.849455	0.025957	0.031631	0	0.008769	0.027531	0.027131	0.033061	0	0.035077	0.078661	1656.801	12241.32	0	0.000809	0.237446	0	0.26103	1.928625	0	0.017417	5.112156	0	0	0	0	0.019828	5.819801	0	0	0	0	0.214624	0.087393	74.20136	0	0.015689	0.115918	0
Santa Clara	2023	HHDT	Aggregate	Aggregate	Electricity	6.70171	411.5054	0	411.5054	103.2044	0	0	0	0	0	0	0	0	0	0	0	0.03496	0.038238	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	HHDT	Aggregate	Aggregate	Natural Ga	753.7366	53295.97	53295.97	0	6914.034	1.208444	13.92832	0	0.001774	0.024237	0	0.009	0.046729	0.001929	0.02636	0	0.036	0.133512	1398.51	10630.2	0	2.44811	37.44665	0	0.285095	2.167036	0	0.054572	0.572265	0	0	0	0	2.520799	38.25947	0	0	0	0	0.860105	13.78246	74.03965	0	0	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Gasoline	601938.3	22370251	22370251	0	2795479	0.047412	0	0.27189	0.001217	0	0.001992	0.002	0.002656	0.001323	0	0.002167	0.008	0.007588	281.43	0	71.66478	0.002603	0	0.076449	0.004995	0	0.034134	0.01016	0	0.353794	0.094758	0.240611	1.480552	0.014823	0	0.387359	0.094758	0.240611	1.480552	0.033781	0.787617	0	3.436611	0.002782	0	0.000708
Santa Clara	2023	LDA	Aggregate	Aggregate	Diesel	1871.125	56220.8	56220.8	0	8000.531	0.238318	0	0	0.018559	0	0	0.002	0.002698	0.019399	0	0	0.008	0.007709	234.426	0	0	0.001413	0	0	0.036934	0	0	0.030417	0	0	0	0	0	0.034627	0	0	0	0	0	0.0031	0.342459	0	0	0.002221	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Electricity	53751.15	2268185	0	2268185	265250.1	0	0	0	0	0	0	0.002	0.001532	0	0	0	0.008	0.004377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	15805.32	700610.9	356649.7	343961.3	65355	0.00334	0	0.11551	0.000664	0	0.002171	0.002	0.001373	0.000722	0	0.002361	0.008	0.003922	142.1102	0	66.08871	0.000457	0	0.042604	0.000605	0	0.020916	0.001444	0	0.173285	0.040642	0.036088	0.447056	0.002108	0	0.189725	0.040642	0.036088	0.447056	0.019705	0.219913	0	1.339893	0.001405	0	0.000653
Santa Clara	2023	LDT1	Aggregate	Aggregate	Gasoline	53782.25	1744480	1744480	0	239737.9	0.143293	0	0.404336	0.00185	0	0.002837	0.002	0.003239	0.002012	0	0.003085	0.008	0.009253	332.6535	0	88.31133	0.006987	0	0.112557	0.010257	0	0.039834	0.031222	0	0.583212	0.174145	0.503091	2.807011	0.045546	0	0.638542	0.174145	0.503091	2.807011	0.035775	1.553409	0	5.660037	0.003289	0	0.000873
Santa Clara	2023	LDT1	Aggregate	Aggregate	Diesel	26.04714	391.8698	391.8698	0	75.17737	1.659056	0	0	0.24041	0	0	0.002	0.003728	0.25128	0	0	0.008	0.010651	415.548	0	0	0.013928	0	0	0.06547	0	0	0.299852	0	0	0	0	0	0.341362	0	0	0	0	0	0.0031	1.601395	0	0	0.003938	0	0
Santa Clara	2023	LDT1	Aggregate	Aggregate	Electricity	194.8941	7068.184	0	7068.184	916.4832	0	0	0	0	0	0	0.002	0.00154	0	0	0	0.008	0.0044	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	43.27677	2048.369	944.1579	1104.211	178.9495	0.003025	0	0.11551	0.000387	0	0.00141	0.002	0.001383	0.000421	0	0.001534	0.008	0.003951	128.7649	0	70.86641	0.000412	0	0.042439	0.000544	0	0.020762	0.001308	0	0.173285	0.024584	0.021781	0.285922	0.001909	0	0.189725	0.024584	0.021781	0.285922	0.019359	0.199575	0	1.339893	0.001273	0	0.000701
Santa Clara	2023	LDT2	Aggregate	Aggregate	Gasoline	280180.4	10140967	10140967	0	1311796	0.077207	0	0.358346	0.001265	0	0.002003	0.002	0.003125	0.001375	0	0.002179	0.008	0.008929	348.3961	0	89.54446	0.003121	0	0.087759	0.006381	0	0.038646	0.012417	0	0.410727	0.085119	0.224187	1.404898	0.018118	0	0.449694	0.085119	0.224187	1.404898	0.035545	0.896823	0	3.892097	0.003444	0	0.000885
Santa Clara	2023	LDT2	Aggregate	Aggregate	Diesel	978.4967	36936.87	36936.87	0	4673.401	0.046157	0	0	0.005431	0	0	0.002	0.003102	0.005677	0	0	0.008	0.008863	313.0666	0	0	0.00065	0	0	0.049324	0	0	0.013984	0	0	0	0	0	0.015919	0	0	0	0	0	0.0031	0.132099	0	0	0.002966	0	0
Santa Clara	2023	LDT2	Aggregate	Aggregate	Electricity	1105.879	38931.7	0	38931.7	5663.051	0	0	0	0	0	0	0.002	0.001525	0	0	0	0.008	0.004357	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	1696.55	77270.66	37142.68	40127.98	7015.234	0.003154	0	0.11551	0.000504	0	0.001759	0.002	0.001378	0.000548	0	0.001913	0.008	0.003938	134.2545	0	77.03601	0.000429	0	0.042457	0.000568	0	0.020778	0.001364	0	0.173285	0.02624	0.024448	0.318232	0.00199	0	0.189725	0.02624	0.024448	0.318232	0.020144	0.207985	0	1.339893	0.001327	0	0.000762
Santa Clara	2023	LHDT1	Aggregate	Aggregate	Gasoline	19180.96	711085.5	711085.5	0	285767.8	0.197814	0.037373	0.6588	0.001595	0	0.000328	0.002	0.0273	0.001734	0	0.000356	0.008	0.078	889.7424	120.2664	25.83956	0.009485	0.115635	0.034516	0.011082	0.003012	0.051891	0.047656	0.428153	0.172233	0.050564	0.277601	2.913784	0.069539	0.62476	0.188574	0.050564	0.277601	2.913784	0.044872	1.225109	3.753425	3.080251	0.008796	0.001189	0.000255
Santa Clara	2023	LHDT1	Aggregate	Aggregate	Diesel	9807.465	384084.8	384084.8	0	123365.6	1.780633	2.029274	0	0.038253	0.026974	0	0.003	0.0273	0.039983	0.028193	0	0.012	0.078	635.427	132.908	0	0.008623	0.005098	0	0.100112	0.02094	0	0.185652	0.10976	0	0	0	0	0.211352	0.124954	0	0	0	0	0.16551	0.518876	0.909745	0	0.006021	0.001259	0
Santa Clara	2023	LHDT2	Aggregate	Aggregate	Gasoline	2494.382	90793.04	90793.04	0	37162.58	0.187016	0.036817	0.642061	0.001446	0	0.00026	0.002	0.03185	0.001572	0	0.000283	0.008	0.091	997.3845	138.7974	25.72325	0.007074	0.114568	0.033461	0.01097	0.002967	0.050452	0.033047	0.42203	0.165607	0.046993	0.25097	2.676301	0.048222	0.613826	0.181319	0.046993	0.25097	2.676301	0.044967	0.961891	3.759407	3.119312	0.00986	0.001372	0.000254
Santa Clara	2023	LHDT2	Aggregate	Aggregate	Diesel	4479.532	176769.2	176769.2	0	56346.87	1.416942	1.998258	0	0.034177	0.027026	0	0.003	0.03185	0.035723	0.028248	0	0.012	0.091	764.5039	212.1206	0	0.007824	0.005098	0	0.120448	0.03342	0	0.168448	0.10976	0	0	0	0	0.191767	0.124954	0	0	0	0	0.178982	0.44054	0.909745	0	0.007244	0.00201	0
Santa Clara	2023	MCY	Aggregate	Aggregate	Gasoline	27894.5	164894.5	164894.5	0	55788.99	0.586927	0	0.142374	0.001778	0	0.003413	0.001	0.0042	0.001899	0	0.003626	0.004	0.012	188.3093	0	49.59811	0.167622	0	0.187482	0.040223	0	0.008379	1.105923	0	1.392636	3.5601	3.745685	3.947874	1.324135	0	1.513873	3.5601	3.745685	3.947874	0.00876	13.08956	0	8.051197	0.001862	0	0.00049
Santa Clara	2023	MDV	Aggregate	Aggregate	Gasoline	153799.1	5358084	5358084	0	712433.9	0.11759	0	0.470106	0.001289	0	0.002144	0.002	0.003187	0.001402	0	0.002331	0.008	0.009106	422.6791	0	109.0331	0.004406	0	0.110292	0.008479	0	0.043081	0.018826	0	0.559259	0.101975	0.285798	1.72733	0.02744	0	0.612315	0.101975	0.285798	1.72733	0.035428	1.067328	0	4.333252	0.004179	0	0.001078
Santa Clara	2023	MDV	Aggregate	Aggregate	Diesel	2374.918	86834.44	86834.44	0	11267.05	0.053096	0	0	0.00515	0	0	0.002	0.003181	0.005383	0	0	0.008	0.00909	411.1632	0	0	0.000529	0	0	0.064779	0	0	0.011397	0	0	0	0	0	0.012975	0	0	0	0	0	0.0031	0.202592	0	0	0.003896	0	0
Santa Clara	2023	MDV	Aggregate	Aggregate	Electricity	1130.115	40073.7	0	40073.7	5799.833	0	0	0	0	0	0	0.002	0.001524	0	0	0	0.008	0.004354	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	986.0895	41899.14	20787.35	21111.79	4077.48	0.003256	0	0.11551	0.000638	0	0.002151	0.002	0.001376	0.000693	0	0.002339	0.008	0.00393	138.532	0	96.68489	0.000441	0	0.042261	0.000581	0	0.020595	0.001408	0	0.173285	0.02985	0.028058	0.359617	0.002054	0	0.189725	0.02985	0.028058	0.359617	0.020837	0.214483	0	1.339893	0.00137	0	0.000956
Santa Clara	2023	MH	Aggregate	Aggregate	Gasoline	2522.745	22546.87	22546.87	0	252.3754	0.479133	0	0.412521	0.001781	0	0.000428	0.003	0.015756	0.001937	0	0.000466	0.012	0.045017	1948.243	0	31.87585	0.018146	0	0.038028	0.02809	0	0.042647	0.082252	0	0.163779	13.03985	0.30297	4.773625	0.120022	0	0.179318	13.03985	0.30297	4.773625	0.044742	2.111943	0	3.629376	0.01926	0	0.000315
Santa Clara	2023	MH	Aggregate	Aggregate	Diesel	959.1578	9344.849	9344.849	0	95.91578	4.269554	0	0	0.097907	0	0	0.004	0.015675	0.102334	0	0	0.016	0.044785	1081.435	0	0	0.005704	0	0	0.17038	0	0	0.122812	0	0	0	0	0	0.139813	0	0	0	0	0	0.150005	0.410284	0	0	0.010247	0	0
Santa Clara	2023	MHDT	Aggregate	Aggregate	Gasoline	1418.703	70785.86	70785.86	0	28385.41	0.562864	0.088304	0.453053	0.001386	0	0.000555	0.003	0.015756	0.001507	0	0.000603	0.012	0.045017	1792.411	536.9661	47.19918	0.018074	0.254589	0.049387	0.026381	0.007064	0.032566	0.09086	1.010025	0.279571	0.037187	0.302385	3.037923	0.132583	1.473826	0.306095	0.037187	0.302385	3.037923	0.04497	1.909686	15.08517	6.156285	0.01772	0.005308	0.000467
Santa Clara	2023	MHDT	Aggregate	Aggregate	Diesel	10273.55	431550.4	431550.4	0	122418.2	1.337342	13.57242	1.624162	0.016518	0.035742	0	0.003	0.015941	0.017265	0.037358	0	0.012	0.045546	1151.562	2263.789	0	0.001721	0.012298	0	0.181429	0.356661	0	0.037048	0.26478	0	0	0	0	0.042176	0.301431	0	0	0	0	0.209014	0.132571	7.583386	0	0.010905	0.021437	0
Santa Clara	2023	MHDT	Aggregate	Aggregate	Electricity	4.749835	101.8022	0	101.8022	59.6458	0	0	0	0	0	0	0.003	0.00799	0	0	0	0.012	0.022828	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	MHDT	Aggregate	Aggregate	Natural Ga	83.841	4047.874	4047.874	0	762.81	0.141319	6.52743	0	0.001137	0.017647	0	0.003	0.016002	0.001236	0.019193	0	0.012	0.045721	989.385	5296.533	0	0.740055	17.59163	0	0.201693	1.079733	0	0.010574	0.25135	0	0	0	0	0.755281	17.95355	0	0	0	0	1.06	2.992708	33.64344	0	0	0	0
Santa Clara	2023	OBUS	Aggregate	Aggregate	Gasoline	458.8974	20830.08	20830.08	0	9181.619	0.553081	0.064991	0.405616	0.000893	0	0.000264	0.003	0.01568	0.000972	0	0.000287	0.012	0.044799	1784.092	381.8461	31.89445	0.015808	0.194938	0.036281	0.026177	0.005253	0.030766	0.078109	0.745234	0.192301	0.034706	0.154035	2.766253	0.113977	1.087444	0.210546	0.034706	0.154035	2.766253	0.044918	1.743956	5.768375	4.071703	0.017638	0.003775	0.000315
Santa Clara	2023	OBUS	Aggregate	Aggregate	Diesel	870.4209	61645.66	61645.66	0	8910.755	1.203188	7.410097	1.541404	0.020323	0.008632	0	0.003	0.018018	0.021242	0.009022	0	0.012	0.05148	1282.538	1552.949	0	0.001991	0.020568	0	0.202064	0.244668	0	0.04286	0.442828	0	0	0	0	0.048793	0.504126	0	0	0	0	0.215865	0.153454	7.510858	0	0.012145	0.014706	0
Santa Clara	2023	OBUS	Aggregate	Aggregate	Natural Ga	6.1456	409.5466	409.5466	0	54.69584	0.219315	1.549107	0	0.000923	0.00362	0	0.003	0.016148	0.001004	0.003937	0	0.012	0.046137	1017.405	1188.285	0	0.774069	4.381267	0	0.207405	0.24224	0	0.01106	0.0626	0	0	0	0	0.789994	4.471404	0	0	0	0	1.06	3.211954	6.724204	0	0	0	0
Santa Clara	2023	SBUS	Aggregate	Aggregate	Gasoline	166.9867	8309.308	8309.308	0	667.9468	0.519317	0.925703	0.7051	0.000862	0	0.00056	0.002	0.015721	0.000937	0	0.000609	0.008	0.044917	815.0909	2602.033	58.66947	0.011871	2.46208	0.074918	0.027733	0.086224	0.064904	0.057744	10.62943	0.427061	0.112221	0.259299	1.591441	0.084259	15.51043	0.467578	0.112221	0.259299	1.591441	0.045	1.469507	82.16746	10.56434	0.008058	0.025724	0.00058
Santa Clara	2023	SBUS	Aggregate	Aggregate	Diesel	667.1185	15392.68	15392.68	0	9659.876	4.028015	22.39863	0.467155	0.020908	0.02125	0	0.003	0.015721	0.021853	0.022211	0	0.012	0.044917	1148.524	2237.814	0	0.002748	0.008083	0	0.18095	0.352568	0	0.059161	0.174017	0	0	0	0	0.06735	0.198106	0	0	0	0	0.144154	0.181489	4.581854	0	0.010876	0.021191	0
Santa Clara	2023	SBUS	Aggregate	Aggregate	Electricity	0.302373	3.510494	0	3.510494	4.378365	0	0	0	0	0	0	0.003	0.00786	0	0	0	0.012	0.022459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	SBUS	Aggregate	Aggregate	Natural Ga	23.50762	595.8705	595.8705	0	340.3903	0.587321	5.282702	0	0.003378	0.011076	0	0.003	0.015721	0.003674	0.012046	0	0.012	0.044917	1271.127	4058.811	0	3.490611	15.40242	0	0.259128	0.827415	0	0.049874	0.22007	0	0	0	0	0.362424	15.7193	0	0	0	0	1.06	11.90284	20.11199	0	0	0	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Gasoline	45.94709	4798.244	4798.244	0	183.7884	0.026807	0	0.443444	0.001143	0	0.000128	0.002	0.03185	0.001243	0	0.00014	0.008	0.091	926.2924	0	36.84613	0.002031	0	0.041715	0.004215	0	0.070149	0.005614	0	0.147842	0.038144	0.09212	0.456803	0.008192	0	0.161868	0.038144	0.09212	0.456803	0.045	0.571128	0	6.073786	0.009157	0	0.000364
Santa Clara	2023	UBUS	Aggregate	Aggregate	Diesel	436.6681	48829.71	48829.71	0	1746.672	0.386256	0	0	0.007022	0	0	0.0083	0.0385	0.00734	0	0	0.0332	0.11	1100.965	0	0	0.003215	0	0	0.173457	0	0	0.065028	0	0	0	0	0	0.078788	0	0	0	0	0	0.18785	0.079368	0	0	0.010432	0	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Electricity	5.046757	199.0027	0	199.0027	20.18703	0	0	0	0	0	0	0.009	0.01925	0	0	0	0.036	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Natural Ga	42.26114	4829.673	4829.673	0	169.0446	0.05878	0	0	0.000282	0	0	0.008182	0.0385	0.000295	0	0	0.032727	0.11	1299.127	0	0	4.245742	0	0	0.264835	0	0	0.060663	0	0	0	0	0	4.333091	0	0	0	0	0	0.97	49.04231	0	0	0	0	0

Source: EMFAC2021 (v1.0.2) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_DIU	PM2.5_TIR	PM10_RUI	PM10_IDL	PM10_STR	PM10_DIU	PM10_TIR	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2024	HHDT	Aggregate	Aggregate	Gasoline	2.588708	115.1526	115.1526	0	51.79487	7.013725	0	1.695629	0.003612	0	0.001433	0.005	0.03384	0.003929	0	0.001559	0.02	0.096686	2166.164	0	50.04419	0.246012	0	0.000205	0.192927	0	0.049797	1.47824	0	0.001115	0.149022	1.34233	10.02547	2.157045	0	0.001221	0.149022	1.34233	10.02547	0.04274	52.51903	0	1.60109	0.021415	0	0.000495
Santa Clara	2024	HHDT	Aggregate	Aggregate	Diesel	8486.693	1001095	1001095	0	124748.4	1.894567	62.32042	2.898867	0.025674	0.03017	0	0.008877	0.027454	0.026835	0.031534	0	0.035082	0.07844	1634.1	11997.01	0	0.000777	0.23663	0	0.257453	1.890134	0	0.016732	5.094584	0	0	0	0	0.019048	5.799796	0	0	0	0	0	0.215084	0.082524	74.10576	0	0.015474	0.113605	0
Santa Clara	2024	HHDT	Aggregate	Aggregate	Electricity	28.33039	2794.261	0	2794.261	378.7946	0	0	0	0	0	0	0.008585	0.014055	0	0	0	0.034341	0.040158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	HHDT	Aggregate	Aggregate	Natural Ga	794.401	54591.27	54591.27	0	7249.717	1.128254	13.55515	0	0.001724	0.024776	0	0.009	0.047521	0.001875	0.026946	0	0.036	0.135775	1387.534	10583.64	0	2.344742	36.30276	0	0.282858	2.157544	0	0.050833	0.550696	0	0	0	0	0.41272	37.08609	0	0	0	0	0	0.85184	13.40196	74.43135	0	0	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Gasoline	600108.2	22290344	22290344	0	2786617	0.042281	0	0.257993	0.001177	0	0.001931	0.002	0.002656	0.00128	0	0.0021	0.008	0.007587	275.9552	0	70.08069	0.002338	0	0.072036	0.004672	0	0.033228	0.008937	0	0.328953	0.090491	0.230394	1.422636	0.013041	0	0.360162	0.090491	0.230394	1.422636	0.034712	0.737516	0	3.233068	0.002728	0	0.000693
Santa Clara	2024	LDA	Aggregate	Aggregate	Diesel	1750.024	51573.48	51573.48	0	7442.61	0.213181	0	0	0.016747	0	0	0.002	0.002706	0.017504	0	0	0.008	0.00773	232.3976	0	0	0.001289	0	0	0.036614	0	0	0.027749	0	0	0	0	0	0.03159	0	0	0	0	0	0.0031	0.331109	0	0	0.002202	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Electricity	57627.4	2472767	0	2472767	282733	0	0	0	0	0	0	0.002	0.001533	0	0	0	0.008	0.00438	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Plug-in Hyb	17457.1	767059.2	381568.7	385490.5	72185.1	0.003264	0	0.11551	0.000618	0	0.00207	0.002	0.001377	0.000672	0	0.002252	0.008	0.003935	138.86	0	65.1247	0.000444	0	0.04244	0.000587	0	0.020762	0.001412	0	0.173285	0.041111	0.037292	0.447104	0.00206	0	0.189725	0.041111	0.037292	0.447104	0.019502	0.214853	0	1.339893	0.001373	0	0.000644
Santa Clara	2024	LDT1	Aggregate	Aggregate	Gasoline	52693.37	1706864	1706864	0	234793.4	0.128357	0	0.381294	0.001737	0	0.002678	0.002	0.00324	0.001889	0	0.002913	0.008	0.009258	327.2571	0	86.38434	0.006261	0	0.105365	0.009424	0	0.03869	0.027741	0	0.539321	0.165332	0.472477	2.667158	0.040475	0	0.590488	0.165332	0.472477	2.667158	0.036079	1.427621	0	5.253053	0.003235	0	0.000854
Santa Clara	2024	LDT1	Aggregate	Aggregate	Diesel	23.46233	343.9308	343.9308	0	66.44459	1.651932	0	0	0.239373	0	0	0.002	0.003724	0.250196	0	0	0.008	0.01064	415.3002	0	0	0.013862	0	0	0.065431	0	0	0.298448	0	0	0	0	0	0.339763	0	0	0	0	0	0.0031	1.593665	0	0	0.003935	0	0
Santa Clara	2024	LDT1	Aggregate	Aggregate	Electricity	211.0028	8008.646	0	8008.646	994.4346	0	0	0	0	0	0	0.002	0.001539	0	0	0	0.008	0.004397	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LDT1	Aggregate	Aggregate	Plug-in Hyb	67.64578	3164.46	1414.302	1750.158	279.7153	0.002933	0	0.11551	0.000367	0	0.001381	0.002	0.001389	0.0004	0	0.001502	0.008	0.003967	124.8456	0	69.31208	0.000397	0	0.042219	0.000522	0	0.020556	0.001268	0	0.173285	0.024153	0.020965	0.279628	0.001851	0	0.189725	0.024153	0.020965	0.279628	0.018771	0.19347	0	1.339893	0.001234	0	0.000685
Santa Clara	2024	LDT2	Aggregate	Aggregate	Gasoline	285585.4	10322758	10322758	0	1336438	0.069091	0	0.334237	0.001227	0	0.001959	0.002	0.003127	0.001334	0	0.00213	0.008	0.008936	340.3247	0	87.29427	0.002864	0	0.082985	0.005943	0	0.037254	0.011242	0	0.384216	0.081741	0.217688	1.368189	0.016404	0	0.420668	0.081741	0.217688	1.368189	0.036359	0.842122	0	3.673764	0.003364	0	0.000863
Santa Clara	2024	LDT2	Aggregate	Aggregate	Diesel	1015.453	37944.26	37944.26	0	4835.434	0.041515	0	0	0.004813	0	0	0.002	0.003113	0.005031	0	0	0.008	0.008895	307.1615	0	0	0.000609	0	0	0.048393	0	0	0.013105	0	0	0	0	0	0.014919	0	0	0	0	0	0.0031	0.129976	0	0	0.002911	0	0
Santa Clara	2024	LDT2	Aggregate	Aggregate	Electricity	1597.567	55532.59	0	55532.59	8150.927	0	0	0	0	0	0	0.002	0.001526	0	0	0	0.008	0.004359	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LDT2	Aggregate	Aggregate	Plug-in Hyb	2116.58	94757.71	44376.61	50381.09	8752.056	0.003073	0	0.11551	0.000467	0	0.001672	0.002	0.001383	0.000508	0	0.001819	0.008	0.003953	130.7877	0	75.60584	0.000416	0	0.042233	0.000547	0	0.020569	0.001329	0	0.173285	0.025949	0.023686	0.309385	0.001939	0	0.189725	0.025949	0.023686	0.309385	0.019635	0.202568	0	1.339893	0.001293	0	0.000747
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Gasoline	19314.14	722529.3	722529.3	0	287751.9	0.17374	0.036221	0.636996	0.001534	0	0.000302	0.002	0.0273	0.001668	0	0.000328	0.008	0.078	871.4559	119.0993	25.78022	0.008358	0.112945	0.032997	0.009778	0.002977	0.050968	0.041718	0.415023	0.163611	0.047402	0.263136	2.768514	0.060875	0.605601	0.179134	0.047402	0.263136	2.768514	0.044898	1.142278	3.756209	3.123927	0.008615	0.001177	0.000255
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Diesel	10107.74	398004.1	398004.1	0	127142.6	1.563015	1.92168	0	0.035058	0.026804	0	0.003	0.0273	0.036643	0.028016	0	0.012	0.078	631.4008	131.1503	0	0.008006	0.005098	0	0.099477	0.020663	0	0.172364	0.10976	0	0	0	0	0.196225	0.124954	0	0	0	0	0	0.172781	0.473594	0.909745	0	0.005983	0.001243	0
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Electricity	70.82836	5110.544	0	5110.544	989.4273	0	0	0	0	0	0	0.002	0.01365	0	0	0	0.008	0.039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Gasoline	2506.906	91452.57	91452.57	0	37349.16	0.16518	0.035604	0.621534	0.00139	0	0.000239	0.002	0.03185	0.001512	0	0.000259	0.008	0.091	980.0361	137.5922	25.51292	0.006183	0.111453	0.031983	0.009819	0.00291	0.049384	0.028613	0.40822	0.157242	0.04419	0.238167	2.558385	0.041752	0.595674	0.17216	0.04419	0.238167	2.558385	0.044971	0.899209	3.762546	3.129931	0.009689	0.00136	0.000252
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Diesel	4663.455	183558.4	183558.4	0	58660.4	1.266102	1.895403	0	0.032055	0.027	0	0.003	0.03185	0.033504	0.028221	0	0.012	0.091	756.8682	209.5618	0	0.007406	0.005098	0	0.119245	0.033017	0	0.159439	0.10976	0	0	0	0	0.18151	0.124954	0	0	0	0	0	0.184132	0.411861	0.909745	0	0.007172	0.001986	0
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Electricity	18.33259	1253.286	0	1253.286	242.668	0	0	0	0	0	0	0.002	0.015925	0	0	0	0.008	0.0455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	MCY	Aggregate	Aggregate	Gasoline	28171.51	1660222.3	1660222.3	0	56343.02	0.571344	0	0.135477	0.001779	0	0.003248	0.001	0.0042	0.001902	0	0.003456	0.004	0.012	187.743	0	48.37697	0.162609	0	0.181972	0.039558	0	0.00802	1.062175	0	1.345317	3.559276	3.75283	3.900294	1.276951	0	1.462608	3.559276	3.75283	3.900294	0.008808	12.6697	0	8.002987	0.001856	0	0.000478
Santa Clara	2024	MDV	Aggregate	Aggregate	Gasoline	156642.4	5468054	5468054	0	726101.1	0.101279	0	0.42828	0.001229	0	0.002042	0.002	0.003184	0.001336	0	0.002221	0.008	0.009096	412.8049	0	106.2216	0.003873	0	0.10186	0.007628	0	0.040967	0.01626	0	0.508806	0.097051	0.275722	1.677059	0.023715	0	0.557077	0.097051	0.275722	1.677059	0.036179	0.972241	0	4.022964	0.004081	0	0.00105
Santa Clara	2024	MDV	Aggregate	Aggregate	Diesel	2400.615	86292.69	86292.69	0	11318.82	0.048844	0	0	0.004909	0	0	0.002	0.003206	0.005131	0	0	0.008	0.009159	405.6621	0	0	0.00051	0	0	0.063912	0	0	0.010978	0	0	0	0	0	0.012498	0	0	0	0	0	0.0031	0.201538	0	0	0.003844	0	0
Santa Clara	2024	MDV	Aggregate	Aggregate	Electricity	1678.684	58660.63	0	58660.63	8578.496	0	0	0	0	0	0	0.002	0.001525	0	0	0	0.008	0.004358	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	MDV	Aggregate	Aggregate	Plug-in Hyb	1250.857	52904.03	25301.52	27602.51	5172.294	0.003138	0	0.11551	0.000561	0	0.001962	0.002	0.001382	0.00061	0	0.002134	0.008	0.003948	133.5372	0	94.06379	0.000423	0	0.042047	0.000554	0	0.020395	0.001357	0	0.173285	0.030318	0.026684	0.341695	0.00198	0	0.189725	0.030318	0.026684	0.341695	0.020087	0.206737	0	1.339893	0.00132	0	0.00093
Santa Clara	2024	MH	Aggregate	Aggregate	Gasoline	2420.57	22012.3	22012.3	0	242.1538	0.420938	0	0.419963	0.001679	0	0.000404	0.003	0.015756	0.001826	0	0.000439	0.012	0.045017	1947.501	0	31.65056	0.015478	0	0.037539	0.025731	0	0.04407	0.06827	0	0.159123	12.21143	0.286769	4.596479	0.09962	0	0.174219	12.21143	0.286769	4.596479	0.044846	1.682224	0	3.497247	0.019253	0	0.000313
Santa Clara	2024	MH	Aggregate	Aggregate	Diesel	977.3606	9498.302	9498.302	0	977.3606	4.117169	0	0	0.091772	0	0	0.004	0.015675	0.095921	0	0	0.016	0.044785	1081.931	0	0	0.005558	0	0	0.170459	0	0	0.11965	0	0	0	0	0	0.136214	0	0	0	0	0	0.155539	0.397281	0	0	0.010252	0	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Gasoline	1414.552	71600.35	71600.35	0	28302.35	0.470752	0.088485	0.440963	0.001362	0	0.000533	0.003	0.015756	0.001482	0	0.000579	0.012	0.045017	1768.687	531.8002	46.25227	0.015051	0.25808	0.047572	0.022913	0.00727	0.03271	0.074951	1.01271	0.265405	0.033945	0.276365	2.798712	0.109368	1.477744	0.290585	0.033945	0.276365	2.798712	0.04498	1.56073	15.11634	5.825814	0.017485	0.005257	0.000457
Santa Clara	2024	MHDT	Aggregate	Aggregate	Diesel	10390.53	434043.6	434043.6	0	123939	1.232824	13.11952	1.642732	0.014397	0.029902	0	0.003	0.015941	0.015048	0.031254	0	0.012	0.045546	1147.309	2248.547	0	0.001507	0.01158	0	0.180759	0.35426	0	0.032455	0.249319	0	0	0	0	0.036947	0.283831	0	0	0	0	0	0.210532	0.120871	7.556027	0	0.010864	0.021292	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Electricity	30.91601	1660.353	0	1660.353	407.4536	0	0	0	0	0	0	0.003	0.007956	0	0	0	0.012	0.022732	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Natural Ga	90.59449	4303.581	4303.581	0	827.6228	0.133415	6.499719	0	0.001179	0.018131	0	0.003	0.016007	0.001282	0.019719	0	0.012	0.045734	984.6917	5301.101	0	0.74573	17.31409	0	0.200736	1.080664	0	0.010655	0.247384	0	0	0	0	0.761072	17.6703	0	0	0	0	0	1.06	2.995842	34.7393	0	0	0	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Gasoline	443.1467	19894.31	19894.31	0	8866.48	0.49672	0.06506	0.408547	0.000907	0	0.000252	0.003	0.01568	0.000987	0	0.000274	0.012	0.044799	1764.001	379.4143	31.61308	0.013757	0.195733	0.03606	0.024018	0.005304	0.031028	0.067076	0.746281	0.190964	0.033873	0.154922	2.818385	0.097877	1.088971	0.209081	0.033873	0.154922	2.818385	0.044969	1.491576	5.774637	4.000641	0.017439	0.003751	0.000313
Santa Clara	2024	OBUS	Aggregate	Aggregate	Diesel	893.1376	61949.05	61949.05	0	9141.625	1.178643	7.363387	1.543157	0.019849	0.008167	0	0.003	0.018015	0.020746	0.008536	0	0.012	0.051472	1273.38	1538.564	0	0.001935	0.020479	0	0.200622	0.242401	0	0.04166	0.440905	0	0	0	0	0.047427	0.501937	0	0	0	0	0	0.216021	0.150181	7.500483	0	0.012058	0.014569	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Electricity	1.087481	92.50105	0	92.50105	21.75833	0	0	0	0	0	0	0.003	0.00784	0	0	0	0.012	0.022399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Natural Ga	7.05737	469.3876	469.3876	0	62.81059	0.190585	1.537414	0	0.00106	0.003899	0	0.003	0.016148	0.001153	0.004241	0	0.012	0.046137	1004.237	1191.581	0	0.789796	4.236895	0	0.20472	0.242912	0	0.011285	0.060537	0	0	0	0	0.806045	4.324062	0	0	0	0	0	1.06	3.254325	7.353064	0	0	0	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Gasoline	172.6948	8584.866	8584.866	0	690.7791	0.50288	0.925939	0.716801	0.000864	0	0.000567	0.002	0.015721	0.000939	0	0.000616	0.008	0.044917	810.6064	2589.131	58.1367	0.011135	2.464862	0.074893	0.027101	0.086311	0.065929	0.054059	10.63288	0.426367	0.113914	0.274691	1.686167	0.078883	15.51547	0.466819	0.113914	0.274691	1.686167	0.045	1.38705	82.18841	10.36621	0.008014	0.025596	0.000575
Santa Clara	2024	SBUS	Aggregate	Aggregate	Diesel	670.5958	15345.26	15345.26	0	9710.228	3.821388	21.87689	0.482851	0.019766	0.019703	0	0.003	0.015721	0.02066	0.020594	0	0.012	0.044917	1144.18	2229	0	0.002665	0.008001	0	0.180266	0.35118	0	0.057376	0.172257	0	0	0	0	0.065318	0.196101	0	0	0	0	0	0.148025	0.1775	4.677792	0	0.010835	0.021107	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Electricity	2.064666	64.35501	0	64.35501	23.64639	0	0	0	0	0	0	0.002539	0.00786	0	0	0	0.010157	0.022459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Natural Ga	24.3995	612.0941	612.0941	0	353.3048	0.567729	5.270895	0	0.003378	0.011357	0	0.003	0.015721	0.003674	0.012352	0	0.012	0.044917	1261.305	4066.736	0	3.436672	15.25665	0	0.257125	0.829031	0	0.049103	0.217987	0	0	0	0	3.507376	15.57053	0	0	0	0	0	1.06	11.64901	20.74693	0	0	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Gasoline	46.08313	4812.451	4812.451	0	184.3325	0.027483	0	0.457232	0.001143	0	0.000128	0.002	0.03185	0.001243	0	0.00014	0.008	0.091	926.0836	0	36.94783	0.002034	0	0.043067	0.004288	0	0.071717	0.005634	0	0.152979	0.038099	0.092116	0.456438	0.008221	0	0.167492	0.038099	0.092116	0.456438	0.045	0.581148	0	6.130495	0.009155	0	0.000365
Santa Clara	2024	UBUS	Aggregate	Aggregate	Diesel	437.4745	48917.61	48917.61	0	1749.898	0.386257	0	0	0.007023	0	0	0.0083	0.0385	0.00734	0	0	0.0332	0.11	1101.14	0	0	0.003215	0	0	0.173485	0	0	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0.187908	0.079368	0	0	0.010434	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Electricity	5.347565	235.0626	0	235.0626	21.39026	0	0	0	0	0	0	0.008888	0.01925	0	0	0	0.03552	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Natural Ga	42.58696	4865.187	4865.187	0	170.3478	0.058788	0	0	0.000282	0	0	0.008183	0.0385	0.000295	0	0	0.032731	0.11	1299.206	0	0	4.246059	0	0	0.264852	0	0	0.060668	0	0	0	0	0	4.333415	0	0	0	0	0	0.97	49.04786	0	0	0	0	0